Exploring Collective Teacher Efficacy in High- and Low-Performing Schools

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THESIS

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DEDICATION

This dissertation is dedicated to my mother-in-law, Maria Jones, who was, and continues to be, a source of strength in my life. She was a model educator and she never missed a chance to remind people that they are deeply loved and that "we are enough just being ourselves." In her physical absence I am reminded that not even death has the power to erase hope.

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I. INTRODUCTION

A. Statement of the Problem

Despite decades of federal, state, and local reform efforts to build more equitable public school systems, the achievement and opportunity gaps between high- and low-income children, and between white students and students of color, have persisted (Schueler et al., 2020). Accountability-driven systems have dominated the reform landscape, but despite a combination of support and sanctions for schools identified for improvement, very few improve significantly (Finnigan & Stewart, 2009; Mintrop, 2004). Furthermore, accountability policies have resulted in counterproductive responses including constrained decision-making (Daly, 2009); a narrowing of curriculum (Diamond, 2007), and decreased motivation and superficial change practices among teachers (Finnigan, 2010; Finnigan & Stewart, 2009).

Given these trends, scholars have increasingly called for efforts that couple performance-based approaches with efforts to build and sustain organizational capacity for improvement (Cosner, 2009, Diamond & Spillane, 2004; Finnigan, 2010). Schools must not only be held accountable for doing better, but learn how to do better. Organizational capacity depends on both human and social capital, and therefore on the quality and improvement of individual performance as well as the performance of the faculty collectively (Hargreaves & Fullan, 2012; Spillane & Seashore Louis, 2002). Teachers "are not social isolates totally immune to the influence of those around them" (Bandura, 1997, p. 469) and work collectively within the "interactive social systems" of schools to promote student learning and school achievement (Bandura, 1993, p. 141). As such, their work is shaped, in part, by shared belief systems (Tschannen-Moran et al., 2014).

One such set of beliefs, collective teacher efficacy (CTE), represents a faculty's shared belief in their collective ability to influence student learning (Goddard, Hoy, & Hoy, 2004). Collective teacher efficacy is thought to be of particular consequence to school performance as it has been associated with a number of positive organizational outcomes as well as higher levels of student achievement in schools (Goddard & Goddard, 2001; Hoy, 2012). Collective efficacy beliefs represent future-oriented perceptions of a group's collective capabilities to accomplish a shared goal. While these estimations are not always entirely accurate assessments of the groups' competency (Bandura, 1993), they still have significant consequences for the goals a group sets, the effort and persistence they expend in working toward those goals, and their resiliency in the face of challenges (Bandura, 2001). These consequences of high collective efficacy, in turn, are thought to help foster higher levels of performance and goal attainment (Goddard, Hoy, & Hoy, 2004; Tschannen-Moran et al., 2014). That is, a highly efficacious faculty would likely set ambitious goals for student learning, work persistently and with great effort to meet those goals, and ultimately have a positive effect on student achievement. Studies of collective teacher efficacy in schools provide some empirical support for this proposed model (e.g. Goddard, LoGerfo, & Hoy., 2004; Tschannen-Moran & Barr, 2004; Ross & Gray, 2006). High levels of CTE are associated with stronger academic press, teacher commitment, enhanced collective responsibility, and increased teacher efficacy (Goddard et al., 2000; Goddard & Goddard, 2001; Ross & Gray, 2006). Moreover, higher levels of collective teacher efficacy in schools have consistently predicted increased student achievement in large-scale studies, even after controlling for demographic characteristics (Bandura, 1993; Goddard, 2001; Hoy, 2012).

Given these promising findings, some scholars have positioned collective teacher efficacy as a potential focus of intervention for low-performing schools because of its

relationship to student achievement and its relative malleability compared to demographic indicators (Brinson & Steiner, 2007; Cybulski et al., 2005). However, the research on CTE's influence in schools, while promising, has primarily examined the extent to which schools' CTE beliefs reliably predict differences in positive outcomes across schools. Questions of causality and the directionality of these relationships, however, remain under examined. There is a paucity of qualitative work exploring how and why collective efficacy matters for student achievement and the extent to which a high level of collective efficacy works to influence student achievement within individual schools as suggested by the literature.

Amidst growing evidence that collective efficacy beliefs matter for school outcomes, researchers have investigated how CTE is fostered in schools; in particular, scholars have sought to identify factors that serve as antecedents to robust CTE. Among these precursors to CTE, prior mastery experience, theoretically and empirically, exerts the strongest influence over efficacy beliefs, arguably because it generates the most reliable and enduring feedback on abilities (Bandura, 1997; Goddard, 2001). Prior school success related to student learning and school achievement (mastery experience), models of school-wide success (vicarious learning), verbal encouragement (social persuasion), and positive school environments (emotional states) are all theoretically linked to the formation of collective efficacy beliefs (Bandura, 1997; Goddard et al., 2000). However, neither the specific content nor the influence of these four sources has been well-substantiated by empirical studies, with few exceptions (Eells, 2011). Prior mastery experience, operationalized as prior student achievement on statewide assessments, was found to be a significant predictor of differences between schools in terms of their perceived collective teacher efficacy (Goddard, 2001). Social persuasion, conceptualized as leaders' clear communication of expectations and display of confidence that the group can meet those

expectations (Goddard & Salloum, 2012) was associated with increased levels of CTE. This was affirmed by Brown and colleagues (2019), who found that teachers attributed their enhanced CTE beliefs partly to leaders' clear communication of expectations and feedback on their performance related to those expectations. The same study suggests that teachers also drew on the positive emotional state of their school in forming collective efficacy beliefs, noting mutual concern for one another's well-being and an overall emotionally supportive environment (Brown et al., 2018). Lim & Eo (2014) similarly found that less supportive organizational climates defined by unproductive conflict were less likely to demonstrate high levels of collective efficacy. Empirical studies specifically examining vicarious learning as influences on collective teacher efficacy could not be found. In sum, Goddard and colleagues' (2000) model suggests that all four sources of efficacy hold at the collective level. However, despite continued calls for qualitative inquiry (Henson, 2002; Labone, 2004; Tschannen-Moran & Barr, 2004), and the potential such approaches hold for illuminating relevant conceptualizations of remote sources, this remains an important but underdeveloped area in the empirical research base.

Given the triadic reciprocity among behavior, personal cognitive factors, and environment (Bandura, 1986, 1997), perceptions of collective efficacy are likely influenced not only by the four remote sources of information but also by factors within the school context that are more proximate to the "here and the now" of teaching (Adams & Forsyth, 2006, p. 630). Scholars have argued that explanations of CTE formation without attention to more proximate contextual influences are inadequate (Adams & Forsyth, 2006; Ross et al., 2004), spurring studies of school and contextual variables beyond the four theoretical underpinnings of collective teacher efficacy. Several studies have found that the socioeconomic composition of a school influences their collective efficacy beliefs (Cybulski et al., 2005; Francera & Bliss, 2011).

Research also suggests that when teachers are effectively engaged in school-wide decision-making and leadership processes, particularly those related to instruction, collective teacher efficacy is enhanced (Angelle & Teague, 2014; Goddard, Hoy, & Hoy, 2004; Goddard & Salloum, 2012; Ross et al., 2004). Professional collaboration, growth opportunities, and resources for such growth also appear relevant to the formation of strong collective efficacy beliefs (Moolenaar et al., 2011; Pfaff, 2000; Evans, 2009; Tschannen-Moran & Barr, 2004; Zambo & Zambo, 2008). Additionally, attributions also play a role in shaping efficacy beliefs (Bandura, 1993, 1997). When teachers attribute student success to the work of the faculty, they engender higher levels of collective efficacy (Evans, 2009; Tschannen-Moran & Barr, 2004). Limited work has also begun to identify leadership strategies that may help build collective teacher efficacy including enacting behaviors associated with transformational models of leadership, clarifying work goals, and providing socio-emotional support to teachers (Chen & Bliese, 2002; Ross & Gray, 2006). Other work suggests that leaders can build more efficacious staff by orchestrating robust professional development in instructional areas (Brinson & Steiner, 2007) and by creating the conditions needed for effective collaboration for instructional improvement (Goddard et al., 2015). Given the documented influence of leadership within school improvement and capacity-building efforts broadly, (e.g. Chapman, 2003; Leithwood et al., 2004; Leithwood & Riehl, 2003) leaders' actions and approaches likely play a pivotal role in the cultivation of organizational properties like collective teacher efficacy. The role of the leader in engendering teachers' collective efficacy beliefs remains an important but underdeveloped area of the literature.

The theoretical and empirical literature indicate that CTE is the product of more than just schools' prior achievement and demographic indicators (Hoy et al., 2002). However, prior

success is thought to be the strongest predictor of levels of collective teacher efficacy, suggesting that low-performing schools may be altogether less likely to experience high levels of collective teacher efficacy unless there is adequate exposure to other sources of efficacy (Goddard, LoGerfo, & Hoy, 2004). The proposed model for the formation of efficacy beliefs puts forth alternative sources of efficacy that may be relevant to low-performing schools lacking mastery experience in terms of prior school achievement, but they have largely not been empirically tested in such settings. Furthermore, while examinations of contextual antecedents have been conducted across fairly representative samples of schools, in urban, suburban, and rural settings (e.g. Goddard & Goddard, 2001; Hoy et al., 2002), the focus in these studies has been on statistically significant differences between schools. A rare example of a mixed-method approach suggests that the unique composition of a school and its students might relegate certain sources of efficacy as more or less important (Goddard & Skrla, 2006). That is, the antecedents included in the proposed model of CTE formation, while they are statistically significant predictors of variation in CTE across schools, may not fully explain the sources of efficacy beliefs at play within individual schools. While these quantitative studies have identified a small set of correlates that might function as antecedents to CTE, further in-depth examinations are needed to offer sufficient insight into why the associations exist or how they come about (Coe & Fitz-Gibbon, 1998).

Investigations into the potential sources of collective efficacy have been driven in large part by CTE's potential to motivate and sustain organizational improvement and student achievement. As noted previously, it is associated with a number of positive organizational outcomes as well as higher levels of student achievement in schools (e.g. Goddard & Goddard, 2001; Hoy, 2012). Yet, while the existing empirical studies of collective teacher efficacy

conclude that CTE is systematically related to student achievement (e.g. Hoy et al., 2002), there is less empirical support for how and why this association exists. That is, these studies do not offer adequate insight into how CTE specifically exerts such influence on student learning. Furthermore, a 2015 survey administered across schools in one moderately-sized urban school district in the Midwestern United States indicates that, of the seven district schools with the highest average levels of collective teacher efficacy, three were historically low-performing schools according to student performance and state accountability metrics. The existence of these historically low-performing schools with relatively high levels of CTE challenges the proposed model of CTE that posits a mutually reinforcing relationship between CTE and achievement and motivates further exploration of the ways in which, and why, high levels of CTE facilitates, or fails to facilitate, the normative consequences and positive organizational outcomes suggested in the theoretical and empirical scholarship.

Collective teacher efficacy is theorized to cultivate a normative environment in which teachers set ambitious goals for student learning and improvement and then exert effort and demonstrate persistence and resilience in working toward those goals (Goddard et al., 2000; Goddard, 2001; Goddard & Goddard, 2001). Prior studies have evidenced a link between CTE and academic culture and press (Fahy et al., 2010; Hoy et al., 2002) leading some to assert that collective teacher efficacy may serve as a "potent way of characterizing school culture" (Goddard, Hoy, & Hoy, 2004, p. 9). However, direct empirical examinations of the link between high levels of collective teacher efficacy and teacher goal setting, effort, persistence, and resilience could not be found. Understanding the nuanced and complex ways in which CTE enables, or does not enable, goal setting, effort, persistence, and resilience among teachers in individual schools remains an underdeveloped area in the empirical literature.

Studies have also identified a set of organizational outcomes associated with CTE that may constitute important intermediate variables that help explain the link between collective teacher efficacy beliefs and school achievement such as professional and organizational commitment (Klassen, 2010; Lee, Zhang, & Yin, 2011; Ware & Kitsantas, 2007) and collective responsibility (Olivier & Hipp, 2006; Wu, 2013). However, the focus in these studies has primarily been on differences between schools. While these quantitative studies have identified a small set of organizational outcomes associated with CTE, they do not offer sufficient insight into why the associations exist or how they come about (Coe & Fitz-Gibbon, 1998). There is a paucity of qualitative work exploring how and why collective efficacy matters for student achievement and the extent and ways in which robust CTE works to influence student achievement within individual schools.

B. Purpose and Significance of this Study

This study draws on social cognitive theory (Bandura, 1993; 1997) and research on collective teacher efficacy (i.e. Goddard, 2001; Goddard, Hoy, & Hoy, 2004; Tschannen-Moran & Barr, 2004) to examine a framework for understanding the formation and influence of collective teacher efficacy beliefs in schools. The purpose of this research is to investigate collective teacher efficacy, its formation, and its influence in both a high- and low-performing school and to explore the extent to which these schools' experiences of CTE's formation and influence support the model suggested by the literature.

Empirical studies of CTE's formation in schools has operationalized mastery experience in terms of prior school or student achievement, primarily as measured by statewide assessment data (e.g. Adams & Forsyth, 2006; Hoy et al., 2002; Tschannen-Moran & Barr, 2004). Scholars suggest that school structures and conditions might function in a way that generates the sources

of efficacy information delineated by social cognitive theory (e.g. Goddard et al., 2015; Hoy, 2012). However, there is minimal evidence as to the ways in which actual enactive experiences of teachers within schools might influence collective efficacy beliefs (Goddard et al., 2015). This research, which examines contexts of high and low-performance, all characterized by relatively high levels of collective teacher efficacy, identifies school structures and teacher experiences that help catalyze CTE development absent demonstrated mastery experience in terms of school-wide student achievement. In particular, this study advances an important, but underdeveloped, area by revealing the ways in which school leaders might influence the formation of credible collective efficacy beliefs and illuminating potential leadership pitfalls that undermine the productive use of CTE toward positive organizational outcomes.

Such in-depth examination of how, and to what extent, robust collective teacher efficacy translates into effective collective action for student learning is necessary if school leaders and teachers are to effectively leverage collective efficacy beliefs in service of student learning. This study reveals that not all CTE is equal. Robust CTE beliefs among teachers are not necessarily associated with positive student achievement outcomes and in fact, high CTE can potentially undermine school improvement. By describing the nuanced ways that high levels of CTE are formed in both high- and low-performing contexts, I identify sources of information associated with action for school improvement among teachers. Similarly, this project identifies types and sources of information that foster a superficial sense of CTE that does not lead to achievement. School leadership was a salient influence on teachers' collective efficacy beliefs, and one that inflected teachers' experiences of other antecedents and shaped their orientation to setting and exerting efforts towards goals. Leadership mattered for collective efficacy in myriad ways, above and beyond the limits of particular leadership styles. System and school leaders and teachers

should be aware of these sources of information, and their role in shaping them, to avoid potential pitfalls that may render teacher CTE inconsequential for school improvement.

This analysis of qualitative teacher and school level interview and performance data alongside quantitative district level survey data also deepens our understanding of the theoretical antecedents that have been described and studied in the existing literature. In-depth inquiry into how robust collective teacher efficacy beliefs were fostered in both high- and low-performing schools contributes to our understanding of the complex ways such beliefs are formed across unique contexts and substantiate the ways in which different sources of efficacy beliefs are of consequence to the outcomes associated with CTE. My findings advance our theoretical understanding of collective teacher efficacy by illuminating nuances in the factors that contribute to CTE in high- and low-performing schools that have not yet been considered in the literature. These findings can be instructive to schools working to build an efficacious culture, in order to direct their attention to those sources of efficacy that seem most relevant to both the formation and influence of those beliefs. When informed by certain sources of information and influenced by contextual factors in particular ways, CTE can lead to both high achievement or low, and this study helps us understand more precisely how that happens.

C. Overview of Methods

This study employed a sequential explanatory mixed methods research design to examine the extent to which the explanatory conceptual model of CTE held true across a high- and a low-performing school with higher than district-average levels of collective teacher efficacy. The inquiry required the purposeful sampling of high- and low-performing schools that reported high levels of collective teacher efficacy. I used quantitative analyses of an existing survey data set to identify eligible schools for further qualitative inquiry. I then analyzed publicly available school

data, survey responses, and semi-structured interviews with eligible teachers and school leaders at both schools to explore the relationship between schools' levels of collective teacher efficacy and school achievement as well as those between collective teacher efficacy and several other organizational variables identified in the literature as relevant to CTE's formation and influence within schools. This study incorporated both quantitative and qualitative data collection and analysis in an effort to "provide a better understanding of the research problem and question than either by itself" (Creswell, 2012, p. 535). Quantitative survey data enhanced the breadth of this study by illuminating differences in key factors between the two schools, while qualitative interview data expanded its depth by tapping the sensemaking of participants regarding the relationships among factors related to collective teacher efficacy. In making sense of collective teacher efficacy, its formation, and its influence in the two case schools, I drew on both the quantitative survey and qualitative interview data. As such this study represents a complementarity model of integration in which the findings from each method provided partial perspective into the phenomenon of collective teacher efficacy in these schools (Erzberger et al., 2003).

1. Research Questions

Two research questions oriented this inquiry. First: How and to what extent do factors identified in the literature as relevant to collective teacher efficacy contribute to the formation of strong collective efficacy beliefs in high- and low-performing schools? Second: How, and to what extent, do higher levels of collective teacher efficacy in high- and low-performing schools work through teacher effort, persistence, resilience, and goal setting to foster positive organizational outcomes identified in the literature?

The existence of several persistently low-performing schools with high levels of CTE suggests that Goddard and colleagues' (2000) theoretical model of CTE formation and influence may not always be operative within individual schools. The high-performing, high-CTE school in this study conforms to the current theoretical and empirical understandings of CTE and school achievement, providing an important typical case for comparison with the low-performing school. While the study privileged qualitative interpretive inquiry, and I expected explanations to emerge that would be grounded in and developed with the data (Maxwell, 2005), two initial propositions framed the study.

2. Propositions

I proposed that the formation of CTE beliefs in the lower performing schools may have been based on nuanced sources of information, or inferential weighting of sources of information, such that the efficacy beliefs may be less immediately consequential to collective action. That is, teacher perceptions of efficacy may have been overly influenced by sources of information that are less credible than, for example, enactive mastery experiences, resulting in an inflated and not fully warranted level of perceived CTE. Ross and Gray (2006), in discussing their findings that transformational leadership positively influenced collective teacher efficacy beliefs, make the scholarly assertion that leaders must take care to ensure that efficacy beliefs are calibrated against credible indicators of performance to avoid a "delusional upward spiral" of efficacy that is not reliably tied to performance outcomes (p. 21). This aligns to prior research on individual efficacy beliefs that suggests efficacy beliefs, if formulated in the absence of authentic and unambiguous feedback on performance, are of less consequence to future action (Halper & Vancouver, 2016; Schmidt & DeShon, 2010).

I also proposed that in low-performing schools with relatively high levels of collective teacher efficacy, the model of CTE in the existing literature may not have been fully operative because the normative consequences of CTE had not been realized, or if they had, they were not harnessed in a way that results in the positive outcomes of CTE delineated in the model. A stream of research on self-efficacy beliefs and subsequent performance provides some evidence that while strong self-efficacy may predict differences between individuals' performance, the association may not be as strong within an individual longitudinally (e.g. Beattie et al., 2011; Sitzmann & Yeo, 2013; Vancouver & Kendall, 2006). These studies suggest that while individuals with stronger efficacy beliefs might outperform other individuals with comparatively lower efficacy, enhanced efficacy beliefs do not necessarily predict improved future performance. Researchers have found that while current self-efficacy was positively and strongly correlated with performance across individuals, enhanced self-efficacy beliefs within individuals had a weak, negative effect on future task performance in sports and learning contexts (Beattie et al., 2011; Vancouver et al., 2001). For example, stronger self-efficacy beliefs reliably predicted better performance among golfers, while exhibiting a weak, negative relationship to subsequent performance within individual golfer's performance trajectories (Beattie et al., 2011). One explanation for this trend is that high efficacy may sometimes actually undermine effort in some cases. One study found that enhanced self-efficacy in an academic setting led to an increased optimism for positive performance on course exams, which in turn led to decreased time studying and ultimately poorer performance than on prior exams (Vancouver & Kendall, 2006). Extending these findings - that increased efficacy may lead to decreased expenditure of resources to meet goals - to the group level, one could hypothesize that, while CTE predicts between-school performance, it is not as reliable an indicator of individual school performance because it does not always facilitate increased effort, persistence, and resilience toward ambitious goals as

suggested by the current model. The research on collective teacher efficacy, and its relationship to school performance, has been dominated by quantitative between-school examinations, which may obscure or overlook the nuanced ways in which CTE functions to enable, or potentially undermine, future performance within an individual school.

D. Organization

This dissertation is organized into seven chapters. This first chapter presents a statement of the problem along with an introduction, rationale, and overview of the study. Chapter two provides an overview of relevant literature to situate collective teacher efficacy within its theoretical background and empirical study. I present what we know about collective teacher efficacy, its formations, and its influence in schools and also identify critical gaps in the literature that motivated this inquiry. In chapter three, I advance a conceptual model for the formation and influence of collective efficacy beliefs in schools that guided my study and describe the research design. This chapter includes discussion of the research context, sampling procedures, research instruments, and approaches to analysis, as well as limitations and delimitations. Chapters four and five present findings from survey results, public performance and demographic data, and retrospective interviews to explore the relationship between the high collective teacher efficacy and school performance at the high- and low-performing schools respectively. Chapter six presented the cross-case analysis that examined the similarities and differences across contexts to identify themes and draw conclusions about how CTE seemed to form, sustain, and operate in each of the schools. This chapter not only addresses how and to what extent the two schools' experiences of CTE aligned to the predominant model captured in the conceptual framework, but also explores the two propositions for why the mutually reinforcing cycle between higher levels of collective teacher efficacy with higher levels of

student achievement may not have been fully operative at the low-performing setting. Chapter seven discusses the findings of this dissertation study in relation to the conceptual framework of the formation and influence of collective efficacy within schools and existing literature-base of collective teacher efficacy to present key implications and directions for future research.

II. CONCEPTUAL FRAMING AND REVIEW OF THE LITERATU

To situate collective teacher efficacy within its theoretical background and historical development, I first draw on social cognitive theory (Bandura, 1986; 1997) and earlier studies of individual and group efficacy (e.g. Bouffard-Bouchard et al., 1991; Pajares, 1996; Tschannen-Moran et al., 1998). Next, I delineate the predominant theoretical model for the formation and influence of collective efficacy beliefs in schools (Goddard et al., 2000). Following this more theoretical discussion, I advance a review of the literature, discussing how collective teacher efficacy has been examined in schools. Finally, I incorporate findings across studies of collective efficacy (i.e. Adams & Forsyth, 2006; Ross & Gray, 2006; Leithwood et al., 2010; Tschannen-Moran & Barr, 2004; Olivier & Hipp, 2006; Goddard et al., 2015) into the theoretical model of the formation and influence of collective teacher efficacy initially advanced by Goddard and colleagues (2000) to advance a conceptual framework for my study.

A. Social Cognitive Theory and Efficacy Beliefs

Bandura's social cognitive theory (1986) argues that external forces, internal drives, or biology alone cannot explain human functioning adequately. As such, social cognitive theory situates human functioning within a model in which behavior, cognitive and personal factors, and environmental context each shape, and is shaped by, the others (Bandura, 1986, 1997). In this way, social cognitive theory emphasizes the role that cognition plays in shaping behavior and directing human agency. Such agency is a core assumption of social cognitive theory, which views individuals both as products of their environments and as "producers of experiences and shapers of events" (Bandura, 2000, p.75). There are three distinct modes of agency: personal, proxy, and collective. Direct personal agency is exercised when individuals intentionally act to reach a certain goal, proxy agency is exercised when individuals motivate others to act in a way

that achieves their purpose, and collective agency is exercised when people act conjointly to achieve collective aims (Bandura, 2000, 2001).

Efficacy beliefs are a critical component of understanding behavior and action. Individual efficacy beliefs are perceptions of "one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997, p. 3). According to social cognitive theory, the cognitive and personal factors component of triadic reciprocal causation includes "personal aspirations, outcome expectations, perceived opportunity structures and constraints, and conceptions of personal efficacy" (Bandura, 1997, p.10). Of these, efficacy is the most central mechanism of agency (Bandura, 1986, 1993). This is because people's judgments of their capabilities to control their environments and achieve specific goals in certain contexts strongly influence their feelings, thoughts, motivations, and behaviors (Bandura, 1986, 1993).

These beliefs organize cognitive, social, emotional, and behavioral skills toward certain aims and are therefore a key factor in human competence and performance (Bandura, 1986, 1997). Furthermore, efficacy beliefs shape individuals' selection of activities, their motivation to engage and level of exerted effort in tasks, and their degree of persistence (Bandura, 1993). It is important to note that self-efficacy is distinguishable from self-esteem or self-concept and unique in that it is domain-specific rather than a global personality trait (Bandura 1986, 1997). This specificity makes it more predictive of behavior and more amenable to influence than either self-concept or self-esteem (Bandura, 1997).

Social cognitive theory also delineates four primary sources of efficacy beliefs. Efficacy beliefs are continually refined in response to these four sources of information. The first, and strongest influence on efficacy beliefs is enactive mastery experience (Bandura, 1986). Individuals' past performances and attainments serve as the most authentic "indicators of

capability" (Bandura, 1997, p. 79). Success fosters strong efficacy beliefs while failures undermine it. However, the relationship between performance and efficacy is complex; individuals' interpretation in explaining performance is also key (Bandura, 1986, 1997). For example, an individual who attributes failure to situational rather than internal factors is less likely to experience decreased efficacy as a result of that failure.

A second source of efficacy information is vicarious experience. When people witness or visualize "similar people perform successfully" their efficacy beliefs can be enhanced (Bandura, 1986, p. 399). Typically, the greater the perceived similarity between the observer and the model, the greater the influence on efficacy beliefs (Bandura, 1997). Additionally, vicarious experience is most salient when individuals' lack prior experience in the domain, when the modeling includes a focus on strategy over inherent skill, and when multiple and diverse models are provided (Bandura, 1995, 1997).

The third source of efficacy beliefs is social persuasion, which includes verbal assurances and forms of encouragement (Bandura, 1995). Social persuasion alone is not usually sufficient to alter efficacy beliefs (Bandura, 1986). However, when it is communicated by a credible and trusted source, realistic given an individual's current performance, and coupled with productive evaluative feedback, it is more influential (Bandura, 1997). Successful verbal persuasion encourages individuals to embrace a growth-orientation of success and is reinforced through structured opportunities to scaffold success (Bandura, 1995).

A final source of efficacy information is people's affective states. Physiological cues such as levels of anxiety or excitement contribute to perceptions of competence (Bandura, 1986). Reactions to stress typically signal a likelihood of failure, while induced positive moods enhance efficacy (Bandura, 1986, 1995). However, similar to the other three sources of efficacy

information, physiological reactions do not directly shape efficacy beliefs – their influence is mediated by the ways in which an individual interprets them (Bandura, 1997). Limited research suggests that the source of efficacy beliefs ultimately holds consequence for its influence over achievement. For example, one study found that efficacy beliefs based on mastery experience are the strongest predictors of 7th grade math achievement, while those based on vicarious experience were not significantly predictive (Yurt, 2014).

According to social cognitive theory, effective performance requires not only necessary skills, but also efficacy beliefs to successfully enact those skills under various conditions (Bandura, 1997). Efficacy beliefs are foundational to human agency because "unless people believe they can produce desired results…by their actions, they have little incentive to act or to persevere." That is, if one does not believe that they can bring about desired results, they are unlikely to engage meaningfully in that activity. Efficacy beliefs influence individuals' decisions regarding "what challenges to undertake, how much effort to expend in the endeavor, how long to persevere in the face of obstacles and failures, and whether failures are motivating or demoralizing" (Bandura, 2001, p. 10). As such, efficacy works through goals, effort, persistence, and resilience to shape outcomes (Bandura, 1997). Early empirical studies on individual efficacy supported the link between efficacy and performance across cognitive, health, clinical, and athletic functioning (Bandura, 1997). For example, strong efficacy beliefs have been linked to successful smoking cessation (Garcia et al., 1990), sports performance (Barling & Abel, 1983; Lerner & Locke, 1995), pain management (Lackner et al., 1996), and decreased incidence and severity of depression (Kavanagh & Wilson, 1989).

1. Self-efficacy beliefs in schools

From the onset, social cognitive theory emphasized the role of efficacy beliefs in education, recognizing schools as a primary setting for the formation and influence of efficacy beliefs among students and teachers (Bandura, 1997). According to social cognitive theory, students' academic development was affected by perceived efficacy in three distinct ways: through students' self-efficacy beliefs regarding their ability to learn and master content, through teachers' efficacy beliefs about their capabilities in promoting learning, and through a school staff's collective sense of efficacy that their school can positively influence student outcomes (Bandura, 1993). Empirical support ensued when, following the promising findings on strong self-efficacy in so many arenas, researchers turned their attention to the role of self-efficacy in academic settings (Pajares, 1996). Student efficacy for learning has been linked to achievement and motivation (Bandura, 1997; Pajares, 1996). For example, students of equal mathematical ability achieved varying levels of success in implementing problem-solving strategies as a result of their respective levels of efficacy (Bouffard-Bouchard et al., 1991).

Teacher efficacy has also received a great deal of attention and proven to be a powerful construct for explaining teacher behaviors and student outcomes (Tschannen-Moran et al., 1998). Teacher efficacy represents teachers' beliefs that they can enact effective instructional practice and promote student learning (Bandura, 1997). The study of teacher efficacy is rooted in two broad theoretical frameworks. The first conception of teacher efficacy tapped the extent to which teachers believed control of student achievement was within their control (Tschannen-Moran et al., 1998). This notion of efficacy was based on Rotter's (1966) social learning theory and notions of locus of control. A study conducted by the RAND organization included this measure of teachers' sense of efficacy and found that it was related to reading success of inner city

children (Armor et al., 1976), spurring further exploration of this promising construct (e.g. Berman et al., 1977; Guskey, 1988).

A second related strand of teacher efficacy scholarship emerged from Bandura's (1986) social cognitive theory and theory of self-efficacy (Tschannen-Moran et al., 1998). This line of inquiry moved beyond locus of control to include the social cognitive perspective that efficacy beliefs form through a complex cognitive process and represent a belief in one's ability to attain specific outcomes in certain contexts. This conceptualization included more contextual considerations in the formation of efficacy beliefs (Bandura, 1997).

Tschannen-Moran and colleagues (1998) proposed a model for teacher efficacy that clarified and integrated these two conceptual strands. This model includes two dimensions of teacher efficacy: analysis of the teaching task and assessment of teaching competence. Analysis of the teaching task entails weighing "the relative importance of factors that might make teaching difficult or act as constraints…against an assessment of resources available that facilitate learning." (Tschannen-Moran et al., 1998, p. 228). Assessments of teaching competence include judgments related to personal "skills, knowledge, strategies, or personality traits"(Tschannen-Moran et al., 1998, p. 228). It is from this integrated model that current understandings of teacher and collective teacher efficacy have emerged (Tschannen-Moran & Woolfolk Hoy, 2001; Goddard, Hoy, & Hoy, 2004).

As a form of self-efficacy, teacher efficacy is shaped by the same four sources of efficacy information identified in social cognitive theory (Bandura, 1997). Self-perception of teaching competence is most directly influenced by mastery experiences because "only in a situation of actual teaching can an individual assess the capabilities he or she brings to the task and experience the consequence of those capabilities" (Tschannen-Moran et al., 1998, p. 229). For

example, physiological cues, such as increased heart rate, associated with actual experiences in the classroom can also shape teachers' perceived instructional competencies (Bandura, 1997; Tschannen-Moran et al., 1998). Social persuasion, such as feedback from one's supervisor or colleagues, likely serves as another informational source about teacher efficacy (Tschannen-Moran et al., 1998). Interestingly, Tschannen-Moran & Woolfolk Hoy (2007) found that social persuasion, conceptualized as interpersonal support provided by school leadership, colleagues, parents, and community, was more influential on the efficacy beliefs of novice teachers than it was on those of experienced teachers. This is arguably due to the fact that novice teachers lack robust mastery experiences that strongly shape perceptions of efficacy (Tschannen-Moran & Woolfolk Hoy, 2007). The notion that social persuasion can be a potent influence on efficacy beliefs aligns with other studies that suggest leadership behaviors matter for teacher efficacy development (Tschannen-Moran et al. 1998; Hoy & Woolfolk, 1993). For teachers, Bandura's fourth source of efficacy information, vicarious learning, includes observing other teachers in action, being exposed to examples of excellent teacher practice through teacher education experiences, and even viewing recordings of one's own practice (Bandura, 1977; Tschannen-Moran et al. 1998). Studies that have linked collaborative work environments to strong teacher efficacy lend some empirical support to this notion (Raudenbush et al., 1992).

Research has also explored factors that may shape teacher efficacy beliefs beyond the four sources of efficacy information posited by social cognitive theory. These studies include examinations of individual and school-level variables (Raudenbush et al., 1992; Tschannen-Moran et al., 1998). For example, teachers who exercise control over key working conditions are more likely to have a strong sense of efficacy (Raudenbush et al., 1992). Furthermore, the potency of certain sources of efficacy information seems to vary with respect to teachers' level

of experience. Contextual factors such as curricular resources and interpersonal support more strongly influence the efficacy beliefs of novice teachers than veteran teachers, arguably because newer teachers lack robust mastery experiences (Tschannen-Moran & Woolfolk Hoy, 2007). Furthermore, teachers in schools with highly collaborative school environments (Raudenbush et al., 1992), strong academic emphasis (Hoy & Woolfolk, 1993), ongoing opportunities for professional development (Pfaff, 2000), and strong leadership (Hoy & Woolfolk, 1993) also enjoy higher levels of teacher efficacy.

Studies of teacher efficacy demonstrate the positive effect strong teacher efficacy has on teachers, students, and schools. Teachers with higher perceived teaching efficacy enjoy higher levels of job satisfaction (Caprara et al., 2006), enhanced professional commitment (Ware & Kitsantas, 2007), great influence in school-based decisions (Moore & Esselman, 1992), and lower levels of burnout (Skaalvik & Skaalvik, 2007). Additionally, a high sense of teacher efficacy promotes productive teacher behaviors that foster student learning. Teachers with high efficacy beliefs are more likely to attend to individualized student needs and to respond to students in a positive, trusting, and supportive style (Ashton et al., 1982; Woolfolk & Hoy, 1990). They are also more likely to execute organized, well-planned, and innovative instruction (Allinder, 1994) and devote more time to small group instruction, positive reinforcement, and persistence in scaffolding support for struggling students (Gibson & Dembo, 1984). Efficacious teachers are also careful to orient their classroom activities toward the development of students' intrinsic interests in an effort to spur opportunities for self-directed learning (Bandura, 1993). In sum, teacher efficacy enables classrooms that are "conducive to learning" by shaping their orientation toward education and their specific instructional practices (Bandura, 1997, 1993, p. 140).

It is therefore not surprising that strong teacher efficacy is strongly linked to student achievement and positive student outcomes. Teachers' sense of efficacy influences student reading gains (Armor et al., 1976), student achievement on standardized tests (Ross, 1992), and student performance on final examinations (Caprara et al., 2006). Strong teacher efficacy also positively influences levels of student motivation and student self-efficacy (Midgley et al., 1989; Ross et al., 2001). The influence of teacher efficacy on these varied student outcomes is likely mediated by the adoption of productive instructional practices detailed previously. That is, the relationship between teacher efficacy and student achievement measures seems indirect such that "teacher efficacy influences numerous teacher behaviors that, in turn, promote student achievement" (Goddard & Goddard, 2001, p. 808).

2. Collective efficacy

Just as personal efficacy is a central mechanism of individual agency, so too is collective efficacy of collective agency. Scholars studying efficacy within organizations also took into account Bandura's (1993, 1997) emphasis on the interdependence of human functioning and his consequent arguments for the importance of collective agency, facilitated through collective efficacy. Collective efficacy is "a group's shared belief in the conjoint capabilities to organize and execute the action required to produce given levels of attainment" (Bandura, 1997, p. 477). It is a collective property that emerges through the interactive dynamics of groups and is therefore more than the sum of individual personal efficacies (Bandura, 1997, 2000, 2001). Importantly, collective efficacy is susceptible to influence and is therefore not a static group property (Bandura, 1997). Though distinct constructs, perceived self and collective efficacy are conceptually related. While personal and collective efficacy differ in their respective unit of agency (self and group), they "have similar sources, serve similar functions, and operate through

similar processes" (Bandura, 1997, p. 478). Therefore, both self and collective efficacy beliefs influence individual and organizational decisions and action (Goddard, 2002a).

Early examinations of collective efficacy across various settings support theoretical propositions that it is a positive property of groups and organizations. Sampson and colleagues (1997) found that higher levels of collective efficacy in neighborhoods were related to lower levels of crime and violence. A significant positive relationship between a group's level of collective efficacy and their commitment to goals and the organization was substantiated in military settings (Jex & Bliese, 1999) as well as college work groups (Mulvey & Klein, 1998). Collective efficacy of groups was also identified as a strong predictor of group and/or organizational performance across sectors including in manufacturing teams (Little & Madigan, 1997), nursing teams (Gibson, 1999), and college student work groups (Prussia & Kinicki, 1996). More recent work has continued to uncover positive outcomes associated with collective efficacy such as decreased job withdrawal and increased job satisfaction (Walumbwa et al., 2004).

3. Collective efficacy in schools

As studies of teacher and group efficacy were becoming more numerous, there was a concurrent emphasis on attending to the organizational properties of schools in school reform efforts. Education researchers similarly became interested in collective efficacy as a property of schools, recognizing that teachers "are not social isolates totally immune to the influence of those around them" (Bandura, 1997, p. 469) and that they work collectively within the "interactive social systems" of schools to promote student learning and school achievement (Bandura, 1993, p. 141). It was argued that to meet their aims, educational reforms had to account for the complex organizational structures of schools and the synergies between schools'

structural, social, physical, and human resources (Newmann et al., 1989; Sarason, 1990; Smylie & Perry, 1998; Tyack & Cuban, 1995). This call for studies of schools aimed at the organizational level was articulated well by Chubb (1988) who argued that "school performance is unlikely to be significantly improved by any measure or set of measures that fails to recognize that schools are institutions" and that "their influence on learning does not depend on any particular educational practice, on how they test or assign homework or evaluate teaching, but rather on their organization as a whole, on their goals, leadership, followership, and climate" (p. 29). This understanding of the interdependent nature of school functioning coupled with the powerful finding about individual teacher efficacy and group efficacy prompted several researchers to begin exploring collective efficacy as a property of schools (Goddard & Goddard, 2001; Pajares, 1996).

Perceived collective efficacy within schools has been referred to as collective teacher efficacy (CTE) and defined as "the judgment of teachers in a school that the faculty as a whole can organize and execute the courses of action required to have a positive effect on students" (Goddard, 2001, p.467). Scholars (e.g. Goddard et al., 2000; Goddard, Hoy, & Hoy, 2004) have worked to elaborate Tschannen-Moran and colleague's (1998) cyclical model of teacher efficacy, advancing a theoretical model for the formation and influence of collective teacher efficacy.

In this model, collective teacher efficacy beliefs shape, and are shaped by, their outcomes. Group members interpret and process mastery experiences, vicarious experiences, social persuasion, and emotional cues as well as analyze and assess the teaching task and teaching competence when forming collective efficacy beliefs. In this model, task analysis refers to the perceptions of the "constraints and opportunities inherent in the task at hand" and group-teaching competence refers to judgments about the capabilities of one's faculty including

inferences about teachers' skills and expertise (Goddard, 2002a, p. 100). These influence group performance through outcomes such as goal setting, level of exerted effort, and persistence. Feedback, in the form of direct performance outcomes as well as indirect interpretations of that performance, in turn, becomes a source of new information for the continued maintenance and adjustment of collective efficacy beliefs (Goddard et al., 2000). Specifically, this model of collective teacher efficacy adheres to social cognitive theory's assertion that the four sources of information for the development of individual efficacy beliefs operate at the collective level as well (Bandura, 1993, 1997). Furthermore, the model acknowledges the central role of cognitive processing – analyses, attributions, and interpretations – in the formation of efficacy beliefs. Efficacy beliefs are not entirely reflective of the sources of information, but emerge through cognitive processing of that information (Bandura, 1997).

According to this model, the collective teacher efficacy beliefs that are formed then shape the normative press of the school, influencing "the goals teachers set, the effort they invest in those goals, their perseverance in overcoming obstacles, and their resilience in the face of setbacks" (Tschannen-Moran et al., 2014). A strong sense of collective teacher efficacy creates a normative press for academics and "establishes expectations for success that encourages organizational members to work resiliently toward desired ends" (Goddard, Hoy, & Hoy, 2004, p.8). That is, collective teacher efficacy effectively acts as a social norm, sanctioning certain teacher behaviors (Coleman, 1987; Goddard, Hoy, & Hoy, 2004). Thus, teachers should learn to behave and evaluate behavior according to such group norms. For example, if the majority of teachers in a school believe the faculty can successfully improve student achievement, norms for academic press and quality instruction will encourage teachers to seek continued professional growth and may sanction those who don't. Feedback is a final component of the theoretical

model of CTE's formation and influence in schools. As teachers enact goal setting and exert effort toward their goals, their collective activity becomes the basis of new efficacy information. Group performance and associated feedback thus create new sources of efficacy information within the cycle (Goddard et al., 2000).

B. Review of the Literature: Research on Collective Teacher Efficacy

1. Studies of collective teacher efficacy

Examinations of collective efficacy in schools have primarily taken place over the past two decades. While student, teacher, and collective teacher efficacy have all been linked to student achievement in the extant literature, collective teacher efficacy is the most recently developed and the least studied (Goddard, Hoy, & Hoy, 2004). The first empirical examination of collective teacher efficacy found that faculties' beliefs in their collective instructional efficacy significantly contributed to their schools' level of achievement (Bandura, 1993). Several years later, encouraged by these initial findings, researchers developed a more reliable measure of collective efficacy specific to schools and further confirmed the hypothesis that perceived collective efficacy enhances student achievement (Goddard et al., 2000). Since then, studies of collective teacher efficacy have become more numerous. This review of the literature identified roughly 70 empirical studies that examine collective efficacy as a property of schools. Of note, a recent review of the literature on collective teacher efficacy similarly identified 79 published studies of CTE (Donohoo, 2018).

In the sections that follow, I review the initial line of inquiry into collective teacher efficacy beliefs including its operationalization and measurement. Then I present an overview of what these and subsequent studies tell us, and what we still do not know, about potential antecedents and consequences of collective teacher efficacy.

a. Operationalization and Measurement

Initial inquiries into collective efficacy in schools wrestled with how to best define and measure this emergent school property. While an earlier study found that aggregated teacher efficacy scores was associated with several positive outcomes, including a stronger sense of community among teachers and higher expectations for students (Newmann et al., 1989), teacher efficacy aggregated to the collective level is not necessarily a valid measure of collective teacher efficacy (Goddard et al., 2000; Goddard, Hoy, & Hoy, 2004). Because schools exhibit an "intermediate level of interdependence" (Bandura, 1993, p. 141) and because perceived collective efficacy is "more than simply the sum of members' perceived personal efficacies" (Bandura, 1997, p. 478), perceptions of collective efficacy are formed in reference to the group. The group, not the individual, is the unit of analysis. However, the unit of analysis issue is more complicated for a construct such as collective efficacy, which does not occur naturally at the group level but rather emerges from individual group members' perceptions (Goddard, 2002a). Goddard (2002a) found that there was very minimal variation of individual perceptions of self-capability between groups while perceptions of group capability varied more than 40% between groups. Therefore, measurement of collective efficacy should aggregate measures of individual group member's perceptions of group-referent capability. That is, the "object of the efficacy perception [is] 'we' instead of 'I'" (Goddard, Hoy, & Hoy, 2004).

Early studies of collective teacher efficacy also sought to examine whether averaging teachers' perceptions of collective efficacy was a sufficient measure of the construct or if some measure of consensus across group members was also needed (Goddard, Hoy, & Hoy, 2004). The evidence suggests that a measure of efficacy consensus is not a reliable predictor of student achievement differences among schools (Goddard, 2001). Goddard (2002a) concluded that the

“group mean [of collective efficacy perceptions] effectively captures the behavioral and normative influence that collective efficacy exerts” (p. 99). Therefore, it is likely that within a school the mean of members’ perceptions of group-efficacy better tap expectations for performance than do measures of consensus among those perceptions (Goddard, Hoy, & Hoy, 2004).

Collective efficacy has been measured primarily through quantitative survey scales (Eells, 2011; Hoogsteen, 2020). Goddard and colleagues (2000) operationalized collective efficacy from their proposed model. The resulting Collective Teacher Efficacy Scale included 21 items that tapped assessments of group competence and task analysis, and was strongly influenced by Gibson & Dembo’s (1984) teacher efficacy scale (Goddard et al., 2000). This measure was important in two ways. First, it addressed shortcomings of the previously existing teacher efficacy scale by incorporating both positively and negatively worded items to minimize response bias (Goddard et al., 2000). Secondly, it represented a major shift from measuring aggregates of teacher efficacy to directly examining collective teacher efficacy. However, there were some limitations to the 21-item scale. The items tapping group competence and task analysis were not equally distributed and there was some degree of redundancy across certain items (Goddard et al., 2000; Goddard, 2002a). A more parsimonious scale was thus developed and tested. This measure represented group competence and task analysis equally and reduced redundancy (Goddard, 2002a). Scores from the 12-item and 21-item scales were highly correlated (r =.983) and the shorter version of the scale had comparably high internal reliability (alpha =.94).

Research has most commonly measured collective teaching efficacy using scales like those described above, which are designed to tap two specific factors, analysis of the task and

assessment of competence. This is because it is theorized that teachers "weigh their perceptions of personal competence in relation to the demands of the task when assessing their efficacy" (Goddard, 2002a, p. 100). For example, the predominant scale used in collective efficacy research, the CTE-Short Scale (Goddard, 2002a), includes six questions that correspond to task analysis, the perceptions of the "constraints and opportunities inherent in the task at hand," as well as six items corresponding to group-teaching competence (Goddard, 2002a, p. 100).

However, a multilevel confirmatory factor analysis of the Collective Teacher Efficacy Scale suggests that analysis of the teaching task and analysis of teaching competence are conceptually distinct (McCoach & Colbert, 2010). Furthermore, Tschannen-Moran & Barr (2004) argue that such an approach "artificially drives down the collective efficacy scores of schools in more challenging environments by its explicit measurement of task difficulty" (p. 199). That is, even with a staff that feels highly efficacious in their practice, a school may rate low on CTE because of external barriers to success such as limited resources or inadequate instructional time. Klassen (2010) considered inclusion of items such as "Homelife provides so many advantages the students here are bound to learn" (p. 107) to detract from conceptual clarity of CTE as a belief in the ability for a faculty to make a meaningful difference in student outcomes regardless of external factors. Given the prevalence of external barriers to success experienced in struggling schools (Muijs et al., 2004), research focused on CTE in historically low-performing schools that utilizes on measures of CTE focused exclusively on analysis of competence are more likely to provide accurate measures of teachers' belief in their collective ability to influence student achievement above and beyond the impact of home and communities (Donohoo, 2017).

This review suggests that collective teacher efficacy is best measured as a group-referent property and has the most predictive power when aggregated to the school level as the group mean. Furthermore, while the scale survey tapping group competence and teaching task analysis is a reliable and valid measure of differences in CTE between schools, the inclusion of tasks analysis is likely to artificially deflate CTE scores in high-poverty or challenging circumstances. Finally, studies of collective efficacy in schools thus far have been dominated by quantitative methods which may obscure important nuances within individual school's experiences of CTE.

b. Formation of collective teacher efficacy beliefs

Studies of collective efficacy in schools have investigated numerous potential antecedents of CTE, including but not limited to those postulated by social cognitive theory. The following sections review the existing empirical support for the four primary sources of efficacy information, the role of analysis of teaching task and assessment of teaching competence, and other contextual factors related to the formation of collective teacher efficacy in schools.

i. Sources of collective efficacy information

The theorized relationships between prior school success related to student learning and school achievement (mastery experience), models of effective teaching and school-wide success (vicarious learning), opportunities for professional growth and verbal encouragement (social persuasion), and positive school climates (affective states) and the formation of collective efficacy beliefs (Bandura, 1997; Goddard et al., 2000), have received some empirical support. Prior mastery experience, primarily operationalized as prior student achievement on statewide assessments, has consistently emerged as a predictor of differences between schools' perceived collective teacher efficacy (e.g. Adams & Forsyth, 2006; Goddard,

LoGerfo, & Hoy, 2004; Ross et al., 2004). This strong association is problematic for historically low-performing schools (Goddard, LoGerfo, & Hoy, 2004).

While mastery experience has primarily been operationalized as global prior school performance on annual standardized assessments (e.g. Adams & Forsyth, 2006; Goddard, LoGerfo, & Hoy, 2004; Ross et al., 2004), it is theoretically conceptualized as instances in which teachers' evidence impact on student outcomes (Donohoo et al., 2020). However, studies of teachers' actual enactive experiences, rather than schools' prior achievement, as sources of CTE are scant (Donohoo et al., 2020; Goddard et al., 2015).

Furthermore, while other sources of efficacy are theorized to could contribute to robust CTE levels in schools, there is a limited empirical base investigating the role vicarious experience, social persuasion, and emotional state in the formation of collective efficacy beliefs. Empirical studies specifically examining vicarious learning as influences on collective teacher efficacy could not be found. Social persuasion, conceptualized as leaders' clear communication of expectations and display of confidence that the group can meet those expectations (Goddard & Salloum, 2012) was associated with increased levels of CTE. This was affirmed by Brown and colleagues (2019), who found that teachers attributed their enhanced CTE beliefs partly to leaders' clear communication of expectations and feedback on their performance related to those expectations. The same study suggests that teachers also drew on the positive emotional state of their school in forming collective efficacy beliefs, noting mutual concern for one another's well-being and an overall emotionally supportive environment (Brown et al., 2018). Lim & Eo (2014) similarly found that less supportive organizational climates defined by unproductive conflict were less likely to demonstrate high levels of collective efficacy. These empirical investigations affirm Ross and colleagues' (2004) scholarly assertion that social processes that generate peer

support are likely to buffer negative emotions and therefore enhance collective teacher efficacy beliefs.

Importantly, while Goddard and colleagues' (2000) model suggests that all four sources of efficacy hold at the group level, some of these sources are less understood at the collective level and as such, further research is warranted (Goddard, Hoy, & Hoy, 2004). Qualitative inquiry of schools with high levels of collective efficacy holds potential for illuminating relevant conceptualizations of these remote sources that operate to shape collective efficacy beliefs. empirical research substantiating the extent to which and how schools form CTE beliefs is warranted.

ii. Contextual factors

Empirical studies of collective teacher efficacy have also investigated school and contextual variables beyond those advanced in Goddard et al.'s (2000) theoretical model. In fact, some scholars have argued that explanations of CTE formation without attention to more proximate contextual influences are inadequate (Adams & Forsyth, 2006). Given the triadic reciprocity among behavior, personal cognitive factors, and environment (Bandura, 1986, 1997), perceptions of collective efficacy are likely influenced not only by the four remote sources of information but also by factors within the school context that are more proximate to the "here and the now" of teaching (Adams & Forsyth, 2006, p. 630). These investigations into factors embedded within schools' milieu have identified several potential antecedents to CTE including: shared leadership and teacher influence, collaborative structures and practices, leadership practices, and school composition (Adams & Forsyth, 2006; Angelle & Teague, 2014; Leithwood et al., 2010; Olivier & Hipp, 2006; Ross et al., 2004; Ross & Gray, 2006).

When teachers are able to exert control over their work and influence decisions within the school, they are more likely to experience collective efficacy. When teachers are engaged in school-wide decision-making processes, collective teacher efficacy is enhanced (Goddard, Hoy, & Hoy, 2004; Ross et al., 2004). Furthermore, this effect is most salient when teachers' involvement in decision-making affords them more control over their instructional work (Goddard, LoGerfo, & Hoy, 2004; Goddard & Salloum, 2012). For example, a case study of one high performing Pre-K-8 school found that leadership capacity across teachers, fostered through facilitative leadership training and broad-based participation in curriculum and instruction decisions, was accompanied by high levels of collective efficacy (Olivier & Hipp, 2006). This trend was confirmed in a recent study which suggests that informal teacher leadership through professional learning communities and the exchange of advice, rather than principal-appointed formal roles, may be more salient for the cultivation of collective teacher efficacy (Angelle & Teague, 2014). Ultimately however, it is important to note that simply handing over decision-making power is likely insufficient. To enhance collective teacher efficacy schools must enable effective decision-making through structured opportunities to make stepwise decisions around proximal goals that build to more robust, distal goals (Goddard, 2002b). Furthermore, how teachers are tapped for leadership and influence may be of consequence. For example, while Derrington & Angelle (2013) found an overall clear and strong relationship between CTE and the extent of teacher leadership within a school, this relationship did not exist when leaders were selected as the "chosen few" by the leader (p. 6).

Professional collaboration and growth opportunities also appear important for the cultivation of collective efficacy in schools. For example, when teachers' professional advice networks are dense and well-connected, collective teacher efficacy is enhanced (Moolenaar et

al., 2011). Opportunities for teacher collaboration over student data also appear important for the development of strong collective efficacy perceptions (Pfaff, 2000). Relatedly, teachers' access to professional resources and their assessments of teachers' knowledge and skills influence perceptions of collective capabilities (Evans, 2009; Tschannen-Moran & Barr, 2004). It thus follows that ongoing professional collaboration will likely feed stronger beliefs in the collective capacity of the faculty to influence learning. Goddard and colleagues (2015) argue that collaboration characterized by frequent, structured, exchange focused on instructional improvement, is most important to CTE and consequent success. Their study of the interrelationship of instructional leadership, collaboration for instructional improvement, and collective teacher efficacy found that strong collaboration over instruction did in fact predict stronger collective efficacy beliefs (Goddard et al., 2015). In fact, one study found that when teachers working at an underperforming school engaged in collaborative professional development, their perceptions of each other's competence increased (Zambo & Zambo, 2008).

Limited work has also begun to identify leadership strategies that may help build collective teacher efficacy. For example, leaders who enact behaviors associated with transformational models of leadership enhance collective efficacy beliefs among their staffs (Ross & Gray, 2006). Specifically, leadership that clarifies work goals and provides socio-emotional support to teachers fosters CTE (Chen & Bliese, 2002). Other work suggests that leaders can build more efficacious staffs by promoting continual knowledge and skill development in instructional areas (Brinson & Steiner, 2007) and by creating the conditions needed for effective collaboration for instructional improvement (Goddard et al., 2015). Furthermore, the documented influence of leadership within school improvement and capacity-building efforts (e.g. Chapman, 2003; Leithwood et al., 2004; Leithwood & Riehl, 2003)

suggests that leaders' actions and approaches likely play a pivotal role in the cultivation of organizational properties like collective teacher efficacy. As such, this remains an important but underdeveloped area of the literature.

Several studies of collective efficacy in schools have examined various aspects of school composition in relation to CTE socio-economic status of students, prior achievement of students, and teacher experience and race (Cybulski et al., 2005; Francera & Bliss, 2011, Goddard & Skrla, 2006). These studies draw from large samples to examine variance between-schools. Several studies have found that the socioeconomic composition of a school influences their collective efficacy beliefs (Cybulski et al., 2005; Francera & Bliss, 2011). However, at least one studied district did not evidence such a pattern (Goddard & Skrla, 2006). That is, in this district, CTE was not systematically related to the socioeconomic composition of the student body. This study also found that a higher proportion of Hispanic teachers in a school was associated with increased levels of CTE (Goddard & Skrla, 2006). While this finding could not be fully explained by the collected data, the authors, in consultation with district representatives, theorize that this pattern likely reflects the increased efficacy Hispanic teachers experience given their shared language and culture with the majority (53%) of district students (Goddard & Skrla, 2006). This finding has important implications for future research, suggesting that the unique composition of a school and its students might relegate certain sources of efficacy as more or less important. That is, the antecedents included in the proposed model of CTE formation, while they are statistically significant predictors of variation in CTE across schools, may not fully explain the sources of efficacy beliefs at play within individual schools.

Examinations of collective teacher efficacy and its antecedents have been conducted across fairly representative samples of schools, in urban, suburban, and rural settings (e.g.

Goddard & Goddard, 2001; Hoy et al., 2002). However, the focus in these studies has been on statistically significant differences between schools. As such, while these quantitative studies have identified a small set of correlates that might function as antecedents to CTE, they do not offer sufficient insight into why the associations exist or how they come about (Coe & Fitz-Gibbon, 1998). There is minimal empirical understanding of the ways in which individual schools of different types might draw on these established antecedents to cultivate efficacy beliefs in their unique contexts.

In sum, the extant literature indicates that CTE is the product of more than just schools' prior achievement and demographic indicators (Hoy et al., 2002) but less is known about the unique ways in which these varied sources contribute to robust efficacy beliefs in different school contexts. In particular, whether and in what ways low-performing schools might cultivate efficacy have not been adequately examined. Prior success is thought to be the strongest predictor of levels of collective teacher efficacy, suggesting that low-performing schools may be altogether less likely to experience high levels of collective teacher efficacy unless there is adequate exposure to other sources of efficacy (Goddard, LoGerfo, & Hoy, 2004). While the proposed model for the formation of efficacy beliefs puts forth alternative sources of efficacy that may be relevant to low-performing schools lacking mastery experience in terms of school achievement, the model has not been empirically tested in such settings.

c. The influence and outcomes of collective teacher efficacy

The link between collective teacher efficacy and student achievement has been well-established empirically (e.g. Cybulski et al., 2005; Francera & Bliss, 2011; Goddard, 2001; Goddard et al., 2000; Goddard, Hoy, & Hoy, 2004; Hoy et al., 2002; Hoy, 2012; Moolenaar et al., 2012; Tschannen-Moran & Barr, 2004). That is, differences in schools' levels of reported

collective efficacy beliefs are positively and significantly associated with measures of school-level student achievement (Goddard et al., 2000). For example, high levels of CTE have reliably predicted student achievement on statewide assessments across content and grade level, even after controlling for student demographics and prior achievement (Goddard, 2001; Hoy et al., 2002; Tschannen-Moran & Barr, 2004). Another study provides empirical support for a positive and significant relationship between CTE and six different indicators of school achievement, including SAT scores (Leithwood et al., 2010). However, there is less empirical support of the predominant model (Figure 1.1) for how and why this association exists. That is, these studies do not offer adequate insight into how CTE specifically exerts such influence on student learning.

Empirical investigations of collective teacher efficacy do lend some support to the theoretical claim that CTE works through the normative environment of the school. Research has demonstrated the essential role collective teacher efficacy plays in the cultivation of a strong academic culture in schools (Fahy et al., 2010). Schools with higher levels of collective teacher efficacy tend to have stronger normative press regarding academics (Goddard et al., 2000; Goddard, 2001; Goddard & Goddard, 2001). Furthermore, academic press in schools is most potent when collective teacher efficacy is high (Hoy et al., 2002). As such, collective teacher efficacy may serve as a "potent way of characterizing school culture" (Goddard, Hoy, & Hoy, 2004, p. 9).

Direct empirical examinations of the link between high levels of collective teacher efficacy and teacher goal setting, effort, persistence, and resilience could not be found, though several studies do provide indirect support for these relationships. In particular, empirical examinations of the relationship between collective teacher efficacy and specific organizational outcomes lend tangential support to the overall model. For example, Goddard & Goddard's

(2001) study which evidenced the mutually-reinforcing relationship between collective teacher efficacy and individual teacher efficacy, a construct which has previously been positively and significantly associated with teacher goal setting, effort, persistence, and resilience (Tschannen-Moran et al., 1998). This study found that one standard deviation increase in perceived collective efficacy is associated with a .248 standard deviation increase in teacher efficacy (Goddard & Goddard, 2001). The authors argue that though likely bidirectional, the influence of collective efficacy on individual teacher efficacy operates through the norms and a culture of expectations associated with high levels of collective teacher efficacy described previously. Therefore, teacher efficacy may effectively be enhanced when new teachers are socialized into a highly efficacious school. Furthermore, there is tangential support that collective efficacy fosters persistence and resilience given that strong CTE has also been linked to teachers' commitment to students' academic achievements (Lee et al., 2011; Ross & Gray, 2006; Ware & Kitsantas, 2007). Despite these promising findings, tests of the theoretical model for the ways in which CTE enables goal setting, effort, persistence, and resilience among teachers in individual schools generally remains an underdeveloped area in the empirical literature.

Studies have also identified a set of organizational outcomes associated with CTE that may constitute important intermediate variables that help explain the link between collective teacher efficacy beliefs and school achievement. Empirical studies have demonstrated that greater levels of collective efficacy in schools increase teachers' commitment to the teaching profession and the organization (Klassen, 2010; Lee et al., 2011; Ware & Kitsantas, 2007). Additionally, in more efficacious schools, teachers are more likely to embrace collective responsibility for student progress across the entire learning community (Olivier & Hipp, 2006; Wu, 2013). These findings suggest that there are important differences in organizational

practices between higher and lower efficacy schools that likely contribute to differences in student and school achievement. In light of these promising findings, scholars have made repeated calls for further research into other school practices and organizational conditions that are related to collective efficacy (Goddard, 2002; Goddard, LoGerfo, & Hoy, 2004; Tschannen-Moran & Barr, 2004).

Examinations of collective teacher efficacy and its outcomes have been conducted across fairly representative samples of schools, in urban, suburban, and rural settings (e.g. Hoy et al., 2001; Hoy et al., 2002). However, the focus in these studies has been on statistically significant differences between schools. As such, while these quantitative studies have identified a small set of organizational outcomes associated with CTE, they do not offer sufficient insight into why the associations exist or how they come about (Coe & Fitz-Gibbon, 1998). Limited examples of qualitative inquiry of CTE (e.g. Olivier & Hipp, 2006) have been conducted in high-efficacy, high-performing schools.

2. Limitations with existing literature

While this review of the literature has provided ample evidence that collective teacher efficacy is associated with school effectiveness across schools, understandings of its formation and influence in schools generally remain underdeveloped (Goddard, Hoy, & Hoy, 2004; Goddard, LoGerfo, & Hoy, 2004; Hoy et al., 2002; Tschannen-Moran & Barr, 2004). Qualitative investigations are an important next step for research into the nuanced contextual sources of collective efficacy and the influence of CTE across school settings (Ramos et al., 2014).

While there is some empirical evidence for the theoretical model of CTE formation, important gaps remain. First, the demonstrated link between prior school achievement and collective teacher efficacy is problematic for historically low-performing schools (Goddard et al

2004). While the proposed model for the formation of efficacy beliefs puts forth alternative sources of efficacy that may be relevant to low-performing schools lacking mastery experience in terms of school achievement, the model has not been empirically tested in such settings.

Secondly, a recent study suggests that the two concepts comprising measures of CTE, teaching task and teaching competence, may be conceptually distinct such that even within highly efficacious schools, there may be high levels of variability among teachers such that some have highly rated perceptions of teachers' capabilities but perceive significant external barriers to success such as limited resources or inadequate instructional time, or vice versa (McCoach & Colbert, 2010). Such nuances have important implications for understanding how CTE can be formed, strengthened, and maintained in schools as each factor may require "differential intervention" (McCoach & Colbert, 2010, p. 43). While the prevailing quantitative studies of CTE have substantiated ways in which more efficacious schools differ from those with less collective teacher efficacy, qualitative or mixed-method inquiry would enable investigations into within school variations that would matter for CTE formation and influence in individual school settings.

Finally, the study of collective efficacy's formation in schools has been dominated by quantitative inquiries. Such approaches on their own do not facilitate the exploration and inductive identification of unknown sources or influences of efficacy beliefs. Continued calls for additional research to uncover such factors suggest qualitative or mixed method inquiries are warranted (Goddard & Salloum, 2012; Tschannen-Moran & Barr, 2004). Qualitative inquiry of schools with high levels of collective efficacy holds potential for illuminating relevant conceptualizations of these remote sources that operate to shape collective efficacy beliefs.

Similarly, tests of the theoretical model for the ways in which CTE enables goal setting, effort, persistence, and resilience among teachers in individual schools are scarce.

Overall, the research on CTE's influence in schools has primarily examined the extent to which schools' CTE beliefs reliably predict differences in such positive outcomes across schools. As such, the current literature does not offer adequate insight into how CTE specifically exerts such influence on student learning.

There is a paucity of qualitative work exploring how and why collective efficacy matters for student achievement and the extent to which a high level of collective efficacy works to influence student achievement within individual schools as suggested by the literature. Scholars have made repeated calls for further research into other school practices and organizational conditions that are related to collective efficacy (Goddard, 2002; Goddard, LoGerfo, & Hoy, 2004; Tschannen-Moran & Barr, 2004). Examining high- and low-performing schools with approximately equivalent, and relatively high, levels of collective teacher efficacy provides a unique investigation into the extent to which, and potential reasons why, collective efficacy has or has not translated to collective action that effectively influences student learning as suggested by the current model of CTE. Such in-depth examination of how, and to what extent, robust collective teacher efficacy translates into effective collection action for student learning is necessary if school leaders and teachers are to effectively leverage collective efficacy beliefs in service of student learning.

III. RESEARCH DESIGN AND METHODOLOGY

In this chapter, I articulate the conceptual model and research questions that guided my inquiry and describe the research design of this study and the methods used to collect, analyze, and report data. I also describe strategies taken to ensure trustworthiness and credibility of my findings.

A. Conceptual Model

For this study, I drew on social cognitive theory (Bandura, 1993; 1997) and research on collective efficacy (e.g., Goddard, 2001; Goddard, Hoy, & Hoy, 2004; Tschannen-Moran & Barr, 2004) detailed in my literature review to develop and explore a framework for understanding the formation and influence of collective teacher efficacy beliefs in schools. This conceptual framework incorporates findings across the studies of collective efficacy previously reviewed (e.g. Adams & Forsyth, 2006; Ross & Gray, 2006; Leithwood et al., 2010; Tschannen-Moran & Barr, 2004; Olivier & Hipp, 2006; Goddard et al., 2015) into the theoretical model of the formation and influence of collective teacher efficacy initially advanced by Goddard (2002).

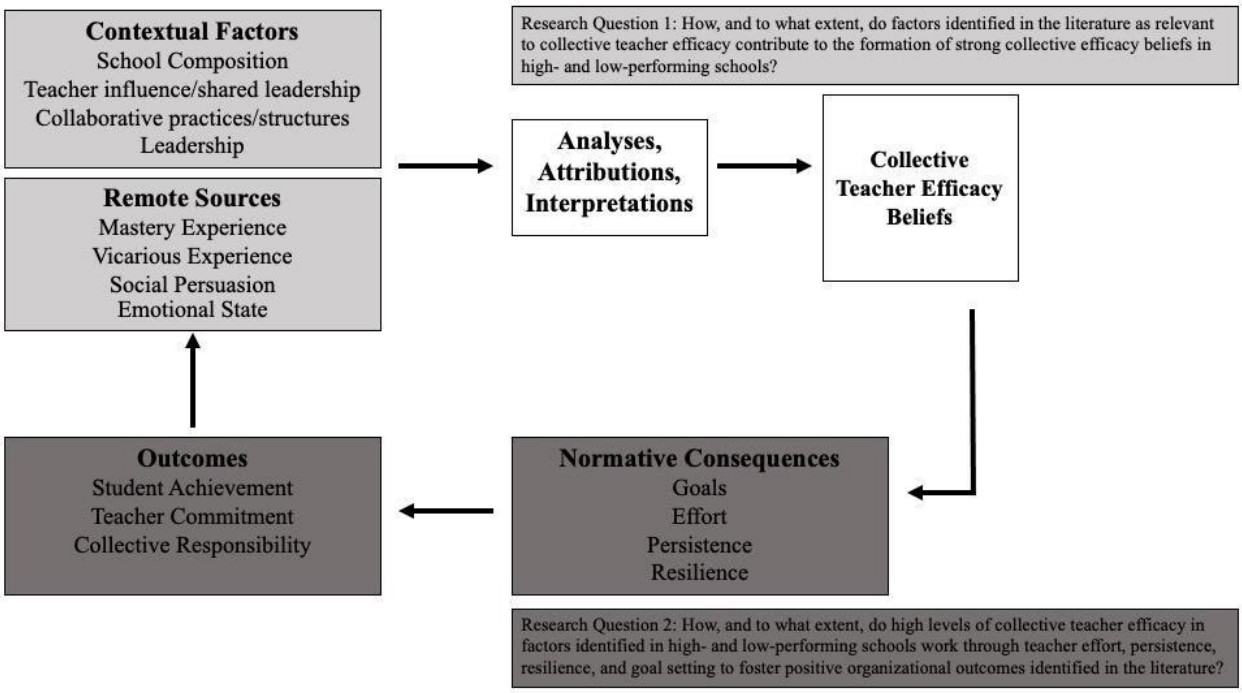
The conceptual model begins with remote and proximate sources of information that shape efficacy beliefs as well as a set of potential contextual antecedents to CTE drawn from the literature. Next, the framework delineates the theorized normative consequences of collective efficacy and the varied organizational outcomes associated with high levels of collective teacher efficacy in the literature.

The purpose of this research was to investigate collective teacher efficacy, its formation, and its influence in a high- and a low-performing setting to explore the ways in which it is formed in these different school contexts and the extent to which it contributes to school performance as suggested by the literature. Figure 1 illustrates the "key factors, constructs or

variables – and the presumed relationships among them" that were examined in this study (Miles & Huberman, 1994, p. 18).

Figure 1

1. Adapted Model of the formation and influence of collective teacher efficacy in schools



The grayscale shading in Figure 2 links each of the two research questions to the relevant position of the explanatory model of CTE. As described in the introduction, this study was driven by two distinct, though closely related, research questions. The first research question, how, and to what extent, do factors identified in the literature as relevant to collective teacher efficacy contribute to the formation of strong efficacy beliefs in high- and low-performing schools, explored sources of efficacy information posited by social cognitive theory as well as contextual factors identified as antecedents across studies of collective efficacy in schools. These factors include the four main sources of efficacy beliefs: mastery experience,

vicarious experience, social persuasion, and affective state (Bandura, 1997) and several contextual factors within schools that foster CTE including: shared leadership and teacher influence, collaboration structures and practices, leadership practices, and school composition (Adams & Forsyth, 2006; Angelle & Teague, 2014; Leithwood et al., 2010; Olivier & Hipp, 2006; Ross et al., 2004; Ross & Gray, 2006). This study explored the extent to which these factors were relevant to the formation of strong perceived efficacy beliefs in high- and low-performing schools reporting higher than district average levels of collective teacher efficacy.

The second research question, how, and to what extent, do higher levels of collective teacher efficacy in high- and low-performing schools work through teacher effort, persistence, resilience, and goal setting to foster positive organizational outcomes identified in the literature, explored the consequences of efficacy information posited by social cognitive theory (Bandura, 1997; Goddard, 2001) as well as outcomes identified across studies of collective efficacy in schools (e.g. Cybulski et al., 2005; Goddard & Goddard, 2001; Goddard, 2002; Hoy et al., 2002; Olivier & Hipp, 2006; Ware & Kitsantas, 2007). This study examined the extent to which these proposed relationships existed in high- and low-performing schools reporting higher than district average levels of collective teacher efficacy.

B. Propositions

Because a school with high collective teacher efficacy and low student achievement challenged the current model, two initial propositions for why the mutually reinforcing cycle between higher levels of collective teacher efficacy with higher levels of student achievement may not have been fully operative at the low-performing setting also framed my inquiry.

1. Proposition 1

Efficacy beliefs emerge from cognitive interpretive processes that integrate across a constellation of efficacy information (Bandura, 1997; Goddard, 2001). Limited research suggests that the source of efficacy beliefs ultimately holds consequence for its influence over achievement. For example, one study found that efficacy beliefs based on mastery experience are the strongest predictors of 7th grade math achievement, while those based on vicarious experience were not significantly predictive (Yurt, 2014). In this study, I propose that the formation of CTE beliefs in the lower performing schools may have been based on nuanced sources of information, or inferential weighting of sources of information, such that the efficacy beliefs may be less immediately consequential to collective action. That is, teacher perceptions of efficacy may have been overly influenced by sources of information that are less credible than, for example, enactive mastery experiences, resulting in an inflated and not fully warranted level of perceived CTE. Ross and Gray (2006), in discussing their findings that transformational leadership positively influenced collective teacher efficacy beliefs, make the scholarly assertion that leaders must take care to ensure that efficacy beliefs are calibrated against credible indicators of performance to avoid a "delusional upward spiral" of efficacy that is not reliably tied to performance outcomes (p. 21). This aligns to prior research on individual efficacy beliefs that suggests efficacy beliefs, if formulated in the absence of authentic and unambiguous feedback on performance, are of less consequence to future action (Halper & Vancouver, 2015; Schmidt & DeShon, 2010).

2. Proposition 2

I also proposed that in low-performing schools with relatively high levels of collective teacher efficacy, the model of CTE in the existing literature may not have been fully operative

because the normative consequences of CTE had not been realized, or if they had, they were not harnessed in a way that results in the positive outcomes of CTE delineated in the model. A stream of research on self-efficacy beliefs and subsequent performance provides some evidence that while strong self-efficacy may predict differences between individuals' performance, the association may not be as strong within an individual longitudinally (e.g. Beattie et al., 2011; Sitzmann & Yeo, 2013; Vancouver & Kendall, 2006). These studies suggest that while individuals with stronger efficacy beliefs might outperform other individuals with comparatively lower efficacy, enhanced efficacy beliefs do not necessarily predict improved future performance. Researchers have found that while current self-efficacy was positively and strongly correlated with performance across individuals, enhanced self-efficacy beliefs within individuals had a weak, negative effect on future task performance in sports and learning contexts (Beattie et al., 2011; Vancouver et al., 2001). For example, stronger self-efficacy beliefs reliably predicted better performance among golfers, while exhibiting a weak, negative relationship to subsequent performance within individual golfer's performance trajectories (Beattie et al., 2011). One explanation for this trend is that high efficacy may sometimes actually undermine effort in some cases. One study found that enhanced self-efficacy in an academic setting led to an increased optimism for positive performance on course exams, which in turn led to decreased time studying and ultimately poorer performance than on prior exams (Vancouver & Kendall, 2006).

Extending these findings - that increased efficacy may lead to decreased expenditure of resources to meet goals - to the group level, one could hypothesize that, while CTE predicts between-school performance, it is not as reliable an indicator of individual school performance because it does not always facilitate increased effort, persistence, and resilience toward ambitious goals as suggested by the current model. The research on collective teacher efficacy,

and its relationship to school performance, has been dominated by quantitative between-school examinations, which may obscure or overlook the nuanced ways in which CTE functions to enable, or potentially undermine, future performance within an individual school. One might imagine a low-performing school in which teachers share a sense of collective efficacy for the work, but that leadership and/or school conditions are such that the goals organizing their collective action are seriously limited, or in which inflated efficacy actually undermines the allocation of resources and effort toward those goals. That is, perhaps the necessary conditions for CTE to foster effort, persistence, and resilience have not been realized or they have not yet been harnessed or directed at the right things to influence achievement.

C. Research Design

In order to answer these research questions, a sequential explanatory mixed methods research design was employed to examine the extent to which the explanatory conceptual model of CTE held true across a high- and a low-performing school with higher than district-average levels of collective teacher efficacy. The inquiry required the purposeful sampling of high- and low-performing schools that reported high levels of collective teacher efficacy. Therefore, initial quantitative analyses of an existing data set was used to identify eligible schools for further qualitative inquiry. As such, this study used a mixed methods design, incorporating both quantitative and qualitative data collection and analysis.

Mixed methods research is more than just the sum of each method and can "provide a better understanding of the research problem and question than either by itself" (Creswell, 2012, p. 535). There are several benefits to employing a mixed method design. First, mixed method studies can answer research questions that other methodologies cannot. For example, mixed methods research can "simultaneously answer confirmatory and exploratory questions, and

therefore verify and generate theory in the same study" (Teddlie & Tashakkori, 2003, p. 15). Such an approach can also provide a better basis for inferences if the methods are "mixed in a way that has complementary strengths and nonoverlapping weaknesses" (Johnson & Turner, 2003, p. 299). For instance, quantitative survey data enhanced the breadth of this study by illuminating differences in key factors between the two schools, while qualitative interview data expanded its depth by tapping the sensemaking of participants regarding the relationships among factors related to collective teacher efficacy.

Mixed method research is broadly motivated by an acknowledgement of the complexities in the inquiry context and research problems (Greene & Caracelli, 2003). Specifically, it can be used for the purposes of triangulation, complementarity, development, initiation, expansion, or some combination thereof (Greene et al., 1989). This study used quantitative methods to direct the purposeful sampling of qualitative participants. Furthermore, quantitative analyses were used to contextualize the qualitative findings such that interpretations of collective teacher efficacy, its formation, and its influence in high- and low-performing schools was enhanced (Greene et al., 1989, p. 259). Therefore, this mixed method study was motivated by aims of development and complementarity.

There are also four assumptions embedded within various mixed method designs: the researcher's theoretical perspective, implementation of data collection, the priority given to quantitative or qualitative inquiry, and the integration of data (Creswell et al., 2003; Greene & Caracelli, 2003; Teddlie & Tashakkori, 2003). The role of theoretical perspectives and epistemology in mixed method research has long been debated. Concerns have been raised over the feasibility of using quantitative and qualitative methods since they are rooted in positivist and constructivist traditions, respectively. The "paradigm wars" brought forth the incompatibility

thesis, which argued that qualitative and quantitative methods could not be reconciled because the paradigms in which each method is rooted are inherently incompatible (Teddlie & Tashakkori, 2003, p. 5). However, this argument is "predicated on the link between epistemology and method" (Teddlie & Tashakkori, 2003, p. 7) and has been largely discredited on account of the success of mixed-method scholarship as well as a growing recognition that "in real world practice, methods can be separated from the epistemology out of which they emerged" (Patton, 1990, p.154). This research adopted a pragmatic stance and was driven by the goal of substantive understanding. While all research must acknowledge the role of personal philosophical perspectives and the researchers' personal theory of the problem, research decisions were driven by an effort to enhance understanding rather than to "honor broad philosophical assumptions" (Greene & Caracelli, 2003, p. 103).

A second assumption implicit in the design of mixed method research is the sequence used to collect data. Mixed method data collection can be convergent, in which quantitative and qualitative data are collected simultaneously and prior to any analysis, or sequential, in which quantitative and qualitative data are collected and analyzed in two phases (Creswell, 2012; Creswell et al., 2003). Sequential implementation of data collection allows the researcher to use first phase data analysis to guide the selection of second phase participants (Creswell, 2009). This research study adopted a sequential design and built on the preliminary understanding of the level of collective efficacy manifest in schools across a district to guide the selection of participating schools for qualitative inquiry.

The priority, or weighting, of quantitative and qualitative research within a mixed method study must also be addressed (Creswell, 2009). Both approaches can be given equal priority or one might be prioritized (Creswell et al., 2003). This should be determined based on the

research questions, the audience of the study, potential time constraints, and the overall purpose of the study (Creswell, 2009; Creswell et al., 2003). While quantitative research is typically prioritized in sequential explanatory models, this research adopted an "important variation of this design" in which qualitative data collection and analysis is prioritized (Creswell et al., 2003, p. 227). Importantly, while some researchers have framed mixed-methods as a threat to qualitative approaches (e.g. Howe, 2004) there is a growing number of examples in which qualitative interpretive inquiry is successfully prioritized in mixed method studies (Creswell et al., 2006; Ivankova et al., 2006). Given this study's purpose, to understand the formation and influence of collective teacher efficacy beliefs in high- and low-performing schools, quantitative analyses of existing survey measures will be used to characterize the unit of analysis, school, along the trait of interest, collective teacher efficacy, to guide primarily qualitative inquiry (Ivankova et al., 2006). Additional survey data on constructs relevant to collective teacher efficacy were also drawn on to help create school portraitures and to contextualize and verify qualitative findings for each case school. Following qualitative data collection and coding analysis, concurrent analyses of quantitative survey data and qualitative interview data enabled the development, and cross-comparisons, of the findings for two cases schools.

A final assumption embedded in mixed method design selection is integration, the stage at which the quantitative and the qualitative are actually "mixed" (Creswell, 2009, p. 210). Mixing can range from the analysis of one type of data connecting to the collection of the second type to the full integration of both data sources. Decisions regarding integration should be responsive to the research questions (Erzberger et al., 2003). In this study, the quantitative and qualitative phases were connected at the intermediate stage of the research process as participating schools were selected based on their phase one survey results (Ivankova et al.,

2006). In making sense of collective teacher efficacy, its formation, and its influence in the two case schools, I drew on both the quantitative survey and qualitative interview data. As such this study represents a complementarity model of integration in which the findings from each method provided partial perspective into the phenomenon of collective teacher efficacy in these schools (Erzberger et al., 2003).

In sum, this study employed a variant of the sequential explanatory design. Figure X provides a visual model of the design. Quantitative data guided purposeful sampling before qualitative data collection. Qualitative data collection and analysis was the priority given the purpose of this study to understand CTE, its formation, and its influence within each school "from the perspectives of those living in it" (Hatch, 2002, p.7). Concurrent analysis and interpretation then followed.

Figure 2

2. Visual model for mixed methods sequential explanatory design procedures

D. Research Context

This research was conducted in Hope District (pseudonym), a moderately large urban district in the midwestern United States. Hope serves nearly 18,000 students annually, making it one of the 300 largest districts in the country. In many ways, this district is representative of the trends and challenges facing schools across the country. Approximately one-third of its students

identify as White, another one-third identify as Black, and the remaining students are predominantly Hispanic with a small percentage identifying as American Indian, Asian, and/or multiracial. Nearly three-fourths of the district's students qualify for free or reduced lunch.

The district is subject to a state-wide A-F accountability system. Between 2012 and 2015, annual school grades were based on three factors: the percentage of all students who pass the state's English and math assessment (performance), the change in passing percentage of students over a three-year period (improvement), and whether the school made or failed to make Adequate Yearly Progress under the federal No Child Left Behind Act (AYP status). In order to minimize identifiable data, I primarily document the report card scores, rather than specific percentages passing, in this study. During the primary academic year of interest for this study, 2014 - 2015, roughly half of all district schools were rated "D" or "F." The same statewide accountability metrics rated the district as a "C" or "D" during those years as well. A survey of district schools conducted in the spring of 2015 suggested that several schools in the district, both high- and low-performing, exhibited relatively high levels of positive organizational properties including collective teacher efficacy. Thus, this district provided a unique opportunity to explore the ways in which high- and low-performing schools fostered collective teacher efficacy and to examine how, and the extent to which, this collective efficacy had translated to positive outcomes suggested by the literature in these schools.

E. Quantitative Sample

The survey was administered by a team of researchers from UIC. I was later added to the IRB to enable secondary analyses of the results. The target population consisted of full-time teachers across 32 district schools (n = 1,038). The final sample consisted of 368 teachers with usable responses. Participant information for the original survey study is included in Table I.

Table I

I. ORIGINAL SURVEY STUDY PARTICIPANT INFORMATION

	n	Percent
Gender		
Male	76	21.3%
Female	271	76.1%
Not Identified	9	2.5%
Ethnicity		
Asian	2	0.6%
Black	18	5.1%
Hawaiian/Pacific Islander	1	.3%
Hispanic	6	1.7%
White	314	88.2%
Not Identified	15	4.2%

F. Qualitative Sample

At the time of the survey, there were 32 traditional public schools in Hope District, four of which were high schools. I choose to exclude high schools from the possible pool of case schools for several reasons. First, the vast majority of research conducted on collective teacher efficacy has been in elementary and middle school. In a 2011 meta-analysis of research on collective teacher efficacy that gathered all published and unpublished research on the subject at the time, 20 of 28 studies measured CTE in elementary schools, and 81 percent of the subjects in all studies were from elementary school studies. Therefore the prevalent model of CTE, of which my study sought to explore in-depth at specific schools, was largely developed through the study of elementary schools. It thus made sense to limit research sites to primary and intermediate

settings. Furthermore, research has demonstrated that collective teacher efficacy is inversely related to higher grade configurations - that is, high schools likely have embedded features that hinder efficacy beliefs more so than do elementary schools (Adams & Forsyth, 2006). Finally, my own professional experiences as a school teacher and leader have all been within elementary schools and as such, I have a great depth of knowledge regarding organizational structures and features of the elementary schools. By limiting my research to elementary schools, I felt I would be best able to make sense of learnings on the perceptions of collective teacher efficacy within each school.

Purposeful sampling was necessary to ensure that the selected schools related in a systematic way to the phenomena of interest, collective teacher efficacy (Maxwell, 2005). Therefore, I fixed the component of collective teacher efficacy such that both schools had higher-than-average levels of collective teacher efficacy relative to the district as a whole and sought diversity across performance levels to enable sampling of typical and extreme cases (Kemper et al., 2003; Yin, 2014) in which the school with a relatively high level of collective teacher efficacy and student achievement represented the typical case. This case enabled in-depth examination of the extent to which CTE's formation and influence in a typical school maps onto the model proposed by the literature. Extending the sample to a deviant case facilitated deeper understandings of the formation and manifestation of collective teacher efficacy through cross-case analysis of a high- and low-performing school (Patton, 1990; Silverman, 2011). High- and low-performance designations stem from state accountability scores, based largely on the percentage of students passing state math and ELA assessments, as well as growth models indicating high and low growth among state schools. That is, low-performing schools are rated as such on the accountability metrics, and also evidence lower than

average student growth. In sum, to optimize learnings about the extent to which the prevalent model of collective efficacy, its antecedents, and its influence is experienced by teachers in high-and-low performing schools, the schools were selected along two criteria: their reported level of collective teacher efficacy in a spring 2015 survey and the percentage of students passing on the state's accountability exam.

I initially hoped to organize qualitative sampling across four schools in two categories: two high-performing schools with relatively high levels of collective teacher efficacy and to two low-performing schools that also display relatively high levels of collective teacher efficacy. Therefore, I contacted the principals at the two high-performing schools with the highest reported levels of CTE and the principals at the two low-performing schools with higher than district average CTE. This initial contact with current principals at the selected schools was coordinated in consultation with the district's Director of Research and Evaluation. During this initial contact, I introduced the study, its benefits to the school and district, and the support of the district's Research and Evaluation department in the hopes of increasing likelihood of participation (Dillman et al., 2009). Unfortunately, two of the principals declined participation in the study. Ultimately, the selected sites for the study included two schools, Courage Prep and Colere Academy (pseudonyms). Information about the participating schools' CTE and performance is provided in Table II.

Table II

II. CTE AND PERFORMANCE INFORMATION FOR COURAGE PREP AND COLERE ACADEMY

	CTE Score: Aggregate Mean	CTE Score: Ranking within District	State Accountability Performance Grade
Courage Prep	5.43	1	A
Colere Academy	5.11	4	F

The survey response rate for each participating school, and total across the two schools, was 47%. The response numbers are detailed in Table III.

Table III

III. SURVEY RESPONSE RATE, COURAGE PREP AND COLERE ACADEMY

	Courage Prep	Colere Academy	Total
Number of Teachers	17	32	49
Number of Surveys Collected	8	15	23
Response Rate	47%	47%	47%

This study drew on two primary data sources for each school, a 2015 survey and interviews conducted in 2017-2018. The pool of participants was not identical. Recall that the survey data was anonymized, and so there was no way to identify the exact teachers who had responded. All the teachers interviewed were on the team the year that the survey was

administered, and all recalled completing the survey though this is impossible to confirm. The 2015 survey participant information is included in Table IV and the 2017-2018 interview participant information is described later in this chapter.

Table IV

IV. COURAGE PREP AND COLERE ACADEMY SURVEY PARTICIPANT INFORMATION

	Courage Prep		Colere Academy	
	n	Percent	n	Percent
Gender				
Male	1	12.5%	0	0.0%
Female	7	87.5%	15	100%
Not Identified	0	0.0%	0	0.0%
Ethnicity				
Asian	0	0.0%	0	0.0%
Black	0	0.0%	2	13.3%
Hawaiian/Pacific Islander	0	0.0%	0	0.0%
Hispanic	0	0.0%	0	0.0%
White	8	100%	13	86.7%
Not Identified	0	0.0%	0	0.0%

Leaders and teachers in the selected schools, who had been at the school for at least one year prior to survey data collection, were considered eligible for participation in interviews. At Colere Academy, the prior and current school principal were also recruited because a leadership

transition occurred between the survey and interview phases of data collection. It was important to ensure adequate representation across knowledgeable informants. As such, all eligible teachers were invited to participate to maximize the likelihood that at least one-third (approximately 5-7) of teachers who had been at the school since the 2014-2015 school year, participated. Table V details the selection process for teacher interviews. Selection from those faculty members present from 2014-2015 forward ensured participation from faculty members who could meaningfully speak to perceptions and experiences of CTE as it was measured on the original survey. School leaders were also included given the influence they likely yield, directly and indirectly, over the formation of efficacy beliefs. Table V provides an overview of interview selection at both sites.

Table V

V. TEACHER AND LEADER INTERVIEW SELECTION AT COURAGE PREP AND COLERE ACADEMY

	Courage Prep	Colere Academy	Total
# Eligible Teachers	18	18	36
# Teachers Who Declined	1	3	4
# Teachers Who Did Not Respond	9	8	17
# Teachers Who Participated	8	7	15
# Eligible School Leaders	1	2	3
# Leaders Who Declined	0	1	1
# Leaders Who Participated	1	1	2

Interviewees were almost entirely white and female. Both the ethnicity and gender breakdowns of participants were fairly representative of the breakdown of all eligible participants at the time of interviews. At Courage Prep, the eligible faculty was 83% female and 100% white , and at Colere Academy, the eligible faculty was 94% female, 95% white, and 5% Black. More detailed participant information is captured in Table VI.

Table VI

VI. COURAGE PREP AND COLERE ACADEMY INTERVIEW PARTICIPANT INFORMATION

	Courage Prep		Colere Academy	
	n	Percent	n	Percent
Gender				
Male	2	22.2%	0	0.0%
Female	7	77.8%	7	100%
Not Identified	0	0.0%	0	0.0%
Ethnicity				
Asian	0	0.0%	0	0.0%
Black	0	0.0%	0	0.0%
Hawaiian/Pacific Islander	0	0.0%	0	0.0%
Hispanic	0	0.0%	0	0.0%
White	9	100%	5	71.4%
Not Identified	0	0.0%	2	28.6%

The largely white teaching corps did not reflect the student body at either school, nor do they reflect the demographics of the district at large. Student demographics varied across the two schools. In 2014-2015, Courage Prep's student body of about 350 students comprised 62 percent white students, 20 percent Black students, 9 percent who identified as multiracial, 4 percent each Hispanic and Asian students, and just under 1 percent American Indian students. The same year, Colere Academy's enrollment of over 600 students consisted of 51 percent Hispanic students, 35 percent Black students, 6 percent who identified as multiracial, 7 percent white students, one Asian student and one American Indian student. For context, Hope District's population that year was 35 percent Black, 35 percent white, 20 percent Hispanic, 10 percent multiracial students, 1 percent Asian, and less than 1 percent each American Indian and Native Hawaiian or other Pacific Islander.

In 2014-2015, 44 percent of students at Courage Prep and 98 percent at Colere Academy qualified for free or reduced-price lunch. In the district, 76 percent of all students qualified for free or reduced-price lunch.

Table VII

VII. COURAGE PREP, COLERE ACADEMY, AND HOPE DISTRICT STUDENT DEMOGRAPHICS, 2014-2015

	Black	White	Hispanic	Multi-racial	Asian	American Indian	Hawaiian/ Pacific Islander	Free/ Reduced Lunch
Courage	20.40%	62.04%	3.97%	9.07%	3.68%	0.85%	0.00%	44.48%
Colere	34.78%	7.09%	51.37%	6.44%	0.16%	0.16%	0.00%	97.58%
Hope	34.55%	34.69%	19.46%	9.57%	1.27%	0.41%	0.04%	75.51%

G. Data Collection

In this section, I first describe the process of collecting the quantitative data used in this study. Then I outline the qualitative data collection methods I employed.

1. Quantitative Data Collection

Recall that phase one of this study included secondary analyses on a previously administered survey designed to measure various individual and organizational variables across district schools. For this study, the school was the unit of analysis and therefore only variables measuring items that can be reliably aggregated to the school level were used in any descriptive or inferential analysis.

The survey was administered electronically through a link included in an email communication to teachers across 32 district schools (n = 1,038). 426 participants responded. Of

these, 368 completed the survey and had usable response data. Thus, the overall response rate was 37%.

Table VIII

VIII. SURVEY RESPONSE RATE ACROSS COLERE DISTRICT

	Spring 2015
Number of Teachers Sent Survey	1038
Number of Surveys Collected	426
Number of Surveys with Usable Response Data	368
Response Rate	37%

All participating schools had more than five individual responses, which has typically served as an accepted minimum cut-off for aggregating school-level properties in collective efficacy research (Goddard, 2001; Goddard & Goddard, 2001; Ross et al., 2004). The breadth of variables examined was limited by the primary research objectives. Items from the survey that were used in this study include: collective teacher efficacy, perceptions of performance, collective responsibility, principal leadership, teacher commitment, and several constructs related to teacher collaboration. Variables from the original survey used in this study were measured using existing scales with good psychometric properties. The constructs and sample items are detailed in Table IX. A full list of items for each construct is included in the Appendix.

Table IX

IX. SURVEY CONSTRUCTS AND SAMPLE ITEMS INCLUDED IN PHASE ONE ANALYSIS

Construct	Sample Items
Collective Teacher Efficacy	Teachers in the school are able to get through to the most difficult students. Teachers in this school believe that every child can learn.
Perceptions of performance	This school does superb work. This school keeps getting better and better.
Collective Responsibility	How often do you get the sense that teachers in this school... Help maintain discipline in the entire school, not just their classroom Feel responsible that all students learn
Principal Leadership	To what extent do you agree that the principal… Makes clear to staff his or her expectations for meeting instructional goals Works to create a sense of community in the school
Teacher Organizational Commitment	I put in a great deal of effort beyond what is normally expected in order to help this school be successful. I wouldn't want to work in any other school.
Teacher Professional Commitment	If I could get a higher paying job, I would leave the teaching profession. I think that the stress and disappointments involved in teaching aren't really worth it.
Psychological Safety	Members of this school are able to bring up tough problems and issues. It is safe to take a risk in this school.
Trust	Teachers in this school trust one another. Teachers in this school typically look out for one another.
Reflective Dialogue	Teachers talk about instruction in the teachers' lounge, faculty meetings, etc. Teachers in this school share and discuss student work with other teachers.
Knowledge Sharing	When I've learned something new, I see to it that my colleagues can learn it as well. My colleagues tell me what they know when I ask them about it.

Perceptions of performance, collective responsibility, principal leadership, organizational commitment, professional commitment, and trust were included in this study as they have all been linked to CTE in the literature and are represented in my conceptual framework.

While the literature on collective teacher efficacy has not directly investigated teachers' reflective dialogue or teacher knowledge sharing, it does suggest that teacher collaboration and collegial interactions may foster higher levels of collective teacher efficacy (Leithwood et al., 2010; Moolenaar et al., 2012; Oliver & Hipp, 2006; Ross et al., 2004). Furthermore, prior conceptualizations of teacher collaboration incorporate aspects of teacher reflective dialogue and knowledge sharing as measured by the existing survey items (Bryk et al., 2010; Goddard et al., 2007; Shachar & Schuelevitz, 1997; Tschannen-Moran, 2001. For example, teacher collaboration has previously been operationalized as a measure tapping the extent to which teachers work collectively on issues of curriculum and instruction, as well as their patterns of communication and professional development (Goddard et al., 2007; Shachar & Schuelevitz, 1997). Bryk and colleagues' (2010) study of school improvement included the same measures of reflective dialogue to measure a broader conceptualization of professional community. Therefore, these items were included for analysis in order to help develop a sense of the collaborative community at these case schools.

Similarly, while I was not able to locate any studies directly linking psychological safety and collective teacher efficacy, several suggest that the measure of psychological safety included in the 2015 survey relates to the remote source of emotional state. Socially supportive teaching environments and social processes that encourage and generate shared risk taking and peer support have been linked to positive collective efficacy beliefs (Lim & Eo, 2014; Ross et al., 2004). Brown and colleagues (2019) also found that "emotional support" and "looking after each

other's well-being" were critical conditions for collective efficacy beliefs. Therefore, psychological safety survey items were included to help illuminate the emotional state of the two cases schools.

2. Qualitative Data Collection

The purpose of the qualitative phase of this study was to generate rich descriptions of teachers' experience of collective teacher efficacy, its formation, and its influence at Courage Prep and Colere Academy. Interviews were well-suited to these aims as they provided access to teachers' internal experiences and sensemaking (Weiss, 1994) and enabled exploration of participant perceptions to illuminate the complex phenomenon of collective efficacy as it relates to each unique school setting (Creswell, 1998; Maxwell, 2005). The incorporation and prioritization of qualitative inquiry within this study responds to calls from within the field for researchers to employ such methods in exploring the organizational processes that influence efficacy beliefs in schools (Labone, 2004; Tschannen-Moran & Barr, 2004). The current literature base is dominated by quantitative methodologies that identify and assess the power of antecedents and consequences of efficacy, but to fully understand the relationships among potential sources of efficacy beliefs and their potential impact requires unpacking the meaning that teachers attach to those factors (Henson, 2002; Labone, 2004). Tschannen-Moran and colleagues (1998) advocate for interviews and qualitative data that can "provide a rich, thick description" and "refine our understanding of the process of developing" efficacy beliefs in schools (p. 242).

When the principals at Courage Prep and Colere Academy agreed to their schools' participation in the study, they were then asked to schedule their semi-structured interview and to provide contact information (email) for their faculty so that teachers could then be recruited for

participation. Teachers were contacted via email (script included in the appendix) to formally request their participation in the study. The email made clear that only teachers who had been at the school for at least one year prior to survey data collection were considered eligible for participation in interviews. Semi-structured interviews (approximately 90 minutes in length) were conducted in-person at a time and place of the participant's choosing. The majority of Courage Prep and Colere Academy interviews were conducted during the spring of 2017 and 2018 respectively. Interview questions explored teachers' experiences of collective teacher efficacy at the time of and immediately surrounding the 2015, and as such were retrospective. Retrospective attributions are subject to bias (Ingersoll, 2003). However, this study seeks to understand the formation and influence of collective teacher efficacy, a perception-based relational construct. Retrospective data, though inherently subjective, is not necessarily inferior to objective observation or real-time data, especially when seeking to understand shared and relational phenomena (Metts et al., 1991).

The interviews were semi-structured. Despite researchers' calls for qualitative data to illuminate the complex phenomenon of collective efficacy in schools, only three such studies were identified in the literature (Bieneman, 2012; Cantrell & Hughes, 2008; Leithwood et al., 2007). I reviewed the interview protocols included for these studies when formulating my own. The protocols asked about teacher experiences and perceptions of factors of potential consequence to collective efficacy, but without explicitly linking those factors to collective efficacy. Leithwood and colleagues (2007) note this as a limitation in their discussion, claiming that "the stimuli used to elicit interview responses" were a "constraint on claims" because they were not designed specifically with efficacy in mind and therefore "increased the amount of inference required in interpreting the data (p. 761)." In order to minimize this constraint in my

investigation, I both framed each section of the semi-structured interview protocol with an explicit connection to collective teacher efficacy and included follow-up prompts that asked teachers to think explicitly about the relationship between the given factor and their experienced CTE. A copy of the full interview protocols can be found in the Appendix.

The interview began by asking questions about participants' overall perceptions of collective teacher efficacy at the time the survey results. Example questions included:

- How would you characterize or assess your school's performance at the time of and around the survey?
- What do you see as the biggest contributors to student achievement?
- How confident did you feel in your own ability and the ability of other teachers in the school to positively influence student performance?

In the next section, teachers were asked to speak to how and to what extent the sources of collective teacher efficacy suggested by the literature and represented in this study's conceptual framework were manifest in their school setting. They were also asked to reflect on the extent to which those factors were relevant to their efficacy beliefs. Example questions from this section included:

- To what extent do you feel as though the teachers in the school have had experiences of success in terms of student learning? Can you describe some of the more memorable moments of success? To what extent did those experiences strengthen your sense of collective efficacy for the work?
- How would you describe the leadership at your school? What are some of the key descriptors that come to mind when asked to describe your leader? Of the many roles your leader has within the school, what did you find to be most beneficial to

teachers' beliefs that collectively you can have a strong influence on student learning?

- When you think about your perceptions of collective efficacy in this school, that is a shared belief that your team together can improve student learning, are there any particularly influential factors that shaped those beliefs?

In the final section, teachers were asked a series of questions about the extent to which the normative consequences and organizational outcomes suggested by the literature and represented in this study's conceptual framework were manifest in their school setting. Example questions included:

- To what extent do you feel that the school and teachers set ambitious goals for student learning? How are those goals determined? How are they shared?
- How committed are teachers to this school? How do you know?
- When you think about your perceptions of collective efficacy in this school, are there any particularly potent ways those beliefs have shaped your work at this school and the work of teachers collectively in this school?

Interviews were conducted in person at a time and location of the participant's choosing, most often in their classroom before or after school. Information on interview lengths are included in Table X. Most interviews were audio recorded with participants' consent, though four of the total 17 participants declined recording consent. For these four interviews, in an effort to "record as fully and fairly as possible that particular interviewee's perspective," (Patton, 2002, p. 380), I took copious comprehensive notes and prioritized verbatim quotes whenever

possible. Often, I asked the participant for a few moments to finish notetaking, and then read back my transcription to them to ensure I captured their words accurately.

Table X

X. INTERVIEWS AT COURAGE PREP AND HOPE ACADEMY

	Courage Prep	Hope Academy	Total
Number of Interviews	n = 9	n = 8	N = 17
Total Time of all interviews in Hours: Minutes	6:30	6:16	12:46
Range of Length of Interviews in Minutes	33 - 78	29 - 66	29 - 78
Average Length of Interviews in Minutes: Seconds	48:45	45:45	44:28

Audio recordings and transcripts were stored as password-protected files on the investigator's laptop through completion of the study. All participants were assigned a code for anonymity of the format "School#.Teacher#" or "School#.Leader# to preserve anonymity. At the start of the interview, participants were asked to avoid using identifying names of people, places, or the school. In instances where such information was shared, the identifying details were removed or changed to pseudonyms during transcription.

Table XI outlines the data collection and analysis timeline. It describes the steps implemented through this study. Overall, data collection and analysis, including obtaining IRB approval took five years.

Table XI

XI. DATA COLLECTION & ANALYSIS TIMELINE AT COURAGE PREP AND HOPE ACADEMY

What?	How?	When?
Initial contact with district to present research proposal	Email with the Director of Research and Evaluation	Winter 2015
Initial Secondary Analysis of Spring 2015 Survey to Identify Potential Research Sites	Calculation of CTE aggregate means at each school and compilation of schools' performance grades	Early Spring 2016
Obtain district letter of support for IRB	Emails and visit to the district office to meet with the Director of Research and Evaluation	Spring 2016
IRB approval	Submit application and protocols	Fall 2017
Official district approval	Emails with the Director of Research and Evaluation	Spring 2017
Initial contact with schools	Email and phone calls to request participation	Spring 2017
Principal Approval (Courage Prep)	School visit and meeting	April 2017
Consent Forms (Courage Prep)	Presentation and distribution of forms at faculty meeting	April 2017
Interviews (Courage Prep)	Semi-structured interviews with teachers	May - June 2017
Second contact with Principal (Colere Academy)	School visit and meeting	Fall 2017
Principal Approval (Colere Academy)	Email	January 2018
Consent Forms (Colere Academy)	Presentation and distribution of forms at faculty meeting	February 2018
Interviews (Colere Academy)	Semi-structured interviews with teachers	March 2018
Data Analysis	Ongoing analysis and interpretation	Fall 2017 - Fall 2019
Write-Up	Writing, revising, and editing	Ongoing Fall 2019 - Spring 2020

H. Analysis

1. Quantitative data analysis

Quantitative data analysis occurred in two phases. The purpose of phase one quantitative analysis was to identify schools for inclusion in the primary, qualitative phase of this study. This

consisted of tabulating survey results across all usable responses (n = 368) to compute an aggregate CTE score for each school in the district and identify schools for follow-up inquiry. The purpose of the second phase of quantitative analysis was to draw on the survey responses of selected schools to help contextualize and verify qualitative findings within each case and to illuminate differences between the cases. This consisted of calculating descriptive statistics for relevant constructs for within-case analysis and interpretation as well as inferential statistics for cross-case analysis and interpretation.

The existing survey data used for secondary analysis was anonymized such that no individual identifiers were included. I began data entry by first ensuring that school's identities were protected by assigning a unique numeric identifier for each of the 28 schools included in this phase. The code sheet, linking school names to numeric identifiers, was kept on a separate, password protected file that does not house any other research information. All analyses were conducted on the anonymized data.

a. Phase One

Analysis in this phase necessarily preceded the qualitative data collection to enable purposeful sampling of cases. Perceptions of collective efficacy of teachers were measured by teachers' mean score across six items of the Collective Efficacy Scale (CE-Scale) developed by Goddard (2002). The full CE-scale has been empirically tested and validated, alpha = .94 (Goddard, 2002). Cronbach's alpha, a common measure of internal consistency, was calculated using SPSS statistics to assess the reliability of the 6-items as a measure of collective efficacy. Cronbach's alpha for the survey sample demonstrated an acceptable reliability, α= .824. Every item was shown to be worthy of retention as the removal of any of the 6-items would result in a decreased alpha (Table XII).

Table XII

XII. CRONBACH'S ALPHAS ASSUMING REMOVAL OF CTE ITEMS

	Cronbach's Alpha if Item Deleted
coc.effic.1	.796
coc.effic.2	.781
coc.effic.3	.788
coc.effic.4	.803
coc.effic.5	.789
coc.effic.6	.817

Participants expressed their agreement with the items on a 6-point scale, from 1 (strongly disagree) to 6 (strongly agree). In this sample of 368 teachers, means ranged from a high on "Teachers here have the skills needed to produce meaningful student learning" (M = 5.08; SD = 1.008) to a low on "Teachers in the school are able to get through to the most difficult students" (M=3.69; SD = 1.164). Because lower scores on the third, fourth, and sixth items indicate positive perceptions, these items were reverse scaled. Mean and standard deviation scores are in Table XIII.

Table XIII

XIII. COLLECTIVE TEACHER EFFICACY SURVEY ITEMS

	Mean	**SD**
Teachers in the school are able to get through to the most difficult students.	3.69	1.164
Teachers here are confident they will be able to motivate their students.	4	1.127
If a child doesn't want to learn teachers here give up.	4.69	1.1
Teachers here don't have the skills needed to produce meaningful student learning.	5.08	1.008
Teachers in this school believe that every child can learn.	4.81	1.062
Teachers in this school do not have the skills to deal with student disciplinary problems.	4.23	1.303

Prior studies examining whether averaging teachers' perceptions of collective efficacy was a sufficient measure of the construct or if some measure of consensus across group members was also needed suggests that a measure of efficacy consensus is not a reliable predictor of student achievement differences among schools and concluded that the mean of members' perceptions of group-efficacy better tap expectations for performance than do measures of consensus among those perceptions (Goddard, 2001; 2002; Goddard, Hoy, & Hoy, 2004). Therefore, measures of interrater agreement were not warranted. As such, aggregate mean CTE scores for the 28 elementary schools were computed. These scores ranged from 3.8 to 5.3, and the overall average CTE score across all 28 elementary district schools was 4.582 (SD = .42).

I then sorted the schools into three categories based on their average CTE score relative to the district average. Nearly one-third of the schools were below the district average, just over another third were within a half standard deviation of the district average, and one-fourth had scores greater than a half standard deviation above the district average (Table XIV).

Table XIV

XIV. DISTRIBUTION OF CTE SCORES ACROSS DISTRICT SCHOOLS

	Number of Schools (N = 28)	Percent of Total
Schools with CTE scores Below the District Average	n = 10	35.71%
Schools with CTE scores within .5 SD of the District Average	n = 11	39.29%
Schools with CTE scores Greater than .5 SD of the District Average	n = 7	25%

Next, I organized the seven schools with the highest CTE scores across the district, those with a standardized CTE score at least one-half standard deviation above the district average, according to their performance history (Table XV). Three of the seven schools with the highest CTE score were categorized as high-performing with a designated performance grade of "A" and two of the seven were categorized as low-performing with designated performance grades of or "F."

Table XV

XV. HIGH CTE SCHOOLS ACROSS PERFORMANCE CATEGORY, 2014 - 2015

	High Performing			Low Performing	
	A	B	C	D	F
Number of High CTE Schools within each Performance Category	3	0	1	1	2
Percent of High CTE Schools within each Performance Category	42.85%	0%	14.29%	14.29%	28.57%

Between 2012 and 2015, the state formula included performance, improvement, and AYP status measures to calculate schools' accountability grades. Preliminary grades were assigned based solely on the percentage passing and then individual school's grades could be adjusted based on changes in the passing percentage of students at that school over three years. AYP functioned only to cap schools' ratings at a "C" if they did not meet Adequate Yearly Progress. This was not a factor in the ratings of any of the seven high-CTE schools. To explore the extent

to which A-F report card grades stood as a fair proxy for student achievement during those years, I calculated the mean and standard deviations for percentage passing within each report card score category (Table XVI).

Table XVI

XVI. MEAN AND STANDARD DEVIATION OF PERCENTAGE PASSING IN 2015 GRADE CATEGORIES

	Mean Percent Passing	Standard Deviation	Range Percent Passing
A	80	13	61 – 95
B	N/A	N/A	N/A
C	56	7	51 – 67
D	51	6	47 – 61
F	43	4	38 – 46

In 2015, schools in Hope District that rated "F" had less than 50% percent of students passing the annual assessment and failed to meet the improvement standard of increasing the percentage passing by at least 3%, which would have increased a school's score to "D." Therefore, an "F" on the accountability report was deemed to be a fair proxy for low-performance, because schools were low achieving and did not demonstrate even modest growth. There was greater variability within the "A" performance category. Hope District schools with percentage passing ranging from 61 through 95 earned an "A" in 2015. However, the range of

passing percentages at the three "A" schools that also reported high CTE was narrower, from 74 - 90. I consulted with the Director of Research and Evaluation for the district, who encouraged omission of the "A" school with less than 87% of students passing from the potential research sites in order to ensure that the selected school represented a historically high-performing context. Therefore, I selected two of the three schools that had earned an "A" in the prior year, and both schools that had earned an "F" as typical and deviant cases for further investigation.

b. Phase Two

Analysis in this phase was concurrent with qualitative analysis and included describing trends within each school using descriptive statistics as well as comparing the mean scores across the two schools using inferential statistics. After the quantitative data was organized for analysis, they were inputted into The Statistical Package for the Social Sciences (SPSS) for analysis.

Single item summed scores were tabulated to give a detailed picture of teacher responses to each relevant survey question at Courage Prep and Colere Academy. Summed scores across items measuring the same construct were also created for each item to capture teachers' overall perspectives on those constructs. Initial analysis included descriptive statistics such as mean and standard deviation. This helped to summarize general trends and tendencies within each school's data, as well as to identify any anomalies within the schools' data.

Cross-case analysis followed to consider the differences between teachers' experiences of constructs relevant to the formation and influence of CTE at Courage Prep and Colere Academy. Independent t-tests were used to determine if there were significant differences between the teachers at each school with respect to these constructs. In the one instance where the assumptions of an independent t-test were not met, a non-parametric Mann-Whitney U test was

run instead. This test has less stringent assumptions, but still enables the comparison of values between two groups. It is an appropriate choice when normality cannot be assumed and the sample size is small (Field, 2013). The quantitative tables and discussion helped to create comprehensive portraitures of each school in combination with the interview data, and enabled verification of differences indicated by the interview data.

These two phases of qualitative analysis integrated the quantitative and qualitative data in two important ways. First, sequentially, as the CTE aggregate mean tabulations and sorting informed the subsequent data collection (Creswell & Plano Clark, 2011). Second, concurrently, as the quantitative data for the selected case schools was further analyzed with the qualitative interview data to provide a more thorough understanding of the formation and influence of collective teacher efficacy at these two schools.

2. Qualitative Data Analysis

The purpose of the qualitative phase of the study was to better understand teachers' perceptions of collective teacher efficacy as reported in the 2015 survey, the factors that might have contributed to its formation, and the potential positive outcomes associated with robust CTE. This consisted of an iterative process that was overall oriented toward illuminating the constructs included in the conceptual framework in an effort to responsibly answer the research questions. Importantly, I analyzed each school as a case within its unique context thoroughly before engaging in formal cross-case analysis to increase the credibility that any cross-case analysis patterns preserved the unity of each individual case (Stake, 1995).

Qualitative data was transcribed in part by a hired transcription service, but the school leader and two teacher interviews from each school were transcribed by the investigator to help build familiarity with data before analysis. I approached my analysis through a foundational

model advanced by Kalpokaite & Radivojevic (2019). This model combines inductive and deductive approaches elaborated in four iterative cycles: inspection, coding, categorization, and modeling and emphasizes comprehensive memoing as a critical feature that spans the entire process. The balance of inductive and deductive provides an approach that is "comprehensive yet manageable for new qualitative researchers." (Kalpokaite & Radivojevic, 2019, p. 48). Because this model emphasizes the role of analytic memoing throughout to ensure reflexive and critical thinking, I began a detailed analytic memo at the onset of analysis. I maintained comprehensive documentation of my analytical wonderings, questions, and decisions, and the analytic memo became an "audit trail of the evolving analysis" (Kalpokaite & Radivojevic, 2019, p. 50).

a. Inspection

Qualitative analysis is an ongoing and iterative process (Creswell, 2012). In addition to analytic memos, I also kept a running research diary where I jotted down reflections and tracked insights and questions throughout the data collection process. For example, I took notes during and immediately following each interview to capture my thoughts and general impressions in real time. My qualitative analysis began with the inspection cycle in which I read through all transcripts and my research diary to "obtain a general sense of the data" (Creswell, 2012, p. 261). I focused primarily on building my own familiarity with the data as I read through the transcripts from each school several times over.

b. Coding

Next, I moved into the coding cycle using the cross-platform online analysis program Dedoose. Dedoose was selected because it facilitates mixed-method analysis and because the researcher has a good deal of prior experience with the software. Because "coding is

in service to thinking" (Saldana, 2016, p. 80), I was diligent in recording my thinking in analytic memos throughout the coding process.

Though qualitative research approaches often emphasize in-vivo over a-priori codes, and Kalpokaite and Radivojevic (2019) recommend beginning coding with in-vivo coding, I decided to approach my data through elaborative "top-down" coding first for several reasons. First, in order to make sense of the large corpus of data, there was need for some statement of focus and intent at the onset to make analysis manageable (Miles & Huberman, 1994). Additionally, and most importantly, answering my research questions required gathering evidence of the extent to which, and in what ways, key factors delineated in the theoretical and empirical literature base of collective teacher efficacy were at play in these two schools. This study sought to elaborate and explore the extent to which two case schools embody the explanatory model of CTE put forth in the literature. Because provisional coding is appropriate for qualitative work that seeks to "build on or corroborate" prior research (Saldana, 2016, p.168), the constructs included in the conceptual framework for this study functioned as a provisional coding frame as I began with an elaborative "top-down" first coding cycle (Kalpokaite & Radivojevic, 2019). This provisional coding frame is included in the Appendix. The interview protocol was organized to tightly align with the framework, with specific questions probing each of the included constructs. As I was coding, I primarily applied those construct codes when the participant was directly asked to reflect on that construct and/or its relationship to their experiences of CTE. However, because the goal was to deeply understand CTE's formation and influence within these unique contexts, even in ways that diverged from the conceptual framework, I remained open to coding constructs when they surfaced organically in other sections of the interview protocol and to constructs that surfaced from participants. These more inductive code applications helped to further illuminate

participant's experiences of constructs that were captured more comprehensively in the passages coded deductively.

To further ensure my framework did not become a blinder "preventing [me] from seeing what's going on" (Maxwell, 2005, 70), I also took copious analytic notes during and immediately after each coding session. Codes are often conceptualized as a process of data condensation. However, I adopted a stance of coding as abstracting and informing the data rather than as of reducing the data (Miles et al., 2020), remaining open to in-vivo codes throughout the process. In order to maintain flexibility to incorporate themes introduced by participants, without compromising credibility, I captured in-vivo themes and ideas as they emerged in my analytic memoing and tracked the frequency of those themes across interviews. I did, however, take care to avoid "code proliferation" (Saldana, 2016, p. 79), by assessing the code to data ratio at the conclusion of this first cycle of coding to assess the utility of each code in my efforts. I examined frequencies of code application across the entire data corpus as well as the distribution of those applications across participants for each school to enable identification of true patterned themes (Namey et al., 2008). While I did not remove any codes at this time, I reviewed and reflected on codes that were applied infrequently. Additionally, I reviewed all of the potential in-vivo codes documented in my analytic memos. Themes that emerged in at least two interviews per school were then added to the coding frame prior to the next iteration of analyses. Again, in an effort to avoid code proliferation, new themes were organized in a hierarchical codebook to provide categorical order to the codes. All new codes were added as child codes under the parent codes from first cycle coding. Nuanced themes did not emerge for every parent code. A summary of parent and child codes for this second cycle is included in Table XVII.

Table XVII

XVII. PARENT AND CHILD CODES

	Parent Code	Child Codes
Remote Sources	Mastery Experience	Global Incremental
	Emotional State	Psychological Safety Trust
	Social Persuasion	Credible Performance Feedback Celebration/appreciation
	Vicarious Experience	
Contextual Factors	School Composition	Student demographics Parent participation Disciplinary climate
	Teacher Influence	Decision-making Selection Voice and Input
	Collaboration	Formal Informal Professional learning System/Structure
	Leadership	Clear Goals Inclusive Instructional Pastoral Laissez-Faire
Normative Consequences	Effort	
	Goals	
	Persistence	
	Resilience	
Outcomes	Collective Responsibility	Teacher to teacher support Ownership of outcomes
	Student Achievement	Growth vs achievement
	Teacher Commitment	Organizational Professional

The next iteration of coding not only included the elaborated codebook, but also remained open to new codes that surfaced above and beyond those previously documented in my memos. To preserve the credibility of each case, I did not formerly code for any cross-case themes in this second cycle. However, as in the first cycle, I relied on detailed analytic memos to capture emerging points of nuance, similarly, and difference across the two cases. At the conclusion of this second cycle of data, I again examined frequencies and distributions of code applications and reviewed my analytic notes. According to my memos, the theme of parental participation and family demographics was salient in nearly every interview at both schools. It was therefore included in the third and final cycle of coding.

c. Categorization

The next step was to develop a categorical and thematic organization of my data. To facilitate such organization, I first conducted a third and final pass of the data focused on cross-case analyses. This iteration employed a structural coding method. Structure coding involves the application of a content-based phrase to segments of data that relate to specific research questions and is recommended for studies employing multiple participants, semi-structured protocols of data collection, or hypothesis testing (Saldana, 2016). While not pure hypotheses, this study was guided in part by the two propositions articulated earlier in this chapter. I applied three structural codes, in addition to the codes used in cycle two, during this last coding cycle. These codes related to the in-vivo theme of "parental participation and family demographics" and the initial propositions of this study: "false or delusional efficacy" and "unharnessed normative consequences." These structural codes served to move coding toward categorization, and functioned as a "labeling and indexing device" such that I could later easily "access data likely to be relevant" to my cross-case analysis (Namey et al., 2008, p. 41).

The categorization cycle foregrounds data display in identifying overarching themes, patterns, and categories from the data (Miles et al., 2014). Categorization involves identifying elements of the data that are most meaningful for answering the research questions (Kalpokaite & Radivojevic, 2019). Therefore, I focused on grouping key themes for each research question within each school. I integrated quantitative data from the surveys into my analysis as well to ensure the most comprehensive understanding of each case and the relationship between the two cases. This interactive level of interaction (Creswell & Plano Clark, 2011) was achieved by relating the quantitative and qualitative data relevant to each category in a matrix that enabled comparison. Quantitative results helped to contextualize qualitative interpretations, verifying emerging themes and illuminating potential discrepancies. Similarly, emerging qualitative findings played a "validating, interpreting, clarifying, and illustrating" role for quantitative results (Miles & Huberman, 1984, p. 41).

Once this process was completed for each individual case, I turned to cross-case categorization. First, I employed a meta-matrix to collapse the data by parent codes into initial partitions by research question. Two arrays, one for each research question, was constructed to display the major themes and findings from each within case analysis at the parent level code.

Next, I identified those parent level codes that would be included for further exploration. My decision rules for inclusion were:

- Not included: factors that were not evidences at either school
- Included: factors that lacked evidence at one school, but were evidenced at the other. These were then examined for potential reasons for this difference across contexts.

- Included: factors that were evidenced at both schools. These were then examined for similarities and differences in how those manifested in each context.

For all parent codes included in cross-case analysis, I then partitioned and clustered child codes within each, examining consistencies and expected differences across cases, as well as emerging unexpected findings or differences for each research question. Finally, I organized the data through the lens of the initial propositions formulated at the beginning of my inquiry and the third in-vivo broader theme of "parental participation and family demographics." This structure enabled me to examine the constellation, and differential weighting, of information that appeared most relevant to the formation of CTE at the low- verse high-performing school, as well as the extent to which any normative consequences were manifest and harnessed towards the "right things" to drive achievement. It also helped me to see the nuanced ways teachers at each school interpreted parent participation and family demographics in making sense of their collective efficacy.

d. Modeling

Finally, with the intention of ultimately explaining and contextualizing my data, I moved to the modeling cycle, to more fully elaborate the extent to which the conceptual framework and initial propositions were collaborated by my analysis. At this point, I read through my data, both qualitative interview transcripts and quantitative survey results, with my "tentative conclusions in mind" to ensure they told "a valid and compelling story" about my data (Miles et al., 2014). In the chapters that follow, I present and discuss findings that demonstrate the extent to which each school's experience with collective efficacy appears congruent with the operating model of CTE. Themes of congruence and divergence are discussed for each school. Chapter Four focuses on the high-performing school, Courage Prep, and Chapter 5 on the low-

performing school, Colere Academy. I then explore the similarities and differences across the two schools' experiences of CTE, its influence, and formation in Chapter 6.

I. Strategies to Address Trustworthiness and Credibility

This study drew on quantitative survey and qualitative interview data at two schools. The triangulation afforded by these methods helps establish validity because it offers the opportunity to check for consistency of findings across data modes (Patton, 1990). While such triangulation allows for broader and more thorough understanding and promotes validity and reliability (Maxwell, 2005; Patton, 1990) it does not guarantee a more authentic representation of the phenomena. Triangulation becomes problematic if it is used in an attempt to circumvent other concerns of validity or authenticity (Barbour, 2007). Therefore, several other considerations of reliability and validity were addressed.

First, pre-established existing items and scales were used for all variables for which they were available (Creswell, 2012). The items used to operationalize collective teacher efficacy were drawn from the 12-item Collective Efficacy Scale which has previously demonstrated high internal reliability and predictive validity (Goddard, 2002). The items used to measure collective responsibility, principal leadership, reflective dialogue, teacher socialization are from existing scales that have reported adequate measures of internal consistency and school-level reliability (Bryk et al. 2010). The measure for knowledge sharing combined items from two related scales that tap knowledge donation and knowledge collection that have high internal reliability and have been tested across various organizations (Van den Hooff et al., 2003; 2004). The items used to measure trust were drawn from the Faculty Trust in Colleagues subscale of the Omnibus T-Scale with reliabilities typically ranging from .90 -.98 and demonstrated construct and discriminant validity (Hoy and Tschannen-Moran, 2003). Finally, perceptions of performance

items drew from an existing scale which has previously shown high internal consistency reliability and discriminant validity (Edmonson, 1999). Each construct was measured by multiple survey items, which contributes to better accuracy and validity (Diamantopoulos et al., 2012).

Furthermore, interviews were guided by a semi-structured protocol that was consistently employed in all interviews, which helps establish reliability (Yin, 2014). Furthermore, the protocol included anticipated probes for formulated interview questions to facilitate thick description (Stake, 1995). Validity of qualitative findings was promoted through the structured analysis approach that prioritized pattern matching and explanation building through codes and themes that correlated to my provisional coding frame (Yin, 2014). Finally, I continually re-examined the two initial propositions throughout the research process to ensure that they did not become "blinders, preventing [the investigator] from seeing what's going on" (Maxwell, 2005, p. 70). For example, in order to guard against confirmation bias, I did not add codes for these propositions in my qualitative analysis of interview transcripts until my third pass of the data, when I considered cross-case analysis.

J. Limitations

The findings from this research design are limited by several factors. First, the quantitative phase of this study relied on secondary analysis of a data set. As such, the breadth of variables explored was limited to those relevant to the primary research objectives. However, the methods combined more than one data source such that the secondary analysis of survey data was used to elaborate the primary qualitative interview data. Additionally, the priority given to qualitative data collection and analysis makes concerns of researcher bias and reactivity more acute. Finally, the time lag between phase one and phase two of the research meant that some

survey respondents were no longer teaching at the school at the time of interviews and that all participants had to provide retrospective data.

K. Delimitations

The research was conducted in two schools in one district in the Midwestern United States at one interval of time, which may limit the generalizability of findings. The study was confined to the teachers and leaders of two elementary schools. It purposefully excluded high school settings. Teachers' and leaders' responses were reflections of their own experiences within two specific schools in a particular district context.

IV. COURAGE PREP

In a spring 2015 survey administered to teachers across Hope District, Courage Prep reported the highest level of CTE among all 28 district elementary schools. At the time of the survey, Courage Prep was the second highest performing elementary school in the district according to the public performance report card data. This high-performing, high-CTE school conforms to the current theoretical and empirical understandings of the relationship between CTE and school performance and as such presents a typical case for examining the extent to which the explanatory model holds true in a high-performing school. Survey responses also evinced positive perceptions of several constructs associated with robust collective teacher efficacy including psychological safety, trust, collaboration, leadership, collective responsibility, and commitment. Retrospective interviews with teachers and the principal were conducted in the spring of 2017 in order to more fully understand the high level of CTE reported in the 2015 survey, its formation, and its influence at Courage Prep.

In this chapter, I draw on these survey results, public performance and demographic data, and retrospective interviews to explore the relationship between the high collective teacher efficacy and high school performance observed at Courage Prep to address both of my research questions. In the first section, I draw on the survey data referenced in the methodology section to more fully describe collective teacher efficacy at the school. Next, I present survey, performance, and interview data to address the first research question, examining how and to what extent factors identified in the literature as relevant to collective teacher efficacy likely contributed to the formation of strong efficacy beliefs in this high-performing school. Finally, I address the second research question by exploring how and to what extent the higher level of collective teacher efficacy in this high-performing school worked through teacher effort, persistence,

resilience, and goal setting to foster the positive organizational outcomes identified in the literature.

A. Collective Teacher Efficacy at Courage Prep

As described in the methodology section, the 2015 survey data reveal a robust sense of collective efficacy among Courage Prep teachers. All Courage Prep teachers, with one exception, agreed or strongly agreed on all three survey items indicating strong collective efficacy, and no teachers selected "strongly disagree," or "disagree," for any of those three items. For the three items indicating negative perceptions of collective efficacy, nearly all teachers either disagreed or strongly disagree except for one "somewhat disagree" on one item. Table XVIII details how teachers at Courage Prep responded to each survey item measuring perceptions of collective teacher efficacy.

Table XVIII

XVIII. COURAGE PREP TEACHER RESPONSES TO COLLECTIVE EFFICACY 2015 SURVEY ITEMS

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
Teachers in the school are able to get through to the most difficult students.	0	0	14	0	43	43	5.14	1.07
Teachers here are confident they will be able to motivate their students.	0	0	14	0	43	43	5.14	1.07
If a child doesn't want to learn, teachers here give up.	57	43	0	0	0	0	1.43	.53
Teachers here don't have the skills needed to produce meaningful student learning.	71	29	0	0	0	0	1.29	.49
Teachers in this school believe that every child can learn.	0	0	0	0	14	86	5.86	.38
Teachers in this school do not have the skills to deal with student disciplinary problems.	29	57	14	0	0	0	1.86	.69

Table XVIII highlights the high degree of consensus in Courage Prep teachers' collective efficacy beliefs that they have the skills, will, and attitudes necessary to produce meaningful student learning. After calculating these descriptive statistics and frequencies for the individual items, a summed score for CTE was tabulated. Because lower scores on the third, fourth, and

sixth item indicate a more positive perception, these items were reverse scaled before the summed score was calculated. This summed score was averaged to maintain the same scale as the original survey. As detailed in the methodology section, Courage Prep had an average aggregate CTE score of 5.43 (SD = .6), the highest of all elementary schools in Hope District.

While Courage Prep's level of collective efficacy was high relative to other local schools, I also wanted to explore the extent to which this perceived level of CTE was high relative to an available normed comparison group. As such, I converted the school's collective efficacy score to a standardized score with a mean of 500 and a standard deviation of 100 using the formula developed by Goddard (2002). This score, 704.7, is two standard deviations above the average score of all schools in the sample and represents a level of reported CTE greater than that reported by 97% of schools in the sample. According to the 2015 survey, Courage Prep teachers' collective efficacy is high not only in comparison to other local district schools, but also relative to the normative sample.

B. Research Question 1: Formation of Collective Efficacy Beliefs at Courage Prep

The first research question explored how, and to what extent, do factors identified in the literature as relevant to collective teacher efficacy contribute to the formation of strong efficacy beliefs in a high-performing school. The literature suggests a variety of factors are relevant to collective teacher efficacy, including the remote factors of mastery experience, emotional state, vicarious experience, and social persuasion, as well as contextual factors such as school composition, teacher influence, collaboration, and leadership. The primary data for exploring this question were interview transcripts and survey responses, as well as public school report card data and the key findings are summarized here before each factor is explored in depth.

Of the four remote sources of efficacy, three were relevant to the formation of efficacy beliefs at Courage Prep: mastery experience, social persuasion, and emotional state. The fourth remote source included in theoretical models of CTE formation, vicarious experience, was not a salient theme in the data.

Analysis of data related to these remote sources suggest the following key findings:

- Mastery Experience: While it is likely that Courage Prep's record of high-performance on state accountability measures—receiving A grades on the state report card for several years in a row—contributed to teachers' sense of collective efficacy, how that mastery inflected CTE diverged in some ways from the literature. While global measures of success such as prior student achievement on statewide assessments, are often used to operationalize mastery experience in the literature (e.g. Adams & Forsyth, 2006; Goddard, LoGerfo, & Hoy, 2004; Ross et al., 2004), teachers at Courage Prep also drew heavily on proximate and incremental examples when describing experiences of success that contributed to their sense of collective efficacy.
- Emotional State: Emotional state appeared to be relevant to the formation of robust collective efficacy beliefs among teachers at Courage Prep. Teachers described a positive school climate in which they felt safe and respected. Teachers also perceived high-levels of trust and psychological safety.
- Vicarious Experience: Learning from one another within the team at Courage Prep does not fully align with vicarious experience as it has been described theoretically. I found no empirical evidence that vicarious experience was an antecedent to CTE at Courage Prep.

- Social Persuasion: Teachers feel valued and validated in their work, though validation takes the form of teacher appreciation rather than verbal encouragement tied to specific expectations.

I found evidence that all four contextual factors included in the conceptual model were relevant to the formation of collective efficacy beliefs at Courage Prep. Analysis of data related to these contextual factors suggest the following key findings:

- School Composition: Teachers attribute efficacy for the work and the school's level of achievement primarily to parents, family life, demographics, and parent participation. Teachers appear to believe that who they are teaching matters more than who is teaching.
- Teacher Influence: Teacher influence is operant as an antecedent to CTE at Courage Prep, evidenced by structures for teacher voice and influence and a high degree of flexibility and autonomy in regards to classrooms and issues related to teaching and learning.
- Collaboration: Courage Prep teachers describe a strong sense of collective identity and collaborative approaches to the work. Teachers provided evidence of formal systems for collaboration and indicated positive perceptions of knowledge and skill exchange.
- Leadership: The supportive and accessible leadership of the Courage Prep principal enabled teachers' efficacious beliefs in this school. Teacher experience at Courage Prep suggests that pastoral leadership may enable CTE as much as instructional leadership, or at least indicate that teacher perceptions of strong instructional leadership may not be necessary, for robust CTE.

C. Remote Sources

In this section, I describe teachers' perceptions of the four remote sources of collective teacher efficacy, and the extent to which those sources influenced the formation of their CTE.

1. Mastery experience

Mastery experience is thought to be the strongest influencer of collective efficacy beliefs (Bandura, 1997) and, when operationalized as a school's prior overall performance on standardized assessments, has been empirically shown to explain 65% of between-school variance in levels of collective efficacy (Goddard, 2001). As described in the literature review, mastery experience is theoretically conceptualized as instances in which teachers' evidence impact on student outcomes (Donohoo et al., 2020), but has empirically been operationalized as global prior school performance on annual standardized assessments (e.g. Adams & Forsyth, 2006; Goddard, LoGerfo, & Hoy, 2004; Ross et al., 2004).

Interview, survey, and public school report card data indicate that mastery experience was a relevant antecedent of Courage Prep teachers' sense of collective efficacy. While my findings suggest that Courage Prep's record of high-performance contributed to teachers' sense of collective efficacy, how that mastery inflected CTE diverged in some ways from how it has been reported in the literature. I've organized my findings according to two themes that emerged in the data analysis: perceptions of performance and global versus incremental benchmarks of mastery.

a. Perceptions of performance

Leading up to the time of the original survey, Courage Prep had experienced a consistent record of high performance according to the state's accountability report card metrics (Table XIX).

Table XIX

XIX. COURAGE PREP REPORT CARD OF ACADEMIC PERFORMANCE

	2012	2013	2014
School Report Card Grade	A	A	A
District Report Card Grade	C	D	C

Because mastery experience is most often operationalized as the school's performance on the previous year's assessment, and because the survey was administered in the 2014-2015 school year, the 2012-2014 assessment data is most relevant for exploring mastery experience as an antecedent to CTE at Courage Prep. While the Indiana Department of Education rated the district a "C" that year, and nearly half of all Hope District schools were rated "D" or "F" that year, Courage Prep earned an "A," along with just five other Hope schools.

Courage Prep had the second highest pass rate on the state's annual assessment among all 28 district elementary schools. Across all district elementary schools, the average percent of students passing both the math and English language arts assessments was 56.7% while 90% of Courage Prep students passed both. Courage Prep also outperformed the district in percent of students passing ELA, Math, and both components. (Table XX).

Table XX

XX. COURAGE PREP PERFORMANCE ON THE 2014 STATE ASSESSMENT

	% Passing ELA	% Passing Math	% Passing Both
School Report Card Grade	94	92	90
District Report Card Grade	69	71	59

These public, external ratings align with teachers' internal perceptions of the school's performance. Nearly all Courage Prep teachers agreed or strongly agreed on all three survey items indicating positive perceptions of team performance, and no teachers selected "strongly disagree," "disagree," or "somewhat disagree" for any of those three items. For the one item indicating negative perceptions of team performance, "Critical quality errors occur frequently at this school," all teachers either disagreed or strongly disagreed. Table XXI details how teachers at Courage Prep responded to each survey item measuring perceptions of team performance.

Table XXI

XXI. COURAGE PREP TEACHER RESPONSES TO TEAM PERFORMANCE 2015 SURVEY ITEMS

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
This school meets or exceeds parents' expectations	0	0	0	0	37.5	62.5	5.63	.52
This school does superb work	0	0	0	0	12.5	87.5	5.88	.35
Critical quality errors occur frequently in this school*	62.5	37.5	0	0	0	0	1.38	.52
This school keeps getting better and better	0	0	0	12.5	50	37.5	5.25	.71

As detailed in Table XXI, there is a high level of unanimity in Courage Prep teachers' beliefs that the school exceeds parent expectations, does superb work, keeps improving, and does not experience frequent quality errors. After calculating descriptive statistics and frequencies for the individual items, a summed score for perceptions of performance was tabulated. Because lower scores on the third item indicate a more positive perception of the school, this item was reverse scaled before the summed score was calculated. While the individual scores capture teachers' perceptions of each item, the summed score better captures teachers' overall perceptions of performance. This summed score was averaged to maintain the same scale as the original survey. Courage Prep teachers reported an overall positive perception of the schools' performance (M = 5.59, SD = .26).

Teacher interviews at Courage Prep affirmed and elaborated the survey results. Across all nine interviews, participants described the school's performance using phrases such as "above-average" or "higher-performing," and unanimously characterized the school as among the best in the context of the district. Furthermore, a majority of teacher interviews also indicated an overall belief that the school achieved a high level of performance beyond the comparative context of a largely low-performing district. One teacher's description of the school captured this sentiment, explaining:

> Our school performs above not only district and state averages, we have high performing, high achieving students and we continue to push. We have a lot of students who are qualifying for high ability, and we talk about that.

The performance report card, survey, and interview data suggest that Courage Prep's record of high-performance was present and likely contributed to teachers' sense of collective efficacy. However, Courage Prep teachers did not directly attribute their robust collective teacher efficacy

to this global measure of high performance. Interviews illuminated nuanced ways in which mastery experiences inflected CTE at Courage Prep, specifically the way in which teachers often attributed their CTE to incremental and proximate experiences of mastery.

b. Incremental benchmarks of mastery

While finding that mastery experience is an antecedent of collective teacher efficacy at Courage Prep is consistent with the literature, one finding emerged in my data that diverges from the literature in this area. While teachers consistently identified the school as among the strongest in the district, used the language of "high performance," and seemed proud of the school's state report card grades, when asked about their own experiences of success at the school, teachers at Courage Prep often associated their success with proximate and incremental benchmarks of mastery. When asked to describe a moment of success related to student learning, teachers tended to describe shared experiences of working with individual children or achieving goals with cohorts rather than the attainment of global benchmarks, like receiving an A on the state report card.

When asked to describe "some of the more memorable moments of success" they had experienced and "how and to what extent those experiences contributed to their sense of collective efficacy," teachers frequently referenced examples of success proximate to their daily work as a source of efficacy-building information. Nearly three-fourths of the passages coded for mastery experience were also coded with the child code "incremental," signaling teachers' tendency to identify proximate and incremental experiences of success when asked to think about prior success that may have fostered their collective efficacy beliefs.

Teacher examples of more proximate instances of mastery experience often included anecdotes of individual students. For example, one teacher was asked to describe experiences of success the staff has had in regards to student learning. She replied:

> We do share in our staff meetings when we have something that really went well… like a student's progress monitoring growth or just reaching those children that come from other places that don't like school for whatever reason and end up loving school and wanting to be here every day. And that's happened three times for me. I had a child come from another school last year, who in the beginning was very, very hard and very negative toward school, but by the end, was crying because he didn't want summer to come. And then I would see that child all the time the next year… he still loves school where he would rather be here than anywhere else. We had another child that moved here from a different school in our district too and the same thing. He had multiple discipline referrals before they came here, came here and got into a new environment that was probably more conducive to their tolerance or something. And that child has had zero referrals since coming here. So that feels good, you know? Like we are making a difference, like we have something working here.

In this response, the teacher affirmed that shared experiences of success with individual students helped garner a collective sense of efficacy. Not only is it satisfying to accomplish the goal with an individual student — "That feels good you know?" — but collectively, the experience seems to contribute to a sense of joint success and achievement that becomes part of the way we do things around here: "Like we are making a difference, like we have something working here." This teacher was not alone in drawing a connection between experiencing success with one student and an enhanced sense of collective efficacy.

Across the eight teachers interviewed, six referenced at least one individual student success story when asked to describe memorable experiences of success that contributed to the school's strong collective teacher efficacy score on the survey. One teacher's response spoke of the sense of shared responsibility for individual student success:

> And we would often check in [on students we taught in prior years] - so I will check in with those third grade teachers to see how they're doing now. And even before I can check in, sometimes the students will come down or they get off the bus down here and so in the morning I'm out in the hall and they'll say, "Mrs. T, Mrs. T., I got an A on my test today!" So, they're very proud of what they do well here and we all tend to watch out, especially for the ones we had in the past to make sure they're still doing well as they move on.

Here, the teacher described a sense of collective efficacy that was emboldened by individual student successes, even after students had matriculated to older grades.

In addition to success with individual students, teachers also drew on experiences of success at the classroom level, drawing on incremental benchmark goals and classroom level data as enactive experiences of success. In response to follow-up interview questions asking for examples of success related to student learning that contributed to their sense of collective efficacy, several teachers spoke of a common standardized interim benchmark assessment program they use to set and monitor progress toward class-wide goals for student achievement. One teacher touched on the balance between the universality of the expectation for the practice across classrooms and the flexibility for teachers in how they specifically implement the practice, noting:

> Everyone is [using data, it's] just the way they're utilizing it in their room varies. It's what's working best for them, but everybody is doing some level of school student goal setting, celebrating when they master the goal, and then having them move to a new goal. That's a thing - we're constantly setting new goals once we achieve the previous goal.

This teacher makes evident that utilizing data for progress monitoring students' and class progress is a non-negotiable practice at the school, but that individual teachers have leeway in designing a system that best works for them. The teacher notes that the benchmark assessment program permits each classroom to set goals, achieve mastery at the classroom level, celebrate

their accomplishments, and move on to the next goal. By describing the use of a school-wide assessment instrument to describe her experiences of success, and by suggesting the development of a culture of classroom-level success linked to the use of the benchmark assessment tool, this teacher indicates a potential link between mastery experience at the classroom level and collective teacher efficacy at the school level.

I observed some of these systems while in the school for interviews. Each class had a prominent bulletin board outside their classroom dedicated to data tracking. A kindergarten class featured a flower representing each student, blossoming toward the sun and growing taller as their assessment data increased, while third grade students moved their designated race car along a race track with each gain in performance points. These data walls were concrete manifestations of an approach to goal setting and monitoring that seemed to engineer mastery experiences on a more incremental basis than the annual high-stakes assessment. Teachers not only utilized the adaptive assessment to, as one teacher described, "set goals with each student and as a class," but also, in tandem with ongoing and regular meetings, "to discuss who is making progress and who isn't. If something doesn't work and a kid isn't moving, we have each other to bounce ideas off of each other because we have to make sure everyone is moving."

Several teachers explicitly drew a connection between the practice of progress monitoring at the individual and class levels and enhanced efficacy beliefs. When asked about memorable moments of success related to student learning and how those moments contributed to CTE, one teacher described how the tactile representation of student progress in data walls was a powerful tool for sustaining efficacy as a team, and even in students themselves:

> In my class, we have a little graph and you earn a sticker and, once you've earned the sticker four times, it shows that you've mastered that and then you move to the next level. Then you get a new graph and you start with the stickers again. As a class we start out as beginners and then each time you

> master a set of skills, you move up to the next level. It's motivating for them and for us. You can really see the progress - like literally I can see the stickers adding up and know we are learning. And it's amazing that five and six-year-olds want to set a new goal or want to work hard to earn the next level. Students get excited to set a reading goal and a math goal.

2. Emotional state

Tschannen-Moran and Barr (2004) refer to emotional state as the "emotional tone of the organization," and Eells (2011) characterizes it as the collection of "emotional and physiological cues" that, taken together, can shape organizational properties and actions. Organizations with positive affective states are more likely to engender collective efficacy, and therefore productive reactions, to pressures and stressors (Goddard, Hoy, & Hoy, 2004).

Emotional state is theorized in the literature as an antecedent to efficacy, but scant research has emerged to demonstrate connections between emotional state and collective teacher efficacy in the empirical literature to date. In this study, however, interview and survey evidence suggest that teachers perceived a positive emotional state at Courage Prep, and identified it as relevant to their formation of robust collective efficacy beliefs.

While the 2015 survey did not measure emotional state directly, two of the measured constructs, trust and psychological safety, help illuminate aspects of a positive emotional state. CTE scholars have theorized that an organizational state characterized by anxiety, stress, or mistrust would undermine CTE, while one characterized by emotional support, safety, and trust would enable CTE (Hoogsteen, 2020; Gray et al., 2017; Pierce, 2014). The positive emotional state at Courage Prep is captured in part by teachers' survey responses to items measuring trust and psychological safety. The majority of teachers selected "agree" or "strongly agree" for all four items measuring trust and "somewhat agree," "agree," or "strongly agree" for the six items

corresponding to psychological safety. These responses indicate teachers' perceptions of the school's emotional state are positive (Table XXII & XXIII).

Table XXII

XXII. COURAGE PREP TEACHER RESPONSES 2015 TRUST SURVEY ITEMS

	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent		
Teachers in this school trust one another	25	0	62.5	0	4.5	.93
Teachers in this school look out for each other	0	25	62.5	12.5	4.88	.64
Teachers have faith in the integrity of their colleagues	0	25	75	0	4.75	.47
Teachers are honest with each other	25	12.5	62.5	0	4.38	.92

Table XXIII

XXIII. COURAGE PREP TEACHER RESPONSES TO PSYCHOLOGICAL SAFETY 2015 SURVEY ITEMS

	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent		
If you make a mistake in this school, it is often held against you	87.5	12.5	12.5	0	0	4.75	.71
Members of this school are able to bring up tough problems and issues	12.5	25	12.5	37.5	12.5	4.13	1.36
People in this school sometimes reject others for being different	0	0	50	12.5	37.5	4.88	.99
It is safe to take a risk at this school	0	0	37.5	50	12.5	4.75	.71
No one in this school would act to deliberately undermines my efforts	12.5	0	12.5	62.5	12.5	4.63	1.19
Working with members of this school, my unique skills and talents are valued and utilized	0	0	12.5	50	37.5	5.25	.71

As shown in Table XXIII, teachers feel that they can trust each other and that they look out for each other, and that the school climate is such that they can take risks and even make mistakes without undermining their value in the professional community. After calculating descriptive statistics and frequencies for the various individual items, summed scores for trust and for psychological safety were tabulated. Because lower scores on the first and third psychological safety items indicate a more positive perception, these items were reverse scaled before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Courage Prep teachers reported overall positive perceptions of trust (*M= 4.63, SD = .7)* and psychological safety (*M = 4.73, SD = .5).*

Interview data reveal the salience of emotional state as an antecedent to CTE as well. Emotional state was coded a total of 23 separate times across the 9 interviews, and at least once within each. Of those 23 instances, 7 were also coded for trust and 13 for psychological safety. In making sense of the emotional tone of the school, and the ways in which aspects of the school's emotional state enabled efficacy beliefs, teacher and leader insights coalesced around three themes: trust between the leader and the teachers and collegial trust among teachers, psychological safety and vulnerability, and an overall positive, infectious school climate.

a. Trust

When asked about both the emotional state of the school and the school's leadership, teachers often identified trust as a critical aspect of the school's emotional tone. Many teachers explicitly attributed their robust CTE to the trusting environment and relationships. In their responses, teachers at Courage Prep identified the trusting relationships modeled by the leader and taken up by teachers as relevant to their sense of collective efficacy.

The teachers identified the leader's projected trust in them, through shared leadership, as a particular source of trust at Courage Prep. Teachers also identified specific leadership actions that contributed to the development of what one teacher called a "mutual trust factor" between the principal and teachers. Several teachers named examples of these trust-building actions, which included asking team members to lead staff meetings, plan curriculum nights, or facilitate school wide activities. The examples named all involved distributing leadership, with the leader demonstrating trust in the members of the team by relying on them to lead important school events in the leader's absence.

In addition to trusting teachers with leadership responsibilities, the principal was reported to have faith in the teachers' experience and expertise. One teacher described the principal as "kind, respectful, and a delegator as opposed to being a dictator." Another drew a comparison between the trust her current leader invested in teachers with her experiences at other schools, explaining, "She always says 'you know what's best' and 'I trust that you know what you're doing,' and I have not experienced that in other places." Still another teacher explicitly interpreted such delegation as a sign that the principal "trusts us to do what she asks us to do." She commented on how the leader "never came to any of the math committee meetings before the math night. She just showed up, trusting it was taken care of." The teacher conveyed pride in this retelling and considered it "pretty big" that the leader would "trust us to plan the math night right."

The trust experienced at Courage Prep was not one directional and, in addition to detailing how the leader signaled her trust in teachers, teachers also shared reasons and examples for their trust in her. Teachers consistently named her consistent and supportive presence as a reason for their trust in her. Every teacher made note of the principal's extensive presence around

the school. Teachers referenced the leader's daily ritual of greeting students and families at the car line, often acknowledging the commitment involved in doing so. One teacher, when asked about actions the leader takes that enhance trust, responded:

> Just her presence. If you ever drive by in the morning, in the car drop-off line, she's helping every kid out of the car and greeting them. She's there at dismissal and she's definitely visible. She's always around for the teachers if we need her for whatever." She went on to connect the leader's supportive presence with the collective efficacy of the team at large, "You feel more confident, you know? When you've got someone always in your corner.

Another teacher explained how the leader prioritized that in-person time with families and staff and allocated office administrivia to the brief moments between welcoming families and her daily walkthrough of classrooms:

> Oh my goodness; she would walk by every day throughout all of the rooms and greet you before the kids were there, and then she would welcome families, and then she would come around when the kids were [in classrooms], too. I feel like that speaks bigtime. You know, principals have so much stuff they have to do, so she'd come get the kids from cars every morning and then office time briefly, and then come greet everybody.

Several teachers drew attention to the way that the leader leveraged these moments of interaction to sustain morale through the types of verbal encouragement discussed previously in the section exploring social persuasion. As one teacher reported, "She's constantly walking through our rooms and telling us what great things she's seeing. She's telling the kids, 'Wow! You guys are so lucky. These teachers you have are pretty dedicated. They're pretty amazing." A colleague noted how these casual conversations went a long way in setting a positive tone for the day and motivating effort:

> You feel seen, you know? You feel like the day ahead is something you can tackle. Even if you know that, like objectively, you don't always feel that every day. It means a lot to have the principal take time to come and say it is nice to see you, not just to me, but to the kids.

In addition to discussing the leaders' presence, many of the teachers also referenced her honesty as well, and several elaborated on how these characteristics were a source of comfort and trust. One teacher explained that knowing "you can trust she has your best interest at heart" helps her to reach out to the leader for support and advice, "If you have a need for something you can go to her and talk to her and you know that she'll do whatever she can to help you." When asked what three words come to mind in thinking about your leader, two teachers included honest and three included trustworthy among their descriptors. One teacher articulated how the leader's honesty, even when the message was not necessarily what a teacher desired, bolstered trust:

> She is honest and I say that first because she may not always tell you what you want to hear, but you appreciate that she's telling you the truth. She's telling you what she knows. And I do feel like she is extremely supportive if you have concerns or if you have questions. She'll be upfront about what is possible, and she'll help you in it.

This teacher draws a connection between the leader's transparency and trust that the leader is a partner in the work, and someone to turn to for guidance and support. Teachers' experiences resonate with the leader's intentions. The leader described actively working to promote open communication with teachers and situating herself as a thought-partner and resource:

> If you're upset about something, if you want something fixed, walk in this door and talk to me. We're gonna try and come up, solve it together. If I don't

> have the answers, the solutions, I'm gonna find someone that can help us find those answers and solutions so we can keep getting it better and better.

b. Psychological safety

Interviews underscored and elaborated the sense of psychological safety evidenced in the survey. Psychological safety manifested as an openness to new ideas and divergent perspectives, as well as a willingness to deprivatize teacher practice. One teacher described the school building as "very open to new ideas and willing to try new things - sometimes things work and sometimes they don't." Most Courage Prep teachers made reference to set norms for collaboration that framed collegial dialogue and interactions. These norms were not just statements of intent, but expectations that teachers actively embraced to enhance productive exchange of ideas. One teacher described how the faculty "practiced norms of collaboration a lot - what it means to agree and disagree respectfully." Another teacher contrasted the climate at Courage Prep with others schools "where the environment is just, 'Do what they say." She describes how, for teachers at Courage Prep, "it's okay to say, 'I don't understand.' Or, 'Can you explain to me why we do it this way.' Or even, 'I don't think that's working for me.'" This teacher asserts that questioning and disagreeing are a part of collegial exchange at Courage Prep and that there is a presumption of positive intentions in disagreement, explaining, "People feel safe to be able to say what's on their mind and it's not going to reflect negatively on your teaching, but more as a reflection of your concern for what's going on inside your classroom."

Still another teacher captured how the openness to divergent ideas and shared vulnerability among teachers enabled them to get to the root of problems, stating:

> We can challenge each other and have good conversations about how to change pedagogy. We can troubleshoot issues with certain students or say, 'Hey, you're really struggling with this kid and I can help', without it being like, 'You're terrible at managing this child.' We really can come together in a non-judgmental way, pick apart a problem, and move on with the solution even though one of us might be part of that problem.

Here the teacher describes a level of psychological safety so high that, not only can teachers disagree with one another, but they can candidly surface and address shortcomings in each other's current practice in non-defensive ways. Another Courage Prep teacher shared a similar sentiment, detailing how teachers are "able to have tough conversations like, 'I didn't think that lesson was strong enough.' Or, 'Hey, you need to work on this.' Without feeling like you are going to hurt feelings or have your feelings hurt." He goes on to situate these courageous exchanges within a shared responsibility for improvement, noting, "We are all just here to make each other better, and that's the huge thing."

This sense of shared vulnerability was affirmed by another teacher who noted that staff meetings and grade-level discussions are spaces where teachers not only share things that have gone well but also where challenges can be shared and confronted. She noted, "We'll even talk about things that don't go so well and how you can attempt it in a different way." Teachers at Courage Prep were willing to open up their practice beyond conversation as well. One teacher described how teachers "can walk in and out of each other's room with no problem, no sense of guard or anything like that, and that's really powerful." As one teacher reflected, "It's hard as an adult to say, 'Look, I struggle with this.' Or to allow other people into your weaknesses and say, 'I need help with this.'" He continued on, making clear that while it can be challenging, that type of vulnerability is part of the culture at Courage Prep, saying, "But as far as this team, we're doing that daily."

While teachers did not explicitly attribute psychological safety to CTE, the survey evidence and frequent mention of experiences of psychological safety across teacher interviews suggest that it was present and likely a contributor to their CTE, which is consistent with theoretical understandings of emotional state. The ability to take risks and fail forward was situated within a strong sense of shared responsibility for each other's success such that teachers could vulnerably share and problem-solve challenges in their practice in ways that potentially enhanced their collective sense of efficacy.

c. Positive emotional tone

When asked about both the emotional state of the school, how it felt to be a member of the faculty at the time of the survey, and how those affective factors might have contributed to teachers' robust collective efficacy beliefs, teachers described an overall positive emotional tone, above and beyond specific references to trust and psychological safety.

The positive emotional tone present at Courage Prep was framed by several in the school as a product of intentional culture-building work on the part of the school leader and teachers. The school leader spoke of intentionally shaping a positive culture through framing and making small adjustments to daily routines. She viewed herself and encouraged her staff to be "fixers, not complainers." She described a desire to maintain and adjust the emotional tone of the building, and the impact of that tone on both parents and teachers when she said: If you walk into a building, you can feel when there's tension in a building, you can feel when there's disharmony in the building. You can feel all that. Who wants to trust us with their babies in that kind of situation? Who wants to go to work like that every day? And my hope is that everyone finds a way and will be happy here.

She describes her approach as attending to "putting those positive things out there," focusing on positive, personal touches on daily rituals and routines. She notes how this approach can inflect her own attitude and ultimately the emotional tone of the community:

> And if we get to the point where we're putting those positive things out there, it changes our own feeling about what we do every day. You know I stand out every morning welcoming kids and greeting them, opening car doors and greeting them every single morning. If I'm at this building, I'm out there. And as I stood out there this morning, it was, "Wow, I really like my job. I love my job." And it's not because I don't have to deal with – a lot.

Teachers affirmed the effectiveness of the leader's approach, with many conveying the sentiment expressed by one teacher who said, "This is just truly an amazing place to be." Another noted the infectious nature of culture, telling me, "We have a very positive environment. Sometimes if you have a few negative Nellies in the building, it can tend to bring down the staff as a whole. And we don't really have that here." This teacher notes that the emotional state of some members of the team can influence that of others, both positively and negatively, and by ensuring everyone is positive, the school maintains a positive emotional tone.

The tone is so positive, in fact, that "People have described it as like the Disneyland of schools," according to another teacher, who goes on to characterize the school culture as a "positive atmosphere, the climate, definitely is very community, family-oriented." This teacher identifies the elements of the school that create such a positive atmosphere, saying, "There's a lot of parent involvement and parent support, positive energy," and, as a result, "people that go in just say how bright and friendly it is." The teacher further notes the way the school's celebration of student and teacher work builds a sense of community, saying, "You can see it where there's teacher work up... and students' work up on the walls, and I guess a community of learners...would be the best way to describe it." The connection the teacher makes here seems

direct, linking the positive atmosphere with parent support that celebrates student work to being part of a "community of learners."

Another teacher, who reports she was on the verge of leaving the profession after a brief stint at her previous school, credits the positive emotional tone at Courage Prep with renewing her love for teaching. She shared:

> I seriously was going to quit teaching if I stayed at the other building and that was two years at that building. It was micromanaged and we weren't allowed to celebrate anything…I don't feel like I work harder here. I feel like it's more rewarding.

The comparison to being "micromanaged" at a previous school suggests a level of autonomy at Courage Prep, which the teachers who described Math Night attributed to trust. The sense of satisfaction that comes from being trusted and having the opportunity to celebrate "makes coming to work fun" for her, who describes landing a job at Courage Prep "the top prize" in the district. "Everyone wants to teach at Courage Prep," she reported, saying:

> I love the environment here. I love the families. Colleagues are so easy to work with. It's just a great place to be and children love it here. Teachers love it here. It's a place you want to be and you want to continue to come here.

She goes on to describe how her own motivation and efficacy has ebbed and flowed as a function of positive climate as she moved from previous schools to Courage Prep. She expresses empathy for other teachers who do not enjoy the same positive climate that she has found at Courage Prep, which she attributes to saving her career:

> Right now I love teaching and stuff like that, but before I got here, I was ready to leave teaching entirely, and so to me it's a huge morale and motivation to come in and have students want to be here and respect you and stuff like that, that don't happen at a lot of our schools, and because I worked with a ton of

> schools – teachers in the district, and the stories that you hear and the heartbreaking lives that they have, no wonder they don't want to come and work and learn.

3. Vicarious experience

While theorized to be a remote source relevant to the formation of collective efficacy beliefs, vicarious experience did not surface as a salient construct in teacher interviews at Courage Prep. The code was only applied once in two interview transcripts across all eight teacher interviews and one leader interview. In both instances it was co-coded with collaboration. When asked about access to outside examples or models of success, both teachers described informal sharing of successes within their team, noting " among the team we have access to success all the time - we do a lot of sharing at faculty meetings" and "we do share in our staff meetings when we have something that really went well." These examples of learning from one another within the team does not fully align with how vicarious experience has been described in the literature, where it refers to learning from the success of other similar teams. Furthermore, teachers were unable to provide details on the specific practices or models of success gleaned from such experiences. Therefore, there was not convincing evidence that vicarious experiences were a relevant antecedent to the robust sense of collective efficacy experienced by Courage Prep teachers.

4. Social persuasion

As discussed in the literature review, a group's efficacy can be enhanced when a credible source signals confidence in the group members' abilities to attain goals, though on its own, such verbal encouragement is unlikely to produce strong collective teacher efficacy beliefs (Bandura, 1986, 1997). School leaders can influence collective efficacy beliefs through social persuasion,

that is, by communicating expectations and displaying confidence that the group can meet those expectations (Skrla & Goddard, 2002).

Interview data suggests that social persuasion was likely operant as an antecedent to Courage Prep's reported CTE, but only in a partial or limited way. When asked about the frequency and degree of verbal encouragement teachers receive in their work, there were only 14 coded instances of social persuasion across six of the nine interviews. Follow up questions asked who provided the encouragement, when it was most meaningful, asked for elaboration on examples, and prompted teachers to consider how and to what extent they thought this encouragement contributed to the sense of CTE at the school. Considered together, the "social persuasion" coded passages suggested a sense that teachers felt valued by the leader and validated for their efforts and expertise. While the teachers indicated that the school leader was aggressive in building confidence and affirming teachers, I suggest that social persuasion is only operant in a partial way because the leader's behaviors as described by teachers do not align to social persuasion as described in the literature—communicating expectations and displaying confidence that the group can meet the expectations.

As one teacher reflected, "She did a really good job of telling us 'Hey, you're doing a great job.'" This teacher indicates that the leader actively nurtured a culture that emphasized teacher appreciation and celebration. Another teacher described how she felt affirmed in her position by the leader and others as well: "I felt very valued. Between the administration, the other teachers, and the parents, and the notes that students write to you, everybody seems to value the position of teacher here." While the first teacher shares that the principal habitually affirms teachers, there also seems to be a culture of teacher appreciation among school leaders, staff, faculty, parents, and students that has been cultivated over time. As described above, the

leader's pats on the back alone are unlikely to build efficacy. But the leader can influence efficacy through social persuasion - by communicating expectations and displaying confidence that the group can meet those expectations. Building a culture of affirmation in which teachers are valued seems like a powerful way to publicly demonstrate confidence in teachers.

The leader also set expectations and displayed confidence in more concrete ways. Several Courage Prep teachers referenced staff-wide habits of celebration such as "Friday five minute meetings in the hallway," which provided teachers an opportunity to gather publicly and "we all said one thing that we were celebrating that week." Teachers built confidence by publicly sharing and being recognized for their accomplishments.

Another teacher provided further detail of what the leader's encouragement looked like and sounded like for teachers and the extent to which the leader established an overall culture, or atmosphere that validated teachers:

> She praised you all the time….Always complimentary. Like I would go for evaluation or just meeting stuff, and she'd be like, 'I can't believe you do all these things, blah, blah, blah; I could never do this.' And it's like of course not, you do way more than I do. But, I mean, it... just made you feel validated. In the teacher world a lot of days, that is not the feeling, you know? That's like the thing that really sticks out to me...She created that atmosphere at [Courage Prep] for sure.

Despite the vague contours of the verbal encouragement received—"blah, blah, blah"—the leader's compliments and affirmations seemed to have an impact on teachers, standing out in their minds in what can often feel like a thankless job. Even non-specific and unmemorable encouragement or gratitude went a long way in making teachers feel seen and valued.

While there were examples connecting the principal's encouragement and celebrations to the annual state assessment, even those did not appear oriented around a specific expectation for

performance beyond continued achievement. For example, a Courage Prep teacher recalled how, during the standardized testing window, the principal would "put little notes of encouragement in our mailbox, or a piece of candy, just something to tell us, 'I know it's difficult this time of year. Keep at it. You're doing a good job.'" Similarly, another teacher detailed how the leader would celebrate the school's performance on the annual high-stakes accountability assessment, remembering how the principal "used to do something the following fall for the assessment scores. She kissed a pig; she's into a dunk tank."

These examples are better characterized as general sentiments of teacher appreciation than as social persuasion as conceptualized in the CTE literature. In each, the teachers do not recount receiving specific feedback aligned to clear expectations. One teacher explicitly highlighted this differentiation when she explained, "I would say that our affirmation was vague and superficial. 'You guys are the best, you guys work really hard, there's no teachers better than you.'" Her colleague affirmed this notion that encouragement was most often disconnected from a specific desired outcome or expectation, stating, "It's thank yous. It's 'thank you for this,' it's 'thank you for that.' Sometimes it's like a teacher appreciation gift or something like that, but that's not necessarily specific to a cause and effect."

Therefore, while teachers felt valued and validated in their work, and appreciated and celebrated for their efforts, they did not fully evidence social persuasion as a salient antecedent to their collective efficacy.

D. Contextual Factors

In the following section, I report Courage Prep teachers' and the principal's experiences of school composition, teacher influence, collaboration, and leadership, and their perceptions of how these contextual factors related to their collective efficacy.

1. School Composition

While much of the promise of collective teacher efficacy has been the extent to which it is predictive of school achievement above and beyond socio-economic status (SES), most empirical studies of CTE have evidenced a positive relationship between SES and CTE such that schools serving students of a higher socioeconomic status tend to also have higher reported levels of collective efficacy (Adams & Forsyth, 2006; Francera & Bliss, 2011; Hoy et al., 2003). Each year between 2015-2018, Courage Prep had the lowest percent of students qualifying for free or reduced lunch of all elementary schools in Hope District. The percentage of students qualifying for free or reduced lunch ranged from 43.3 - 44.4% during those years. The public demographic data and the survey results suggest the correlation between school SES and collective teacher efficacy evidenced in the literature was operant at Courage Prep.

Teacher interviews offered further evidence that school composition was a salient factor contributing to Courage Prep teachers' collective sense of efficacy. While teachers did not explicitly attribute their sense of CTE to school composition, interviews surfaced a shared belief among teachers at this high-performing school that parent and student characteristics were the absolute primary contributors to the school's success. When asked, "What do you see as the biggest contributor to Courage Prep's level of academic achievement" and, "What do you see to be the strongest influences on student learning?" all interviewees named parent participation, home life, or other form of student demographics as the key factor leading to their academic success. In fact, this was the most commonly applied child code under antecedents, applied over 60 times and appearing as a theme in each interview with frequency ranging from 4-16 occurrences.

Courage Prep teachers unanimously attribute the school's and student success to parents and student background, claiming little credit of their own for the accomplishments. Despite scoring highly on measures of CTE, in interviews the teachers did not attribute success to their instructional practices or organizational approaches; rather, in their descriptions, the success was largely a function of home life and parent SES.

School composition was viewed as a defining component of the school's identity. One teacher captured this quite starkly, "I can't say enough about the parents. We would not be Courage Prep if it weren't for the parents." This unequivocal response was echoed by another teacher as he shared his initial reactions to the request to participate in the study, "Everything I thought about as I was emailing you to sign up for this, it was definitely the biggest thing, parent support."

Still another teacher elaborated on how a high level of parental support can coexist with other strengths, saying, "Yeah absolutely [the biggest contributor] is the parent involvement. Our kids come with a skillset ready to learn and background experiences. That doesn't happen at other Hope District schools." This teacher describes the various funds of knowledge, or different types of capital that students can bring with them to school.

This notion, that students bring multiple assets to school, including parent support, background knowledge, and other storehouses of cultural, social, linguistic, and other forms of capital (Moll et al., 1992; Yosso, 2005), is captured by a teacher who starts by candidly stating, "Okay, so it is awesome to be a teacher here because we do have these kids." The teacher goes on to describe the experience of teaching students who are rich in the types of community cultural wealth that lend themselves to success in traditional schooling, which is an experience

most teachers in the district not only do not experience, but actually resent when they encounter teachers who do.

> We don't have to deal with all of the behavior management and stuff like that. What I'm doing here, I could replicate to a sense, but not to a T, in a harder, rougher school. It's allowed me to come in every day with kids engaged, kids excited to be here, kids that I know that if they aren't being accountable, I have teamwork within their families to have that, and so I, a lot of times, don't tell people I teach at Courage Prep when I'm at a district-wide thing, because it's like, 'Oh, you're one of those people.' You know what I mean? Like we definitely have the cream of the crop.

Others, including the school leader, focused entirely on parent support. One teacher said families and parents are "far and away, definitely our biggest push of why we are successful." The principal attributed success to parent support, and while the principal noted parent presence in the building is important, she further analyzed how parent support affects the teachers, saying, "I think that teachers here do believe that parents are behind them and support what they're doing in the classroom. Parents come in, are very visible in our building, and so I think that that makes a big difference." The notion that parents support what happens in the classroom is a more specific claim about the teacher-parent relationship or about parent support in general, and provides some insight into how this school leader thinks about how parents can concretely support teachers to strengthen the school.

Several teachers described the level of parent participation and the quality of family support at Courage Prep as abnormal, with some describing it as even unimaginable before experiencing it themselves. One teacher described the experience as compared to working in other district schools:

> This is not normal for a Hope District school. My first year, it was culture shock, like seriously just…in a good way most of the time, until you get to

> helicopter parents, but that's a tradeoff I'm willing to make for having working phone numbers to 28 students and keeping them all year long.

Here the teacher first shared the sense of amazement that one could have such relationships with families in a school, likening the experience to culture shock. While there are tradeoffs—in this case, overbearing "helicopter" parents—they are well worth the benefits of having a full class of responsive parents on speed dial. As a teacher mentioned in the section detailing findings related to emotional state, the high level of parental involvement and support from home earned the school a reputation as "the Disneyland of schools."

Teachers at Courage Prep seemed to be significantly qualifying their own sphere of influence on student achievement, downplaying the impact they as a collective have on student outcomes. One teacher situated this understanding within the framework of hierarchy of needs:

> If [kids are] not getting that love and that comfort and security from home, then that's where you're spending your day. We've got kids who mostly have that, not all of them, but mostly have at least one really supportive, so that's happening more for our kids. I don't know if you could even duplicate that without – I don't even know what you would do to duplicate the parents that we have here.

Another teacher went so far as to claim that if you transplanted the existing faculty to another school that lacked the assets of family life and parental support, they would not be able to achieve the same results. She positioned the students walking in the door, and parents who support them, as the "biggest advantage over other Hope schools, definitely hands down" and then claimed, "If you took our staff and placed us in a struggling school, we wouldn't do any better or worse significantly than that of the teachers that are there now."

Here the teacher signals what she believes to be indubitable, that the success of Courage Prep rests largely on the students and parents they serve rather than on the curriculum,

instruction, or organizational culture and structures of the school. It seems as though teachers believe who they are teaching matters more than who is teaching - for a school that scores so highly on measures of CTE, these attitudes are surprising, because they indicate a shared belief in a notion that is almost the opposite of a belief in their collective efficacy. While the school's CTE survey data suggest teachers believe in their collective capacity to affect student learning, the interview data suggests that teachers also believe that student success is a function of SES and parent involvement, and that their students would do well no matter what they, the teachers, do.

Another teacher goes a step further. Not only is parent support and student background determinative of student achievement, but the teacher believes the quality of teaching at Courage Prep could be better. She said:

> We can't blame the parents, we can't use that as a crutch...I'm like, we can't do it without the parents, like, we need to buck up our game so that we can prove that we can [do it without the parents]…"

This teacher suggests that the accolades the school receives and the sense of accomplishment the teachers enjoy as a result can be attributed almost entirely to the parents, and without the Courage Prep parent community, they would not experience the same achievement and perhaps not experience the same sense of efficacy. In her call to "buck up our game," she agitates against any resting on their laurels and instead advocates for a culture of improvement in which the faculty would be able to achieve the same results even with entirely different parents. This sentiment was not widely shared, but surfaced among a few teachers as they grappled with the question of what exerted the greatest influence over student achievement and signals that the relationship between school composition and collective teacher efficacy may have been more

complex for some teachers at Courage Prep. For these teachers, the school composition provided advantages that disrupted the narrative that their instruction yielded school achievement. Their recognition of the advantages afforded by family background led some to wonder whether they were fully realizing their potential impact on student learning, but these reflections did not seem to undermine their sense of collective efficacy. Every teacher still affirmed the efficacious culture captured in the 2015 survey results, and overall, school composition seems to have been relevant to the formation of Courage Prep teachers' collective efficacy beliefs.

2. Teacher leadership and influence

The extent to which teachers take on formal and informal leadership roles and have influence over school decisions, especially those related to teaching and learning, is positively related to collective efficacy (Angelle & Teague, 2014; Ross et al., 2004). Interview evidence suggests that Courage Prep teachers perceived the various avenues for their leadership and influence as a factor that contributed to their collective efficacy. When asked to describe how formal and informal leadership opportunities and teacher influence over decisions, may have contributed to the school's sense of CTE, teachers at Courage Prep identified several structures and processes for teacher influence and also described a high degree of flexibility and autonomy concerning their own classrooms as well as broader issues related to teaching and learning. As one teacher summarized, "Teachers have had a big voice, through committee and other teams, you know, professional development teams they had to be on. I feel like the input is heard; we have a good amount of say in what we are doing." Importantly, influence and autonomy were bounded by shared expectations and non-negotiables for teaching and learning.

Teacher influence was not incidental to the work at Courage Prep; intentional structures and processes were in place to facilitate teacher involvement including committees, faculty-led

faculty meetings, and teacher-driven initiatives. Additionally, four of the teachers interviewed identified the collaborative process by which the team "wrote the school improvement plan together" as a critical inflection point for teacher involvement. One teacher described how "writing it together gave us all a sense of ownership for what we are trying to do", contrasting this with previous experiences in which she was handed a completed improvement plan at the start of a school year and asked for feedback in ways that felt disingenuous. She said:

> Sometimes it's been, 'Hey welcome back.' in August and, 'Here is our thirty-page improvement plan. Let us know if you have any suggestions.' But like, do you really want my input if you are asking me now after it's been polished and printed? And I'm trying to get my classroom and lessons ready at this point. Why are you asking me now? So it was powerful to actually sit and discuss, like, what goals we want and how we want to work on them from the start.

Teachers described a committee structure in which groups of teachers took up specific domains of work across the school to enact the improvement plan. According to teachers, there were "all kinds of committees" and "no shortage of committees" to get involved with. Some of the committees referenced by teachers when reflecting on teachers' influence over school processes and decisions were literacy, math, English Language Learners (ELL), Positive Behavioral Interventions and Supports (PBIS), technology, hospitality, and student supports. A teacher described how the smaller staff size at Courage Prep helped maximize participation across teachers. She explained, "We have a max of about 16 teachers in our building, so lots of teachers - most of us - serve on multiple committees." One teacher described the impact of this type of committee work saying:

> The committees are great for getting to work with people you don't always work with. Like I think we naturally stick with our teams or the teams in our hallways. I know the 3-4 hallway because we are all in one hallway. We meet as a group informally a ton, and then the K-1-2 hallway meets as a group. But

> the committees are spread out and you get to know other teachers and hear their ideas and get to know a bit of their talents and passions. And it's like, 'Wow. I have a lot of talented people right here in this building with me.'

In this reflection the teacher explicitly signals that committee work afforded teachers windows into each other's strengths and talents: "You get to know other teachers and hear their ideas and get to know a bit of their talents and passions." This teacher's reflection provides some insight into how committee work may have contributed to CTE by emboldening teachers' belief that others in the school have the skills and motivation - "talents and passions" - needed to advance improvement.

A second avenue for teacher leadership were bimonthly faculty meetings focused on professional development. The professional learning sessions were largely faculty led. As teachers developed their own professional capacity through workshops, trainings, and experience, they would then bring that learning back to the collective. Several teachers referred to this approach as "community PD" (professional development) where "teachers sign up to lead at staff meetings." One teacher elaborated, "We do a lot of sharing at faculty meetings. If someone does a professional development or something, they bring it back to the rest of us." This community-based approach to professional learning enabled a deeper sense of collective competence among Courage Prep teachers. All interviewed teachers responded affirmatively when asked if this practice led to their growth as a teacher and a team. One teacher captured the relationship between community-based PD and enhanced CTE, explaining:

> There are a lot of things that I probably never would have tried on my own as a teacher, that having heard from and seen other teachers doing I feel confident trying. At the faculty meetings we are kind of guided through with other teachers so we see what things our colleagues are doing and also, we see other teachers learning the new strategy or whatever at the same time. It makes you

> proud. Our staff has done a really great job of taking their own professional development amongst themselves.

These "community PD" faculty meetings seemed to enable CTE vis-a-vis teacher influence and agency, and in the same ways, that committee work did. That is, these moments afforded teachers an opportunity to showcase their pedagogical skill and strategies and to observe "what things our colleagues are doing." For this teacher, this collaborative process led her to feel confident trying "a lot of things I probably never would have tried on my own" and a sense of pride in the team. Collectively, teacher interviews suggested that these gatherings enabled greater shared confidence in teachers' collective ability to produce meaningful student outcomes.

Another important theme that emerged in the data related to the enactment of teacher influence and leadership was that of bounded, or defined, autonomy (Dufour & Fullan, 2013). Bounded autonomy is characterized by the institution of clear expectations and non-negotiable priorities and the granting of creative autonomy within those parameters. For example, while involvement on a committee was a defined expectation, teachers had a choice in how many committees and which committee to join. Furthermore, teachers had the flexibility to determine the frequency and schedule of their touchpoints. As one teacher described, "Committees meet whenever they need to. When the math committee was approaching the math curriculum night recently, we met a couple of extra times and we decided when worked for us. So long as we get the results and the math night is good, that is all that matters."

Another teacher captured this nuanced in describing the community-PD, stating, "We let the principal know what we're interested in presenting and she puts it up on the calendar." Another teacher explained that while the content of the session was largely left to the discretion

of the presenting teacher, the leader "would make sure it was relevant to our goals and our improvement plan." She further noted that there was an expectation that "everyone participated and everyone took at least one turn presenting, but you could decide when and what."

At Courage Prep, bounded autonomy was related to a prioritization of impact over input. For example, teachers described a great deal of flexibility and leeway in how they ran their own classrooms. In fact, every teacher used the descriptor of freedom, flexibility, or autonomy when asked to share about their perceived influence over curriculum and instruction in their classrooms. As one teacher noted, "We get to run our classrooms the way we want. There's a lot of flexibility there." Several teachers suggested that this level of flexibility and choice was unique for the district and perhaps available to Courage Prep teachers because of their status as a high-performing school. One teacher described it as having "more leeway than other schools who are under the microscope." Another teacher affirmed this, sharing, "I think we know that because we are a high-performing school, then we have a lot more freedom and choice. We can skip out on lessons in the math adoption that make no sense or make it more difficult for our students to understand. And we can decide how we want to teach it."

This flexibility was, however, circumscribed by expectations for evidence of impact. That is, teachers were free to personalize the curriculum and adapt their instructional approaches so long as they were meeting expectations for student and class performance. One teacher noted, "If we can justify what we want to do, with a focus on demonstrating results, then we have autonomy in how we do things." This mindset was explicitly claimed by the leader herself, saying:

> When teachers come in here, they are supported by me. If they come in and they go, 'You know I'd really like to do this. I'd really like to try this.', my first question is, 'Why do you think this is going to work? Have you given rational thought to this and what you want to do and why?' Second, I'm going

> to support it. And third, you're gonna have to come back with data and prove to me whether it worked. And if it doesn't, 'What are we going to do to tweak it so that it can work?' Or, "This just isn't gonna work.' and we're gonna scrap this idea.

Here the leader describes an evidence- and impact-oriented approach in which teachers are granted autonomy to pursue ideas and strategies as long as they can support their reasoning with evidence and ultimately demonstrate success with data. The principal claims this concept of bounded autonomy as part of her identity as a leader, stating, "That's part of my role as the leader - helping set those guidelines so we can be self-directed, but we don't just have everyone just doing what they feel like doing and no accountability for it." The defined autonomy experienced by Courage Prep teachers likely created the space for teachers to deepen their sense of collective efficacy through influence and autonomy, but in ways directly aligned to non-negotiable expectations for teaching and learning.

3. Collaboration

Teacher collaboration and knowledge exchange have been linked to stronger teacher collective efficacy (Goddard et al., 2012). Sharing expertise and collectively addressing problems can provide teachers with experiences that boost confidence in the shared abilities of the team (Moolenaar et al., 2012). Interview and survey evidence suggest that such knowledge exchange and collaborative dialogue about instruction were present at Courage Prep at the time of the survey, and interviews suggest that the collaborative culture likely contributed to the shared sense of efficacy reported by teachers.

The collaborative culture at Courage Prep is captured in part by teachers' survey responses to items measuring reflective dialogue (i.e. "teachers share and discuss student work") and knowledge sharing (i.e. "I share my skills with colleagues"). All teachers selected

“somewhat agree”, “agree”, or “strongly agree” for both items measuring reflective dialogue and the majority of teachers selected “agree” or “strongly agree” for all four items measuring knowledge sharing. These responses indicate teachers’ perceptions of the school’s emotional state are positive (Table XXIV).

Table XXIV

XXIV. COURAGE PREP TEACHER RESPONSES TO COLLABORATION 2015 SURVEY ITEMS

	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent		
Reflective dialogue							
Teachers talk about instruction in the teachers' lounge, faculty meetings, etc.	0	12.5	62.5	25	5.13	.64	0
Teachers in this school share and discuss student work with other teachers	0	37.5	25	37.5	5	.93	0
Knowledge Collection							
My colleagues tell me what they know when I ask them about it	0	0	0	25	75	5.75	.46
My colleagues tell me what their skills are, when I ask them about it	0	0	12.5	12.5	75	5.63	.74
When I've learned something new, I see to it that my colleagues can learn it as well	12.5	12.5	25	12.5	37.5	4.5	1.5
I share my skills will colleagues	0	0	25	25	50	5.25	.89

As shown in Table XXIV, teachers report frequently discussing instruction and student work and sharing knowledge and skills with each other. After calculating descriptive statistics and frequencies for the various individual items, summed scores for reflective dialogue and knowledge collection were tabulated. Because higher scores on the all items indicate a more positive perception, no reverse scaling was necessary before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Courage Prep teachers reported overall positive perceptions of reflective dialogue (*M= 5.06, SD = .62)* and knowledge collection (*M= 5.28, SD = .74).*

Interview data further evidenced collaborative dialogue and exchange as routine for Courage Prep teachers, and suggest that such collaboration operated as an antecedent to their collective efficacy as well. When asked if and how the school supported collaboration at the time of the survey and the extent to which that level of collaboration contributed to the sense of CTE, teachers described a strong sense of collective team identity and collaborative approaches to the work of teaching and learning, noting informal as well as formal structures for collaborating over student learning. Collaboration was the second most applied child code under antecedents with over 50 applications across all nine interviews, ranging from frequencies ranging from two to twelve applications per interview.

a. Informal collaboration

Teachers indicated that there was a great deal of loosely structured collaboration among the teachers, and that much of this was opt-in and responsive to the daily work. One teacher described interactions with colleagues as “a constant” while another noted, “We talk a lot. All the time, we are seeing what else people on our team are doing and we benefit from constantly having those informal meetings.”

Courage Prep classrooms were organized in hallways according to grade level bands. For example, the Kindergarten, 1st, and 2nd grade classrooms all occupied one distinct wing of the school. Loose collaboration seemed to occur primarily among grade-level teams and within these physically proximate grade bands. One teacher described how informal collaboration extended beyond grade-level partners, saying:

> I think one that is helpful is there's collaboration across grade levels. So, I'm a kindergarten teacher. There's a first-grade teacher across the hall from me, and even though we don't teach the same grade, we're constantly saying, 'Hey, this happened, what would you do?' or 'Hey I have a child who needs this. Do you have any suggestions on what I could do?' We don't just stick to our grade level, we kind of see each other out.

The physical proximity of classrooms "right across the hall" seems to have enabled the type of spontaneous teacher-to-teacher support the teacher is describing here. Another teacher noted how the grade-band wings created somewhat of a nested team structure at Courage Prep that included grade-level partners, grade bands, and the whole team. She signaled that grade-level partnerships constituted the majority of touchpoints in a teacher's week. "We have common times most days to meet for planning and things like that, but we also just have constant back-and-forth throughout the day." She then elaborated on how grade bands functioned as a sort of team of teams within the collaborative culture at Courage Prep, explaining:

> I know the 3rd-4th hallway very well. Because we're all in one hallway, we meet as a group and then the K-1-2 hallway meets as a group. So, it's like another bigger team versus just, 'Hey I have one other teacher in 4th grade.'

She also signaled an overall high level of informal collaboration faculty-wide, stating, "across the board we talk a ton." This broader culture of collaboration was affirmed by the other Courage Prep teachers and often framed through a lens of reciprocity. One teacher described

informal collaboration with other teachers as "a constant conversation" and shared a specific example of a colleague he was partnering with to exchange expertise. He explained, "She's stronger than I am as far as her confidence in her ability to teach reading and I'm stronger in my confidence to teach math. So, we're helping each other out with that." Several faculty members referenced periodic gallery walks that teachers initiated among themselves. One teacher described the walks, saying:

> We did [the gallery walks] after school and it was super unofficial, not formal and it was optional. We started in one room and just kind of sat in each teacher's room and said, 'Talk about why you have this and that.' And then we would move to the next room.

Teachers also referenced a Tech Tuesday that teachers instituted in response to their own identified interests and needs. One teacher highlighted the bottom-up design, describing it as "teacher-driven and not anything that the principal has to be at or had to even say, 'Hey, get this going.' A different teacher, one involved in facilitating the days, shared, "We had several teachers in the building who had a passion for technology and so we've written grants and we spent time going to Google conferences and tech conference types of things. And then we'd come back and share the things we've learned." Other teachers noted the benefit of these optional collaborative exchanges to their practice. One teacher reflected,

> I have the support of people who are really good at this computer stuff or people who are really good at finding this stuff is nice because then I don't have to do all of that work by myself. I can learn from them and I hope they can learn from me on other things too… I mean, I could figure out how to work most things on a computer, but I'm not the one that's gonna - I'm not the guru.

This teacher's reflection, and those of her colleagues, highlight the ways in which loosely-structured, teacher-driven collaboration created spaces for teachers to diffuse expertise among teachers in mutually beneficial ways. Informal collaboration was part of the daily fabric of teacher's days at Courage Prep. These reciprocal exchanges likely helped bolster collective efficacy beliefs as they not only provided opportunities for capacity-building, but also gave teachers powerful windows into each other's expertise and embolden an overall sense of team identity.

b. Formal collaboration

More formal structures and processes also played a prominent role in Courage Prep's collaborative culture. The most commonly referenced formal collaborations included grade-level learning log meetings, Success Time, and the Student Assistance Team.

According to teachers and the principal, learning log meetings involved grade-level teachers and the administrator and occurred "every two to three weeks." Teachers noted that learning log meetings were an opportunity to "review data from the common assessments we generate." This data-informed approach to tracking student progress at the learning log meetings was emphasized by one faculty member who said:

> We discussed a lot of data. We did learning log meetings [where] we met with our administrator and we talk about the progress of our children. We discussed the data from progress monitoring. And if we had concerns of children who aren't moving much in growth, we talk about ways that we can introduce some new strategies or some accommodations to try to help move them to the next level.

Here the teacher draws attention to the ways in which learning log meetings were focused on student outcomes. This was affirmed by the principal who shared that the intention of these meetings was to ensure all students' needs were met. She explained grade level teachers met with

her to “share what they’re doing not only for those struggling learners, but also for those kiddos at the top of the ring - what are we doing to enrich them?” She went on to note that “there are a lot of instructional practices that are great here, but some need some tweaking. I’ve watched them grow and get better and better.” Within these collaborations, teacher actions, in the form of strategies or accommodations, were explicitly connected to the expected outcome of student progress. This coupling of teacher practice to student growth and the continuous routine of expanding teachers’ repertoire of strategies for meeting student needs, likely enabled a sense of collective efficacy for the work, by signaling the influence teacher actions have on student progress and providing teachers with a consistent mechanism for gradually enhancing their instructional approach.

Success Time surfaced as a keystone collaborative structure and process at Courage Prep. Success Time was Courage Prep’s version of what is commonly known as Universal Access time or an intervention block. During the allocated time, typically 30-60 minutes, no new instruction occurs across a school. Instead, this time is reserved for tiered intervention and supports in which students are grouped flexibly by need and provided opportunities for enrichment and remediation. Courage Prep’s Success Time is part of an eight-step process (included in the Appendix). Student test scores are used to group students in each grade level into instructional groups that span specific classrooms. Teachers, aides, student teachers, and other qualified auxiliary staff are then assigned to work with a specific instructional group to deliver tutorials and enrichment during the daily block.

The Kindergarten teacher provided a summary of the data-informed collaborative process, stating:

> We use an assessment piece and then we break our entire group of kindergartners, which there’s like eighty of them. We would break them up

> into seven groups based on what their current scale score is, and then we teach them in smaller groups for 30 minutes on that scale. Then after three weeks, we come back and we reassess to see what the growth is, and then we redo the groups.
>
> So, they're constantly changing groups and switching between the three classrooms with the three aides and the other student teachers. So, they gave us a seventh person, so our struggling students could be in a group of maybe four students. The size of each group is different based on whatever their need was. We do that all year long across every grade level.

Success Time was a clear priority at Courage Prep, teachers emphasized that Success Time occurred "half an hour, every day" and was "built into our master schedule so it happens daily." Several teachers noted that it was a highly coordinated effort across an extensive team, and the leader described it as an "all-hands on deck" initiative. Multiple teachers referenced the PE teacher when emphasizing the shared responsibility for Success Time. The leader noted that since the PE teacher was certified to teach elementary school, even she participates in Success Time, explaining, "because she has a free planning period, an extra plan time that overlaps, she does a group, too."

The coordination of faculty and staff to meet the needs of students was also apparent in the ways teachers and the leader described Courage Prep's Student Assistance Team. The team was designed to provide supplemental student support above and beyond the work of teachers in the classroom and during Success Time. As the leader noted, "Teachers are very much on top of [differentiating to meet the needs of students], but any child that continues to struggle, we have the Student Assistance Team as an additional layer." This team met at least once a month, but often more frequently "depending on what was going on with different students."

Most teachers referenced this team when discussing the ways in which working together helped them feel efficacious as a team, and all references to the team underscored its

effectiveness. One teacher emphasized the quality of this collaborative team, drawing a contrast to other experience of student support teams she has experienced at other schools, claiming:

> We have a really good Student Assistance Team. The teachers who need help with children, either academically or behaviorally, can refer them to the Student Assistance Team and then that team meets. They'll meet all day long, just do a marathon once a month. And they help with ideas and help with what next steps are. I think that it's more effective here than I've ever seen it anywhere else.

Another teacher underscored the effectiveness of the support team and suggested that part of their success was a result of "the strong relationships in this building." She continued, explaining, "All of the people who are on the Student Assistance Team feel like they have a vested interest in how well the child is going to do. We work together and collaborate to try to help each child." The teacher draws a connection between teachers' strong working relationships and their genuine investment in each child and the high functioning exhibited by the Student Assistance Team. The principal reiterated the vested interest teachers take in working together for the good of students and added, "When we have those meetings, teachers come prepared. They show up ready with information because they care."

While called the Student Assistance Team, teacher and leader reflections emphasize its role in supporting teachers as well. The leader explains that the team sits together to "come up with new strategies of how we might help that student or how we might support that teacher in helping that student." Another described the purpose of the team as, "helping me help kids." One faculty member detailed the positive impact the Student Assistance Team had on her practice and her morale, saying:

> Even the best of us need help in getting through to a student sometimes and the student support team brings people together to really brainstorm new ideas and

> strategies for us to try with our students. It helps when you are really struggling with a student for whatever reason. You don't have to have all the answers on your own.

The various forms of formal collaboration at Courage Prep were well-coordinated efforts anchored in high expectations for student learning. These formal structures and processes seem to have provided layers of support for student learning as well as for teacher practice. The constant use of progress monitoring data also helped make the link between their practice and student outcomes explicit for teachers in ways that are likely to boost CTE. As teachers exchanged and took up new strategies in service of student learning, they were able to not only enhance their own sense of competence, but also broaden their understandings of expertise across the team.

4. Leadership

Strong principal leadership broadly, and instructional, inclusive, and transformational leadership behaviors specifically, have been linked to CTE beliefs (Chen & Bliese, 2002; Olivier & Hipp, 2006; Ross & Gray, 2006). Survey responses indicated that teachers at Courage Prep held positive perceptions of the leader's instructional and inclusive leadership behaviors. Both survey and interview data suggest that inclusive leadership behaviors were more prominent than were instructional leadership behaviors, and interviews further indicate that the inclusive and supportive leadership at Courage Prep helped enable teachers' efficacious beliefs.

Teachers' responses to the survey items measuring leadership capture an overall positive perception of leadership across both instructional and inclusive indicators. All teachers selected "somewhat agree," "agree," or "strongly agree" for all ten items measuring leadership. These

responses indicate teachers' perceptions of the school's leadership are very positive (Table XXV).

Table XXV

XXV. COURAGE PREP TEACHER RESPONSES TO LEADERSHIP 2015 SURVEY ITEMS

	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent		
Makes clear to staff his or her expectations for meeting instructional goals	0	37.5	67.5	5.63	.52
Communicates a clear vision for our school	0	37.5	67.5	5.63	.52
Sets high standards for teaching	0	37.5	67.5	5.63	.52
Understands how children learn	12.5	0	87.5	5.75	.71
Presses teachers to implement what they have learned in professional development	12.5	12.5	75	5.63	.74
Actively monitors the quality of teaching in this school	0	67.5	37.5	5.38	.74
Knows what's going on in my classroom	12.5	37.5	50	5.38	.74
Is strongly committed to shared decision-making	0	25	75	5.75	.46
Works to create a sense of community in the school	0	0	100	6	0
Promotes parent and community involvement in the school	0	0	100	6	0

As shown in Table XXV, teachers feel that the leader communicates instructional goals and a clear vision for the school and that she takes an active role in ensuring high-quality teaching and learning. According to the survey, teachers also agree that the leader creates and promotes community in the school and with parents and the local community. After calculating descriptive statistics and frequencies for the various individual items, I tabulated a summed score for leadership. Because higher scores on all the items indicate a more positive perception, no reverse scaling was necessary before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Courage Prep teachers reported overall positive perceptions of leadership (*M= 568, SD = .33).* I then repeated this process to compute a summed score for the seven items corresponding to instructional leadership behaviors and the three items corresponding to inclusive leadership behaviors. While teachers rated inclusive behaviors slightly more positively than they did instructional behaviors, the difference was marginal (Table XXVI).

Table XXVI

XXVI. COURAGE PREP MEANS AND STANDARD DEVIATIONS

	Overall	Inclusive	Instructional
Mean and Standard Deviation	5.68, SD = .33	5.92, SD = .14	5.57, SD = .14

Interview data underscore the survey findings that teachers at Courage Prep held positive views of the principal's leadership, as a community and instructional leader. However, interview data suggests that the inclusive and community-oriented aspects of the principal's leadership were more salient than her instructional leadership and likely enabled their collective sense of efficacy. The leadership code was applied in every interview, with over 50 code applications, making leadership the third most frequently applied code, after school composition and collaboration. When asked to describe the leadership at the school at the time of the survey and reflect on the descriptors and leader roles that have been most beneficial to teachers' CTE, responses focused overwhelmingly on inclusive and support aspects of leadership. Of the 50 leadership code applications, over half had the child code of "supportive" "accessible" or "pastoral." Teachers described their leader as a constant presence in the school community, who fosters community, and who is supportive and encouraging of teachers. "Kind" was among the most frequently used words to describe the leader.

The most common child codes under leadership, supportive (13) and accessible (11), both resonate with the two survey items related to a sense of community. A teacher described concrete ways that the principal is supportive and accessible when attributing the positive climate of the school to "just her presence." She went on:

> If you ever drive by in the morning, in the car drop-off line, she's helping every kid out of the car and greeting them. She's there at dismissal and she's definitely visible. She's always around for the teachers if we need her for whatever.

The sense of both availability and willingness to help was echoed by several teachers. One described her as "quick to help us solve problems," clarifying that the principal "doesn't solve it for us, but she helps us think through it." Another was asked to describe the leader and

said, “Supportive... She’s always looking ahead to see what’s coming, what do we need to be doing. And probably peacemaker. She really wants to find solutions to things.” Teachers consistently described a leader who would do “whatever it takes to help,” and one noted that this support stemmed from the leaders’ concern for each team member, saying, “it’s very important to her that everybody succeeds.” Still another remarked that the principal provided “a lot of support - and we would have a lot harder job if we didn’t know we had that support.” Teachers correlate the support they receive from the leader with diminished barriers to success. In these examples, the teachers describe the principal as a supportive leader when asked how the school leadership supported their collective efficacy, and these examples all seem likely to embolden the collective sense of agency and efficacy among teachers.

A teacher described one such innovative solution strategy to illustrate. She described a district-wide effort to modernize technology in primary grades, which required fundraising. She said the principal developed a dress down strategy to raise the money for new smart boards:

> There would be popcorn days or pajama days or jeans day. So, kids would bring in a dollar, and that money, along with other fundraisers, would go to getting classroom smart boards...It’s fun for kids, you know, making school fun. And then it’s going towards [the smart boards].

The teacher suggests that, by solving the technology challenge with this fun way to secure resources for smart boards, the principal made the teachers’ jobs a little easier and the school a more enjoyable place, both of which can enhance CTE.

Similarly, the principal took it upon herself to organize and host the annual talent show. One year, she even wrote a musical herself. A teacher reports, “In the first year I got there, she wrote a little musical. Like, she wrote a play because she was an English teacher before.” The result of her personal investment in solving problems like this, is that “she created this

atmosphere and the community." The teacher noted that the principal was motivated by the students: "And it was all about the kids at the end of the day."

The teacher reflected further on the principal's leadership:

> So, yeah, we wrote this play and I picked the music out for it. But, like, collaborating and working, nobody does that, you know? And I feel, other buildings I've been in, the principal doesn't want to do talent shows, let alone lead it. Like, they don't want to be bothered by inconveniences of collecting money and having dress-down days. But she's like, of course we've got to do this because it's going to make our school better.

Again, by personally organizing the talent show, writing the musical, and collecting money, the school leader reduces the teacher's obstacles to success and potentially enhances her sense of CTE.

The teachers describe their sense of efficacy following from leadership that is supportive of students and teachers, and that solves problems. They do not, however, attribute their collective capacity to achieve success at school to instructional leadership. Teachers do not describe observations, feedback, or coaching related to their teaching.

The school leader spoke to her approach to leadership, characterizing her view of her team as more egalitarian than hierarchical, and affirmed the teachers' perception that she trusts them as professionals. She says hers is "not a top-down approach," but instead, "We are all professionals" and "We all have to do our part or it affects the whole building."

The principal also describes having her role as co-problem-solver with her team. She shared:

> I'm very open with teachers and my door is open. And they know that. They know that they can come and ask me anything or share anything with me, and we're gonna solve it together. And we're going to get them over that hump.

Here, the principal affirms the teachers' claims that she is accessible and supportive, and that she is available to meet with them to solve problems together. She goes on to provide an example of her own, describing a "phenomenal kindergarten teacher" who was considering a move to third grade. She noted that she would not simply reassign a teacher, but instead called him in for a conversation:

> I sat down with that teacher and I said, "Here's why I think, professionally, you should take this next opportunity. Because you came out of college and you've been doing this role for four years now and you're wonderful at it. And you're gonna be wonderful at this too. But there's gonna be a learning process, and we both know that."
>
> And I just talked to that teacher about it and he is so excited to be starting a new grade level next year. And we have a couple of changes like that. I think it goes with my understanding of teacher effectiveness and of empowerment, and building up not just the younger teachers, but all of the teachers, and helping them strive for their own professional growth while at the same time having that understanding that I still have to guide teachers, too.

The principal's leadership, which she describes as open-door, problem-solving, and with a responsibility to "guide teachers," is pastoral, and this example of the kindergarten/third grade teacher, while about providing professional support to inform a decision, is not about providing instructional support to manage the transition from one position to another. The interview data, from both teachers and the principal, support the survey data that suggest teachers have a positive perception of leadership at Courage Prep. In making sense of how leadership at Courage Prep bolstered their collective efficacy beliefs, teachers drew on varied examples in which the principal takes action to cultivate a more enjoyable school environment, remove obstacles from teacher's work, or problem-solve challenges as they arise. As such, the data suggest that supportive, inclusive leadership were present and likely enabled CTE just as effectively as

instructional leadership, or at least that teacher perceptions of strong instructional leadership are not necessary for robust CTE.

E. Research Question 2: Consequences of Collective Efficacy Beliefs at Courage Prep

The second research question explored how, and to what extent, do higher levels of collective teacher efficacy in a high-performing school work through effort, persistence, resilience, and goal setting to foster positive organizational outcomes identified in the literature? The literature related to social cognitive theory suggests the value of considering the normative consequences of teacher goal setting, effort, persistence, and resilience on collective teacher efficacy. In addition, the research literature on collective teacher efficacy in schools has surfaced relationships between CTE and outcomes including achievement, teacher commitment, and collective responsibility. As with the first research question considered at Courage Prep, the primary data for exploring this question are interview transcripts and survey responses, as well as public school report card data and the key findings are summarized here before each factor is explored in depth.

Of the four remote normative consequences associated with high CTE, three were evidenced at Courage Prep: goal setting, effort, and persistence. The other normative outcome included in theoretical models of CTE, resilience, was not salient themes in the data. Analysis of data related to these consequences suggest the following key findings:

- Goal Setting: There is evidence that teachers in this school embraced an overall sense of academic press and high expectations for student learning. While no teacher could articulate the specific goal for student learning for the academic year of interest, most referenced the school improvement plan as well as continued achievement on the

statewide report card as the school goals. Furthermore, teachers described robust systems for setting, monitoring, and adjusting goals for class and individual student achievement.

- Effort: Evidence suggests the normative consequence for effort has been realized at Courage Prep, as teachers indicate they collectively exert effort
- toward goals and cite cycles of goal setting, progress monitoring, and making adjustments for students and classes.
- Persistence: The data suggests that teachers exhibited persistence in their goal work, though it was not a particularly salient theme on its own. Persistence was almost entirely co-coded with effort, suggesting that while theoretically distinct, effort and persistence might not be as easily disentangled practically.
- Resilience: Resilience was not a theme in the interviews. The data does not support that this normative consequence was realized as a result of the high level of reported collective efficacy.

I found evidence of the three organizational outcomes associated with high CTE in the conceptual model at Courage Prep: student achievement, teacher commitment, and collective responsibility.

Analysis of interview and survey data surfaced a number of key findings related to the normative consequences and organizational outcomes identified in the literature:

- Student Achievement: Courage Prep maintained a competitive edge over other district schools, receiving one of the highest ratings on the state's annual report card in the testing window that followed the reported high levels of CTE.
- Teacher Commitment: Overall teachers appear to be more committed to the specific school than they are to the profession. While some studies (Ware & Kitsantas, 2010) have

found that high levels of CTE predict professional commitment, the interviews that elaborated the survey findings suggest that, at this particular school, the robust shared efficacy beliefs have not fostered commitment to the profession, but more so to the school itself.

- Collective Responsibility: The most commonly applied consequence-related code, evidence suggests that both teachers felt collective responsibility and indicates that systems and processes were in place that reflect collective responsibility for all students' progress.

1. Normative Consequences

This section explores the extent to which Courage Prep teachers experienced ambitious goal setting, effort, persistence, and resilience in their work, and the ways in which they connected those normative consequences to their perceptions of collective teacher efficacy.

a. Goal Setting.

Collective efficacy is theorized to improve student outcomes in part through organizational goal setting, such that schools with higher collective efficacy set more ambitious goals for student learning and exhibit greater commitment to those goals (Goddard et al., 2002). There is limited empirical research on the exact contours that such goal-setting takes, but the few studies available suggest collective efficacy manifests in an overall press for ambitious learning outcomes and a proactive approach to setting rigorous goals at the organizational level (Goddard, LoGerfo, & Hoy, 2004; Hoy, 2002; Wilcox et al., 2014).

This study found that Courage Prep experienced this normative consequence, realized in a strong academic press across the school, in alignment with prior literature. There is strong evidence for an overall sense of academic press and general high expectations for student

learning at Courage Prep. One nuanced finding, that diverges slightly from prior research, was that goal-setting at Courage Prep was more robustly evident at the teacher and classroom level, than it was at the organizational level.

While no teacher was able to identify any specific school-wide goals for student learning beyond maintaining their "A" on the state report card, teachers did reference the existence of a school improvement plan and communicated a shared expectation that the school would maintain its performance accountability rating. Furthermore, teachers spoke to fairly robust systems for setting and working toward goals at the class and individual student levels.

No teacher interviewed articulated a specific school-wide goal for student achievement for any particular academic year. While several teachers made note of an existing school improvement plan, these references were not made in explicit relationship to school goals. Instead, teachers noted the improvement plan when talking about evidence of collaboration at Courage Prep. Only one teacher described the contents of the improvement plan, stating, it told teachers "what programs we're going to utilize on a daily basis in the classrooms to reach success in vocabulary, or that we're going to provide 20 minutes of homework each night." Even here, the teacher does not identify goals within the improvement plan, but focuses on isolated strategies or approaches adopted by the school. Teachers at Courage Prep indicated that maintaining their comparatively high status within the statewide accountability system was a shared, albeit ill-defined, target that oriented teacher's work at Courage Prep. When asked, "Was there a clear school-wide goal for that year?", one teacher offered, "Just to pass [on the state report card], just to keep doing as well as we've always done." Even within this focus on the accountability system, teachers and the principal spoke of achievement in generalized terms of the letter grade, rather than of specific targets for student proficiency or growth. For example,

one teacher shared that such targets aren't "formally determined per se" but that the expectation of earning an A "is just a given." Another teacher underscored that unspoken expectations directed their efforts more so than any formal school-wide goal. She named "Just getting an A" as the school's goal and went on to explain, "It isn't written down anywhere or anything. I think [an A is] just the expectation. The parents expect it, students expect it, teachers expect it."

This teacher's reflection suggests that, while a school-wide goal for student outcomes was not articulated in any formal sense, the school's efforts were animated by shared high expectations for student performance. As one teacher stated, "We don't have a goal posted or named outright, but we just all have really high expectations." This notion cut across all interviews, and teachers unanimously described a culture of academic press at Courage Prep characterized by shared high expectations for student learning.

One teacher elaborated the point, making clear that high expectations were part of the DNA of the school, even persisting through transitions and turnover in the staff and faculty:

> It's just the environment - that expectation of high student learning and behavior is consistent. Because that's just what you expect here. Even with the fact that most of our staff has turned over in the last four years because of retirements, that expectation of high student learning and behavior is still consistent –because that's just what you expect here.

In addition to enduring and shared high expectations for student achievement, class and student level goals also evidence the normative consequence of goal-setting at Courage Prep. Teachers provided robust examples of the ways in which they leverage benchmark and interim assessments to set goals for their class as well as individual students. One teacher explicitly named this nuance, reporting:

> I can't think of anything that we do schoolwide, but everybody is doing something… Just the way they're utilizing it in their room is what's working best for them. Everybody is doing some level of school student goal setting, celebrating when they master the goal, and then having them moved to a new goal.

This teacher's reflection also pointed to an iterative approach to setting goals for the class and for individual learners in which goal mastery is swiftly followed by setting a new goal. She continued, saying, "That's the thing: We're constantly setting new goals when we achieve the previous goal." Another teacher shared a similar frame for individual student goals, noting that teachers "set each student's goal based on their individual performance levels." She explained that the goals are scaffolded to give students a concrete focus, sharing, "We let the kids know what their goal is so they know what they're supposed to be working on now. And once we reached that goal, we moved to the next level."

The incremental and interactive approach to goal setting appeared to boost student and teacher motivation. One teacher shared how consistently drawing students' attention to their progress motivated them to embrace challenges, stating that when she tests her students, she begins by saying, "You were at a level A a month ago. Let's see where you are now." Following the assessment, she emphasizes their growth and challenges them to keep growing, saying, "Oh, well, now you are reading at this level so next time we meet, we want to be even better than a C/D." She shared how this approach helps motivate her students. She retold the story of one student who was currently reading Level F or G books, but insisted he wanted to read harder books than that. She concluded, "So, of course, I threw in a couple of books that were harder because he wanted harder books. I'm excited when they're excited like that." Other teachers similarly noted the motivating impact tracking goals had in their classrooms. One teacher

commented, “It’s amazing when five and six-year-olds want to set a new goal or want to work hard to earn the next level.”

These teachers indicate that individualized and classroom goals motivated students, which in turn fostered teachers’ excitement about the work. In fact, teachers frequently referenced a celebratory aspect of this careful attention to progress monitoring. One teacher explained that tracking the data allows the whole class to “keep up with how they are progressing” and that the whole class rallies to celebrate when a student meets a goal such that “everyone is clapping and sharing in the excitement.” Multiple teachers pointed out their bright and fun themed bulletin boards dedicated to data visuals. A teacher explained how these visuals helped create moments of celebration for students and the class:

> As students earn their stickers, we have just a little class clap we do. It’s fun for all of us to watch the stickers grow. And when we all reach our own goals, or if we meet one of our class goals, we celebrate with a dance party and extra recess. They get so excited - and even for each other. Like, “Maybe I didn’t reach my goal yet but I am happy for you.” And that is so rewarding as a teacher.

The rewarding nature of this approach was underscored by one teacher who shared, “Breaking down the goals into smaller chunks, and attaining the goals along the way, keeps that motivation and love of learning all the way to the end.” She noted how the relentless approach to iterative goals solidified a mantra in her class: “So, we say we start strong and we want to finish strong. Strong all the way.”

Here the teacher signals that iterative goal-setting was animated by high expectations: “We start strong and we want to finish strong.” Class and individual student goals are oriented toward the high expectations for achievement that characterized the academic culture of Courage

Prep, indicating that academic press inflected class and individual student goals. One teacher described how the school viewed the district goals for literacy as a minimum benchmark, saying:

> The [district] goal is each learner should be reaching levels C and D by the end [of kindergarten]. We are very fortunate with kindergartens who leave here reading out level I and J. We set learning objectives for each child. And we work with that child to try to meet their individual learning objective and then we go from there. So, every child that comes in, I set a goal that they're going to be reading at least three reading levels higher than what they came in at. We set a goal for three but so many children move up six levels or they move, move up seven levels. Some of my children who are reading at lower levels, they still make progress, improving over four levels since they came in.

While formalized schoolwide goals were not articulated by Courage Prep teachers, interviews revealed a consistent culture of high expectations for student learning. Goal-setting and progress monitoring was a common practice at the class and individual student level, and one that fostered excitement and motivation among students and teachers.

b. Effort.

Collective teacher efficacy is also theorized to influence student achievement through the normative consequence of effort. A greater sense of collective efficacy within a faculty is thought to motivate greater collective effort in pursuing goals (Goddard, Hoy, & Hoy, 2004). Interview data suggests that collective effort was normative at Courage Prep, though several teachers expressed that they did not perceive their exerted effort to exceed the effort put forth by teachers at other schools.

Teachers at Courage Prep felt that the teachers, as a whole, expend a good deal of effort in working toward goals. The effort code was applied 19 times across six different interviews. One teacher noted that she and her colleagues formally set goals for their classes and students and work toward them, and that "even informally I think we do a lot to make sure all our kids are

succeeding across the board." Another teacher echoed this depiction of teacher effort, characterizing "every teacher in this building" as "extremely hard-working." She shared that every teacher is "concerned about the progress and growth of our children" and that there is "a lot of collaboration and a lot of reflection on what works and what doesn't work" as teachers work together toward those goals.

For some, effort was apparent in teachers going "above and beyond" and was related to the positive environment detailed previously in the finding related to emotional state. One teacher reflected, "Everyone feels lucky to work here and puts in the extra mile." Another noted that coming in early and staying late was typical for most Courage Prep teachers and that teachers at the school were quick to "opt in to things they don't have to be a part of," explaining that they do so "because they care about our success and are willing to help everyone succeed." Yet another teacher described how the faculty's approach to students with complex learning needs reflected the team's willingness to exert effort toward their goals. She said:

> It's figuring out what isn't working for kids. If something isn't working, we think of a way to plan differently or to meet the needs of those learners in new ways. We also have some complex learners in our building and we work extra hard to include them.

As detailed previously in the section reporting findings related to goal setting, teachers at Courage Prep also commonly referenced cycles of goal setting for students and classrooms. The emphasis on relentless iteration of progress monitoring and adjustment also suggests that teachers at Courage Prep viewed exerting high levels of effort as a normal part of their daily work. The normative nature of effort was also captured well by one teacher who described being part of such a hard-working faculty as having "your own crew or tribe." She went on to note that

sustaining her own individual effort was made easier knowing that everyone else was working just as hard:

> I work really, really hard. Having like-minded people, and at the end of the day, working with others willing [to do the work], makes it easier to keep putting forth effort. There are a ton of people that are here that come and work and put everything that they've got into it.

It is worth nothing that two teachers clarified that, while Courage Prep teachers did exert a great deal of effort toward student success, they did not feel that their level of effort exceeded that of teachers at other, lower performing schools. One such teacher shared, "I think other schools should know that the people who have come to this building from other buildings, that have experienced other situations, we know we're not working harder than they are." Another teacher similarly expressed that "Society looks at [low-performing schools] and says, 'You must not be working very hard.' But I think we all recognize that no matter where you are, you're working really hard." Here the teachers seem to invoke a sense of solidarity across the teaching profession as they make sense of the levels of effort put forth by teachers at their own school.

Teachers were both unanimous and forceful as they described the substantial collective effort of the Courage Prep team. The interview data suggests that collective effort was a normative feature of the teaching environment at Courage Prep.

c. Persistence

The evidenced examples of Courage Prep teachers' persistence in their goal work, though it was not a particularly salient theme on its own. When the persistence code was applied, it was co-coded with "effort." Examples included teachers collaboratively problem-solving obstacles to student learning, detailed in the section addressing effort, as well as examples in which teachers differentiated support to meet goals. One teacher noted, "If something doesn't

work and a kid isn't moving, we have each other to bounce ideas off of." At Courage Prep, when teachers felt unable to reach a student, they turned to each other to persist through the challenges. This idea was elaborated by another teacher who remarked, "We turn to the team if a student is stuck or struggling and we aren't finding success." As Courage Prep teachers described the ways in which they persisted through challenges in their goal work, they often emphasized a shared understanding that differentiation of supports was a critical component of the process. Importantly, Courage Prep teachers did not espouse differentiating expectations, but explicitly noted that "We're all trying to get to the same spot, but the way we get there might be different for each child." Differentiation of supports was a concrete form of persistence, and captured well by a teacher who stated, "I know I keep saying this, but it makes a huge difference. You can't expect everybody to be exactly the same. [Students] need to reach the same goal. But the way that we get there is different for each person."

While persistence was not a particularly prominent theme in the interview data, there is evidence that Courage Prep teachers worked towards goals with persistence. Given the high co-occurrence rate of the effort and persistence codes in the data, effort and persistence might not be as easily disentangled practically as they are theoretically.

d. Resilience

Data from this study do not support resilience as a normative consequence of Courage Prep's high level of collective teacher efficacy. The code was applied only twice, once each in two distinct interviews. In one instance a teacher replied affirmatively when asked, "Do you feel as though the faculty here has been resilient to setbacks?" However, she was unable to articulate any specific examples to demonstrate teachers' resilience. She later shared a brief anecdote of a student diagnosed with cancer, noting how "people have been really supportive

and on board," but again, was unable to explain specific ways in which the staff demonstrated resilience towards goals despite that challenge. As such, the example does not fully capture the normative consequence of resilience articulated in theoretical frameworks of collective efficacy.

The second teacher shared a different example that did better represent a collective expression of resilience to a setback. She described how the faculty had, in analyzing fall interim assessment data, identified a high level of learning loss during the summer. She shared that this prompted the faculty to come together to discuss how they might recoup the loss, "We all talked it through and came up with a plan together. That is how we ended up with a new math program." She then described how the staff collaboratively "instituted a math boot camp for some students at the start of the school year" and "offered parent math nights before summer break to share home strategies for math". While this depiction aligns with the normative consequence of resilience, it was an isolated example. Therefore, the interview data does not fully support that resilience as realized as a normative consequence at Courage Prep.

2. Organizational Outcomes

This section explores Courage Prep teachers' perceptions of the relationship between their sense of collective efficacy and student achievement, teacher commitment, and collective responsibility.

a. Student Achievement.

Interest in studying collective teacher efficacy has largely been sustained due to the demonstrated effect perceived CTE has on student achievement across various contexts (Donohoo, 2018; Eells, 2011). When teachers feel more efficacious about their work as a team, they are more likely to experience the normative consequences of ambitious goal-setting, effort, persistence, and resilience, which in turn increases the likelihood of positively influencing

student learning outcomes. Public report card data in this state, as described in more detail in the methods chapter, served as a fair proxy for student proficiency on the annual state assessment, and suggests that Courage Prep's strong perceptions of CTE were accompanied by high levels of student achievement.

In addition to the broad metric of the A-F report card grade issued by the state through an accountability formula, the state also published the percentage of students achieving proficiency at each school and in the district, which provides a more direct indicator of student achievement. In the time period leading up to the 2015 survey, Courage Prep ranked among the top two or three schools in the district each year, outscoring the district average by 30 percentage points or more each year. Even in 2014-15, when the statewide test was adjusted to increase the rigor of the test and schools and districts statewide experienced a decline in the percent of students achieving proficiency, Courage Prep still had the second-most students achieve proficiency in the district. That year, in the assessment window immediately following the survey, Courage Prep maintained its relatively high levels of proficiency. Courage Prep's high CTE marks in the 2015 survey followed by high student proficiency on state testing later that year reflect the relationship between achievement and CTE described in the research literature, which finds achievement to be a consequence of CTE. This performance trajectory is detailed in Table XXVII.

Table XXVII

XXVII. COURAGE PREP ACADEMIC PERFORMANCE INDICATORS

	2012	2013	2014	2015
School Report Card Grade	A	A	A	A
District Report Card Grade	C	D	C	C
School Percent of Students Meeting Proficiency (Rank in District)	87 (3)	89.6 (2)	89.8 (2)	66.2 (2)
District Percent of Students Meeting Proficiency	58.6	59.7	59.1	33

b. Teacher Commitment.

A stronger sense of collective efficacy among teachers has been linked to increased teacher commitment to the school and students as well as to the teaching profession more broadly (Ware & Kitsantas, 2007, 2011; Donohoo, 2017). The survey and interview data suggest that robust levels of teacher commitment were realized at this school.

Teachers' responses to the survey items measuring both organizational and professional commitment indicate an overall positive perception of teacher commitment. Nearly all teachers selected "agree," or "strongly agree" for all four items corresponding to organizational commitment. A majority of teachers selected "somewhat agree," "agree," or "strongly agree" for the three items measuring professional commitment. These responses indicate an overall strong sense of teacher commitment at Courage Prep (Table XXVIII).

Table XXVIII

XXVIII. COURAGE PREP TEACHER RESPONSES TO COMMITMENT 2015 SURVEY ITEMS

Organizational Commitment								
	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
I put in a great deal of effort beyond what is normally expected in order to help this school be successful	0	0	0	0	12.5	87.5	5.88	.35
I usually look forward to each working day at this school	0	0	0	0	12.5	87.5	5.88	.35
I wouldn't want to work in any other school	0	0	12.5	0	12.5	75	5.5	1.1
I would recommend this school to parents seeking a place for their child	0	0	0	0	0	100	6	0
Professional Commitment								
I do not seem to have as much enthusiasm now as I did when I began teaching	62.5	12.5	0	12.5	12.5	0	2	1.6
If I could get a higher paying job, I would leave the teaching profession	37.5	12.5	25	0	12.5	0	2.29	1.5
I think that the stress and disappointments involved in teaching aren't really worth it	37.5	25	25	12.5	0	0	2.13	1.13

As shown in Table XXVIII, teachers feel positively about the effort they put forth within the organization and express a commitment to working in the school. Teacher survey responses also indicate a mostly positive perception of commitment to the profession; most teachers believe the challenges of teaching are worth it and that they have maintained their level of enthusiasm for the work throughout their tenure.

After calculating descriptive statistics and frequencies for the various individual items, I tabulated a summed score for both organizational and professional commitment. Because lower scores on the items corresponding to professional commitment indicate a more positive perception, I reverse scaled these before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Courage Prep teachers reported overall high levels of organizational commitment (M= 5.81, SD = .35) and professional commitment (M = 4.83, SD - 1.21).

The interview data further evidenced that teacher commitment to the organization was stronger than to the profession more broadly. The strong organizational commitment at Courage Prep was evidenced partly in how teachers described staff turnover. A few teachers shared that staff turnover was typically due only to geographic relocation or retirement. As one teacher remarked, “Once you work here, you don’t want to work anywhere else.” Another teacher described the anxiety teachers feel at the threat of reassignment to a different building within the district and the comfort they felt when the principal took measures to mitigate that threat. She recalled, “The principal, a couple of years ago, she upped the class size so that we could have that security. So that we didn’t have to leave and we didn’t lose staff members.” Other teachers shared similar sentiments such as, “I can’t imagine teaching anywhere else now.” Another

described Courage Prep saying, “Once you get here, it’s just a different world. You can’t go back.” Another declared that, after working at Courage Prep, “I wouldn’t work anywhere else.”

In some cases, the intense commitment to Courage Prep seemed to have salvaged teachers’ commitment to the profession. In fact, three Courage Prep teachers reported that they were close to quitting teaching before securing their position at the school. One teacher remarked, “I seriously was gonna quit teaching if I stayed at the other building, and that was two years at that building. I’ve been here for four years.” Another teacher told a similar story, and echoed the intense commitment now felt to Courage Prep, explaining:

> I was ready to quit teaching before I came here. I think we’d all cry if we had to move to some other building. I’d probably stick my claws in. You’d have to drag me out of here to move me into a different building.

The teacher makes clear that her commitment is first and foremost to the school, noting that she would have to be dragged out crying if she were to be forced to teach at another building. A third teacher was also considering leaving the teaching profession before coming to Courage Prep. He shared, “Before I got here, I was ready to leave teaching entirely.” He credited his commitment to the school, and renewed commitment to teaching, in part to the student and family dynamics that enable efficacy for their work, saying, “It’s a huge morale boost and motivation to come in and have students want to be here and teachers want to be here.” He contrasted this experience of efficacy for the work with what teachers in other schools experience, continuing, “Other teachers in the district - the stories that you hear and the heartbreaking lives that [students] have, no wonder [those teachers] don’t want to come back and work.”

This teacher's remarks reveal that his commitment to the school stems in part from the school composition that helped foster efficacy beliefs. This was similar to how other teachers described their commitment to the school. One teacher explained "It is awesome to be a teacher here because we have these kids and we don't have to deal with all of the behavior management and stuff like that." Another teacher began by suggesting that the level of commitment to the school was born from a shared love of teaching, saying, "We just all love what we do and...We love teaching. We love – we're very dedicated here." However, her later comments suggest that it is a love of teaching the kinds of students and with the support of the kinds of parents that comprise the Courage Prep community. She continued, "I feel like teaching is more rewarding here. I was ready to quit teaching before I came here and it wasn't the just kids or the situation or the lack of parents. It was also the administration."

This teacher's remarks suggest that it is not just a love of teaching, but particular aspects of the school and student body, that contribute to the high level of teacher commitment at Courage Prep. The commitment teachers feel to Courage Prep seems particularly anchored to the emphasis that teachers place on students, family life, and also school leadership in enabling their success and efficacy for the work.

Overall teachers appear to be more committed to the specific school than they are to the profession. While some studies (Ware & Kitsantas, 2011) have found that high levels of CTE predict professional commitment, the interviews that elaborated the survey findings suggest that, at this particular school, the robust shared efficacy beliefs may have fostered commitment to school more so than to the profession broadly.

c. Collective Responsibility.

High levels of collective teacher efficacy are associated with a greater sense of collective responsibility for student progress (Olivier & Hipp, 2006). Survey and interview data from this study suggest that this relationship was realized at Courage Prep. Teachers describe a culture in which the teaching staff collectively assumes responsibility for all students' learning.

Teachers' responses to the survey items indicate an overall positive perception of the level of collective responsibility at Courage Prep. Nearly all teachers selected "most," or "all" for all eight items measuring collective responsibility. No teachers selected "some" or "none" for any of the items (Table XXIX).

Table XXIX

XXIX. COURAGE PREP TEACHER RESPONSES TO COLLECTIVE RESPONSIBILITY 2015 SURVEY ITEMS

Collective responsibility "Teachers at this school..."	3 About Half	4 Most	5 Nearly All	M	SD
	Percent	Percent	Percent		
Help maintain discipline in the entire school, not just their classroom	12.5	37.5	50	4.38	.74
Take responsibility for improving the school	0	37.5	62.5	4.63	.52
Feel responsible to help each other do their best	25	50	25	4	.76
Feel responsible that all students learn	0	37.5	62.5	4.63	.52
Feel responsible when students in this school fail	25	50	25	4	.76
Are really trying to improve their teaching	12.5	50	37.5	4.25	.71
Are willing to take risks to make this school better	12.5	62.5	25	4.13	.64
Are eager to try new ideas	12.5	75	12.5	4	.53

As shown in Table XXIX, teachers feel that the majority of teachers at Courage Prep take joint responsibility for teaching and learning across the school. After calculating descriptive statistics and frequencies for the various individual items, I tabulated a summed score. Because higher scores on all items indicate a more positive perception, no items required reverse scaling. Summed scores were averaged to maintain the same scale as the original survey. Courage Prep teachers reported overall high levels of collective responsibility (M= 4.25, SD = .46).

Interviews punctuated the survey results. Collective responsibility was the most commonly applied code of all consequence-related codes drawn from the conceptual framework. It was applied 29 unique times across all nine interviews and with a frequency ranging from one to eight applications per interview. Interviewed teachers described a shared belief in children's potential and that the onus of responsibility for student learning was on teachers. One teacher shared that all Courage Prep teachers "believe that all kids can learn at the highest level" and that teachers "don't stop until they've figured out what works" when trying to ensure all students reach their full potential. Another teacher similarly noted "There is not one teacher in this building that wouldn't do anything they needed to do to get a kid to learn." She went on, "If a kid needed to learn, we'd figure out a way to get it done."

Many of the interviewed teachers referenced learning log meetings as a structure that seemed to routinize collective responsibility for all students' learning. Teachers described these learning log meetings as opportunities to "talk about the progress of all of our children" and to "discuss progress monitoring data." One teacher shared that, for students not evidencing adequate growth, teachers would "talk together about the ways we can introduce new strategies or some accommodations to move them to the next level." Here the teacher suggests that teachers at Courage Prep worked to differentiate the instructional and curricular supports offered

to students, rather than lowering expectations for those that struggled. This approach denotes a strong shared responsibility for student learning. As one teacher remarked, "All teachers in this school are very concerned about the progress and growth of their children."

The survey and interview data indicate that collective responsibility was operant at Courage Prep, and interview data further illuminated two additional themes related to collective responsibility: team mindset and problem-solving as a collective endeavor.

i. Team mindset

Teachers at Courage Prep described a strong team mindset shared across the faculty. Teachers conceptualized the faculty as a set of interdependent actors, each with their own particular role within the larger team. One teacher articulated:

> We're all learning new things every day, and we all recognize that it's about that reflective practice. We all know that we don't have every answer, but within our building we have the answer, because we have a lot of people that are experts at different things.

In this reflection, the teacher emphasizes an interdependence among teachers. This was further substantiated by several teachers who discussed how informal mentoring organically occurred as needs emerged within the team. One teacher noted how such mentoring often took shape in a partnership of reciprocal support. She provided an example from the 2nd grade team. One year, two of the three 2nd grade teachers were seasoned professionals, but new to the district. The other 2nd grade teacher was newer to teaching, but familiar with the district. The teacher explained, "They learned from each other. She was able to teach them about district practices. They were able to teach her about some teaching practices that they may have brought with them that she was unaware of." Another teacher described how, when it was announced that

a Kindergarten teacher would loop with her class, teachers immediately initiated onboarding support. She recalled:

> As soon as that decision was made, the other 1st grade teachers that are going to be on the team with her started doing things, partnering with her, so they could start building that relationship. And that's the kind of thing that you see throughout the building.

Another teacher described how teachers constantly reach out to one another for different areas of support. She emphasized how this type of mutual support extended beyond the school days as well, saying, "We text a lot even after work. 'Oh, do you have any strategies for this?' or 'You know Johnny is struggling with his letter sounds, do you have any resources that might help?'" She went on to underscore the team mindset, claiming, "We are all in this together. I don't think there is anyone on the team that I couldn't ask for help."

The instructional support provided to teachers, by teachers, indicates that teachers feel responsible for one another's success, and ultimately for students' success. One teacher remarked that there was an expectation that other teachers would intervene when student behavior or academic struggles surfaced, whether among their own class or someone else's. She commented, "If my kids are out in the hallway messing around, I fully expect some other teacher, if they're out there, to address it. And I have done the same." She expounded on this idea, applying it to the academic realm. She said:

> There are times where I've had a kid in here who I've sent to a different room just for a break. Or, 'He's not getting it, can you try?' Maybe the way the other teacher explains it will be different than the way I say it and that kid'll get it. So, yes, I think we all feel like if one of us isn't succeeding then we all - we need to do something to help that person.

These reflections from the teachers at Courage Prep evince a strong sense of mutual interdependence that suggest collective responsibility was operant within the school and a contributing factor to their level of success. As the principal summarized, "The reason our school is performing well is the community effort. It's a whole team approach by a whole team."

ii. Problem-solving as a collective endeavor

Teachers also framed problem-solving within their practice as a collective endeavor, a theme that corresponds to some of the findings related to teacher collaboration. As teachers shared examples of challenges that emerged in their work, they consistently identified the solution as one that was developed collaboratively. One teacher relayed a story about her partner teacher who was struggling to realize adequate growth with her class in math. She shared that the two of them met frequently, but that the whole faculty rallied together to support the struggling teacher, saying, "It wasn't just me. It wasn't just her. It was just all of us trying to find what works for those kids and finding a way."

The principal also highlighted the collaborative approach teachers took to problem solving, sharing an example of how teachers came together for an individual student that was struggling. She said, "Teachers come prepared with information and ideas, and then collectively we sit and come up with new strategies of how we might help that student or how we might support that teacher in helping that student. There is a lot of that."

Here the principal notes that this type of concerted team effort was common, a claim validated by the numerous examples surfaced across teacher interviews. One teacher discussed a student of hers who was struggling significantly in first grade. She described his situation as "very difficult" and noted it was suspected he was living in an abusive home. The boy had repeated Kindergarten, but began making progress in first grade. However, as the teacher

recounts, “Something happened around Christmas time and he did a 180.” She went on to describe how the faculty responded to this regression:

> There were multiple times where there were a team of us in here –sometimes having to restrain this child, sometimes having to talk him down, sometimes having to just contain him. And so, not only were there a team of teachers in here or in the special ed room working with this child, but there were other staff members who would jump right in and take over my class so that I could be in there with him or one of the other classrooms where the teacher was asked to be pulled in to help this child. You know, if they saw me struggling, or we’d call, and that team would come and help.

Teachers at Courage Prep expressed confidence that team members would be there to support them through challenges in their classroom and struggles with individual students. They did not have to face such obstacles alone. These reflections suggest that teachers at Courage Prep took collective responsibility for one another’s - and the entire school’s - success.

F. Conclusion

Courage Prep provided an opportunity to explore the extent to which the theorized model of collective teacher efficacy was operant in a high-performing setting. Public performance reports, survey, and interview data provided evidence that many of the factors included as antecedents and consequences of collective teacher efficacy in the literature were relevant to CTE at Courage Prep. Mastery experience, social persuasion, and emotional state were evidenced as salient remote sources of CTE. Additionally, contextual factors such as school composition, teacher influence, collaboration, and principal leadership seem to have helped foster robust efficacy beliefs among teachers at Courage Prep. Finally, the robust collective teacher efficacy beliefs held by Courage Prep teachers appeared to work in part through effort and organizational goal-setting to foster teacher commitment, collective responsibility, and ultimately, high levels of student achievement.

V. COLERE ACADEMY

In a spring 2015 survey, Colere Academy reported the fourth highest level of CTE among all 32 schools in the Hope District. Through interviews with the principal and teachers and survey results, this chapter explores the relationship between the high collective teacher efficacy and low school performance observed at Colere Academy. In the first section, I draw on the survey data referenced in the methodology section to more fully describe collective teacher efficacy at the school. Next, I examine how and to what extent factors identified in the literature as relevant to collective teacher efficacy appear to have contributed to the formation of strong efficacy beliefs in this low-performing school. Finally, I explore how and to what extent the higher level of collective teacher efficacy in this low-performing school seems to work through teacher effort, persistence, resilience, and goal setting to foster the positive organizational outcomes identified in the literature.

As noted in the methodology chapter, Colere Academy experienced a principal transition between the date of the CTE survey and the interview dates. Interviews, conducted in 2017 and 2018, were retrospective and focused on the leader of the building in 2015, during the time of the survey. At times, however, teachers drew contrasts between the 2015 leader and the 2017-2018 principal in order to deepen their descriptions. While most interview data are retrospectively focused on the leader and school from the time period of the survey, there are data included that are contemporary to the interviews when the teachers draw contrasts between leadership regimes.

A. Collective Teacher Efficacy at Colere Academy

The 2015 survey data reveal a robust sense of collective efficacy among Colere Academy teachers. A large majority of Colere Academy teachers selected “somewhat agree,” “agree,” or

"strongly agree" on all three survey items indicating strong collective efficacy. For the three items indicating negative perceptions of collective efficacy, nearly all teachers, with one exception, either disagreed or strongly disagreed. Table XXX details how teachers at Colere Academy responded to each survey item measuring perceptions of collective teacher efficacy.

Table XXX

XXX. COLERE ACADEMY TEACHER RESPONSES TO COLLECTIVE EFFICACY 2015 SURVEY ITEMS

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
Teachers in the school are able to get through to the most difficult students.	0	0	13.33	40	33.33	13.33	4.47	.92
Teachers here are confident they will be able to motivate their students.	0	0	6.67	20	53.33	20	4.87	.84
If a child doesn't want to learn, teachers here give up.	53.33	40	0	6.67	0	0	1.6	.83
Teachers here don't have the skills needed to produce meaningful student learning.	60	33.33	0	6.67	0	0	1.47	.64
Teachers in this school believe that every child can learn.	13.33	0	6.67	0	26.67	53.33	4.87	1.77
Teachers in this school do not have the skills to deal with student disciplinary problems.	66.67	20	13.33	0	0	0	1.47	.74

Table XXX highlights that Colere Academy teachers mostly believe that they all have the skills, will, and attitudes necessary to produce meaningful student learning. After calculating these descriptive statistics and frequencies for the individual items, a summed score for CTE was tabulated. Because lower scores on the third, fourth, and sixth item indicate a more positive perception, these items were reverse scaled before the summed score was calculated. This summed score was averaged to maintain the same scale as the original survey. As detailed in the methodology section, Colere Academy had an average aggregate CTE score of 5.11 (SD = .69), the fourth highest of all 28 elementary schools in Hope District.

While Colere Academy's level of collective efficacy was high relative to other local schools, I also wanted to explore the extent to which this perceived level of CTE was high relative to an available normed comparison group. I converted the school's collective efficacy score to a standardized score with a mean of 500 and a standard deviation of 100 using the formula developed by Goddard (2002). This score, 655, is 1.5 standard deviations above the average score of all schools in the sample and represents a level of reported CTE greater than that reported by 84% of schools in the sample. According to the 2015 survey, Colere Academy teachers' collective efficacy is high not only in comparison to other local district schools, but also relative to the normative sample.

B. Research Question 1: Formation of Collective Efficacy Beliefs at Colere Academy

The first research question explored how, and to what extent, factors identified in the literature as relevant to collective teacher efficacy appear to have contributed to the formation of strong efficacy beliefs in a low-performing school. The literature suggests a variety of factors are relevant to collective teacher efficacy, including the remote factors of mastery experience,

emotional state, vicarious experience, and social persuasion, as well as contextual factors such as school composition, teacher influence, collaboration, and leadership. The primary data for exploring this question were interview transcripts and survey responses, as well as public school report card data. The key findings are summarized here before each factor is explored in depth.

Of the four remote sources of efficacy, two appeared relevant to the formation of efficacy beliefs at Colere Academy: social persuasion and emotional state. Mastery experience, as typically conceptualized in the literature, did not emerge as an antecedent at Colere, and vicarious experience was not a salient theme in the data.

Analysis of data related to these remote sources suggest the following key findings:

- Mastery Experience: Mastery experience, as typically conceptualized in the literature, is not likely a relevant antecedent to CTE at Colere Academy. Teachers did, however, seem to enable a sense of collective efficacy despite low-performance, in part by delegitimizing the measures of performance and emphasizing experiences of growth with students in their daily work. One of the lowest performing schools in Hope School District, a positive view of team performance did not emerge in surveys or in interviews. However, interview data indicates that teachers may have drawn on more proximate, incremental experiences of success within their classrooms when forming efficacy beliefs. Specifically, teachers at Colere Academy often emphasized that, while their overall achievement may be below-average, that measures and experiences of student growth inflected efficacy beliefs.
- Emotional State: Emotional state appeared to be relevant to the formation of robust collective efficacy beliefs among teachers at Colere Academy. Teachers

described a fun and positive school atmosphere - one in which they felt safe and welcomed - and trust and psychological safety survey responses indicate teachers' perceptions of the school's emotional state are positive as well.

- Vicarious Experience: Vicarious experience was not a salient theme in the interview data. The code was not applied at all across the eight interview transcripts. While theorized to be a remote source relevant to the formation of collective efficacy beliefs, none of the participants in the study at Colere Academy referenced learning from the success of other, similar teams, as relevant to their efficacious culture.
- Social Persuasion: Interview data reveals that social persuasion may have functioned as an antecedent to Colere Academy's reported CTE, though the specific way in which it inflected the collective efficacy beliefs diverged from those documented in the literature. Teachers generally felt valued and appreciated by the leader and they spoke fondly of that principal's encouraging and supportive leadership. The examples provided, however, did not constitute verbal encouragement tied to specific academic expectations and several participants suggested that the leader's feedback was not entirely credible.

I found evidence that all four contextual factors included in the conceptual model were operant at Colere, though findings suggest they contributed to the formation of collective efficacy beliefs at Colere Academy in ways that may have ultimately undermined the school's work. Analysis of data related to these contextual factors suggest the following key findings:

- School Composition: Interview, survey, and public school report card data indicate that while the school's composition as a high-minority and high-poverty

student population did not directly contribute to a robust sense of collective efficacy, teachers drew on student and family demographics in primarily attributing the school's low student achievement scores to external factors. These external attributions, coupled with a delegitimization of the performance metrics, seems to have enabled CTE beliefs despite persistent underperformance.

- Teacher Influence: Teacher influence was a salient theme in the interview data and likely an antecedent to CTE at Colere Academy. Teachers described having input in school decisions and their emphasis on the inclusive nature of teacher voice affirms prior findings that the way in which teacher voice is tapped matters for the formation of CTE. However, Colere teachers described a type of unbounded autonomy within their classrooms and professional learning that makes it less likely to be of consequence to student achievement.
- Collaboration: According to survey and interview data, collaborative dialogue and collegial exchange were likely antecedents to CTE at Colere Academy. Collaboration was not focused on structures or processes related to teaching and learning, but instead manifested as self-directed, "fun" collegial interactions. As such, collaboration at Colere may have given way to a sense of community that contributed to robust collective efficacy, but did not constitute the types of professional exchange likely to lead to tangible improvements in student outcomes.
- Leadership: Survey and interview data supports that leadership was likely a relevant antecedent to CTE at Colere Academy. Teachers felt supported as a result of the leader's openness and pastoral stance, more so than due to any sense

of instructional leadership. Furthermore, interview data suggests that the principal's support, specifically regarding student disciplinary issues, engendered efficacious beliefs among the faculty at Colere.

C. Remote Sources

In this section, I describe teachers' perceptions of the four remote sources of collective teacher efficacy, and the extent to which those sources influenced the formation of their CTE.

1. Mastery Experience

Interview, survey, and public school report card data indicate that mastery experience, as typically operationalized in the literature, was not a relevant factor leading to robust collective efficacy among Colere Academy teachers. However, teachers seem to make sense of their low performance in ways that enable a sense of collective efficacy for their influence despite chronic underperformance. By delegitimizing the standardized metric, and emphasizing incremental indicators of growth over achievement, teachers at Colere Prep remained confident in their collective capabilities despite persistently low student outcomes. First, I draw on public performance, survey, and interview data to explore perceptions of performance that align to conceptualizations of mastery experience in the literature. Then, I explore how teachers made sense of the school's low performance in ways that may have enabled efficacy beliefs.

a. Perceptions of performance

At the time of the original survey, Colere Academy teachers had experienced a consistent history of low performance according to the state's accountability report card metrics (Table XXXI). While the State's Department of Education rated the district a "C" according to

its accountability metrics, Colere Academy earned an "F," along with just four other Hope schools (of 28).

Table XXXI

XXXI. COLERE ACADEMY REPORT CARD OF ACADEMIC PERFORMANCE

	2012	2013	2014	2015
School Report Card Grade	F	D	F	F
District Report Card Grade	C	D	C	C

These public, external ratings somewhat align with teachers' internal perceptions of the school's performance. The survey responses indicate a modest positive perception of performance across teachers, but also reflect a lot of variability across teachers' perceptions. There were both "strongly agree" and "disagree" responses for three of the four items and responses were nearly evenly split on whether critical quality errors occur frequently in the school. "This school keeps getting better and better" was the lowest rated item (M = 3.93, SD = 1.39). Table XXXII details how teachers at Colere Academy responded to each survey item measuring perceptions of team performance.

Table XXXII

XXXII. COLERE ACADEMY TEACHER RESPONSES TO TEAM PERFORMANCE 2015 SURVEY ITEMS

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
This school meets or exceeds parents' expectations	0	6.67	13.33	26.67	46.67	6.67	4.33	1.05
This school does superb work	0	0	6.67	20	46.67	26.67	4.93	.88
Critical quality errors occur frequently in this school*	13.33	26.67	0	40	6.67	0	3	1.35
This school keeps getting better and better	6.67	13.33	0	53.33	13.33	13.33	3.93	1.39

As detailed in Table XXXII, there is variability in Colere Academy teachers' perceptions about their performance, and very few teachers strongly agree that the school exceeds parent expectations, does superb work, and keeps improving. After calculating descriptive statistics and frequencies for the individual items, a summed score for perceptions of performance was tabulated. Because lower scores on the third item indicate a more positive perception of the school, this item was reverse scaled before the summed score was calculated. While the individual scores capture teachers' perceptions of each item, the summed score better captures teachers' overall perceptions of performance. This summed score was averaged to maintain the

same scale as the original survey. Colere Academy teachers reported a modestly positive perception of the schools' performance (M = 4.3, SD = .83).

Teacher interviews at Colere Academy elaborated the survey results, confirming that mastery experience was not a salient source for their CTE. In the first round of coding, the mastery experience code was applied only once in each of the eight interviews and in all cases a memo was added to note that the excerpt suggested a lack of mastery experience. Across all eight interviews, when asked to describe the school's level of performance, participants described the school using phrases such as "low-average" or "low-middle," and unanimously characterized the school as among one of the lower performing schools in the district. One teacher categorized the school's performance as "below average," explaining that she has "kids that are in fourth grade that are reading at a Kindergarten level." Another teacher, who initially described the school's performance as "low-average," elaborated that "As far as academics, it's certainly not the lowest school I've ever taught in and it's not the highest. I would say low-middle." One teacher named that Colere Academy students struggle academically, emphatically stating, "That is just a fact." Another teacher provided underscored this point when sharing how she thinks about her students' achievement and capacity:

> Our kids struggle. They really do struggle academically. In my classroom, even though it's termed high ability, these kids really are average. And, they are not really exceedingly gifted, if you would consider it a gifted class. They are the top of the grade level. So, some were identified as high ability that I do know I have in here. But, unless they are given real high expectations, they just kind of follow the pattern.

These teachers' own descriptions of the school's performance, coupled with the public report card and survey responses, suggest mastery experience, as typically conceptualized in the literature, was not a relevant antecedent to CTE at Colere Academy.

b. Growth and accountability measures

Further analysis of the interview data did, however, surface a nuanced understanding of how teachers made sense of the school's underperformance in ways that still enabled robust CTE. As described in the methodology chapter, the child code "growth vs achievement" was included for second and third cycle coding because it emerged inductively as a salient theme during first cycle coding. This code was applied more than 20 times across the interviews, primarily in instances where teachers further elaborated their answers to "What do you see as the biggest contributor to Courage Prep's level of academic achievement?"

When probed to elaborate their assessment of the school's performance, and identify contributing factors for that level of performance, Colere teachers frequently expressed concerns about the fairness and legitimacy of the accountability report card and emphasized growth among students that they characterized as "coming in far behind." One teacher captured this sense of an unfair performance management system, exclaiming, "They compare us on the same outputs but our inputs are totally different!" She went on to say, "You can't compare us to schools that have kids walking in ready to learn. You just can't." This teacher's comments reflect a theme among teachers: frustration and resentment that the state holds the same expectations for their students, who come to Colere with educational disadvantages, as it does for the most privileged students in the state. This frustration surfaced in most of the teacher interviews at Colere. One teacher shared, "We may not be passing, but we're growing. It's just what we get at the beginning, isn't what everybody else gets at the beginning." Another teacher expressed that expecting Colere to meet state benchmarks was not only unfair, but unrealistic. She remarked that students "come in not even knowing their ABCs" and thus would never "reach district targets, let alone the state benchmarks, by the end of the year. It just isn't going to happen."

These reflections point to a shared sense among the Colere faculty that, given the students they serve, they cannot fairly be held to the accountability standards. The performance report card metrics were not seen as a legitimate measure of their performance. Furthermore, teachers tended to couple the delegitimization of the performance metric with an emphasis on proximate, incremental instances of student growth to form and maintain efficacy beliefs. However, even these proximate instances were not closely aligned to clear benchmark assessments for monitoring progress in systematic ways. One teacher stated:

> It's hard to say, "Oh, you're an F school." Well, you are comparing us to kids that come in knowing a lot more. When my kids don't know their letters or their letter sounds at first, and then they're spelling words right, that's big growth. So if you look at where they started and where they are now, you see we are making a lot of progress.

Another teacher similarly emphasized student's lack of background knowledge and skills, noting, "Many of our students come in - okay - all of our students come in below level." She went on to describe the reading diagnostic assessment they administer each fall. She said, "There are kids that should be at "reading behaviors" but most of them are still at "concepts of print," which is below what we would expect." She was quick to note, however, that even though "they really start low," that they grow a lot because of the learning "they're immersed in when they're here at school."

Recognizing that incoming student achievement levels are outside her control, one teacher described focusing her efforts on growth:

> I focus on the fact that we're growing. We're not passing, but we're growing. I mean, a lot of us, I only have a couple kids who have As and Bs in math. I don't have any kids that have As and Bs in reading. But I have a couple kids who have As and Bs in math. The rest of them, we just look at, "Well, look what you did last week, and now look what you can do this week.

The teacher seems to draw the students' attention toward their growth in an effort to help them build a sense of efficacy, while she seems to construct her own sense of efficacy from student growth. "We're not passing, but we're growing." Another teacher similarly emphasizes growth, for both students and herself. She shares:

> According to the testing, we're not doing well at all. So, I think it's an F school, and I don't know if that's what you want…[but] I see growth, so I have a 40 percent on a math test, and he got a 97 percent this week, so: Huge, big deal. So we got that on our Wonderful Work board. Forty percent and they get a 60 percent: Big deal because I got a 40 percent last week, I got a 60 percent. So, is 60 percent good? No, not at all. But if you don't know anything, and now you got a 60 percent? That's an amazing thing.

This teacher compartmentalizes the school's overall performance, her student's achievement level, and their growth in what seems like an effort to construct a sense of efficacy for the students and herself. She sets school performance aside entirely and reframes incoming student achievement as a baseline rather than an indicator of student identity or capacity. She organizes instruction around weekly growth assessments, reporting, "We take pre-tests, and then we take tests at the end of the week. And so, then we see how much we've grown for the week or at the beginning of the chapter for the end of the chapter." She does not dwell on overall failing scores - "is 60 percent good? No, not at all" - but instead celebrates the student's 50 percent improvement from 40 to 60. Another colleague at Colere similarly shared, "We've been a failing school for years now and people assume we aren't working hard or our kids aren't learning." She acknowledges the stigma associated with persistent underperformance within the state accountability system, and then challenges it, "Well our kids are learning - we see it every day. But the same amount of learning doesn't count the same when you are starting so far

behind." She described the system as "unfair" concluding, "We are set up to fail."

Because the leader at Colere did not build systems or routines for patterns of teacher interaction that were anchored in benchmark assessment data, teachers were left to draw on examples of mastery experience within their own classroom and that were decoupled from any calibrated measures of success. Delegitimizing the standardized performance metrics and drawing on more proximate examples of student growth within their classrooms seemed to allow teachers at Colere Academy to reconcile their overall low achievement with a robust sense of efficacy across the team.

2. Emotional State

While the 2015 survey did not measure emotional state directly, two of the measured constructs, trust and psychological safety, help capture aspects of a positive emotional climate conducive to strong efficacy beliefs. Interview and survey evidence suggest that emotional state was a relevant factor in the formation of robust collective efficacy beliefs among teachers at Colere Academy.

This positive emotional state is captured in part by teachers' survey responses to items measuring trust and psychological safety. The majority of teachers selected "agree" or "strongly agree" for all four items measuring trust and "somewhat agree," "agree," or "strongly agree" for the six items corresponding to psychological safety. These responses indicate teachers' perceptions of the school's emotional state are positive (Table XXXIII).

Table XXXIII

XXXIII. COLERE ACADEMY TEACHER RESPONSES TO TRUST 2015 SURVEY ITEMS

	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent		
Teachers in this school trust one another	6.67	26.67	53.33	13.33	4.73	.8
Teachers in this school typically look out for each other	0	26.67	53.33	20	4.93	.7
Teachers have faith in the integrity of their colleagues	0	33.33	33.33	33.33	5	.85
Teachers are honest with each other	0	33.33	40	26.67	4.93	.8

Table XXXIV

XXXIV. COLERE ACADEMY TEACHER RESPONSES TO PSYCHOLOGICAL SAFETY 2015 SURVEY ITEMS

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
If you make a mistake in this school, it is often held against you*	0	0	6.67	40	26.67	26.67	4.73	.96
Members of this school are able to bring up tough problems and issues	0	6.67	6.67	26.67	33.33	26.67	4.67	1.18
People in this school sometimes reject others for being different*	0	6.67	0	13.33	53.33	26.67	4.93	1.03
It is safe to take a risk at this school	6.67	0	6.67	26.67	46.67	13.33	4.47	1.25
No one in this school would act in a way that deliberately undermines my efforts	6.67	13.33	0	40	20	20	4.13	1.51
Working with members of this school, my unique skills and talents are valued and utilized*	6.67	0	6.67	26.67	40	13.33	4.43	1.28

As shown in Table XXXIV, teachers feel that they can trust each other and that they look out for each other, and that they can safely take risks or be different. After calculating descriptive statistics and frequencies for the various individual items, summed scores for trust and for psychological safety were tabulated. Because lower scores on the first and third psychological safety items indicate a more positive perception, these items were reverse scaled before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Colere teachers reported overall positive perceptions of trust (*M= 4.9, SD = .74)* and psychological safety (*M = 4.56, SD = .28).*

Interview data affirmed teachers' perceptions of trust and psychological safety and evidenced emotional state as a relevant antecedent to teachers' collective efficacy beliefs at Colere. Among the 31 applications of the code "emotional state", 23 were also coded as "trust" and ten were coded with "psychological safety." In sharing about the emotional tone of the school and its connection to their shared efficacy during the time of the CTE survey, Colere teachers described a welcoming and fun environment. At the time of the interviews, however, the school had recently experienced a transition in leadership, and teachers drew contrasts between the two administrations in data related to emotional state.

When asked what it felt like to work at Colere Academy at the time of the survey, teachers described a positive emotional tone. One teacher referred to the atmosphere of the school as "Welcome. It was fun. Welcoming, fun, and I feel supportive as well." Another teacher chose similar descriptors, saying, "It felt very positive, very encouraging, and very supportive. The building was very comfortable." Still another teacher remarked, "We had fun. We would work together, but we were able to have fun doing it." These teacher reflections associate how the school felt and how teachers interacted, suggesting that the encouraging and fun tone of the

building catalyzed teachers' work together. Some teachers reported that this dynamic, in turn, fomented a collective sense that they were accomplishing something meaningful together - that is, the positive tone facilitated strong working relationships that bolstered a collective sense of efficacy. One teacher described this relationship directly, noting:

> It was a fun place to work. I think teachers looked to each other for guidance and for help because they were not afraid. There was no fear. Everyone was relaxed, and if they couldn't do something, people jumped right in and helped them. Even the principal would jump in and say, "I don't know how to do this, but I know this person knows how. So, why don't you see if you can get with them?" That kind of thing. It was definitely an all for one and one for all.

According to these teachers, the fun, supportive atmosphere at Colere Academy helped promote a team identity and the notion that "together we can." Often, teachers' reflections on the fun and positive emotional state of Colere at the time of the survey were offered in striking contrast to how they felt working there now, under new leadership. One teacher lamented:

> We used to have a great network. I mean we'd laugh. And you'd walk in this building and you'd think, wow, they're having way too much fun. We had fun. We did. We had fun. And now I doubt that anybody is having fun or enjoying their curriculum or enjoying their – I mean they try to enjoy their students as best they can.

This teacher's reflections highlight how the shifting emotional tone of the school has negatively influenced teachers' working conditions and potentially eroded their efficacy. When asked the extent to which the positive emotional state at the time of the survey helped teachers feel efficacious in their collective work, one teacher shared, "It made us feel like we could succeed because we had each other. It felt good to be a part of a team." Another teacher noted how teachers now feel "like they are walking on eggshells because they can't do anything right." She notes that this has been particularly frustrating because it is so dramatically different from

how they felt "under a previous leader for almost six years." Another teacher made a similar comparison:

> I loved coming to school. I still love my job, I really do. But I want to hurry and get to my room and shut my doors as soon as I get here this year and the last year, but before, if I was in here by myself, my door was always open, like "Come on in." But now, when I'm in here by myself, my door is shut just because that's how I feel. I don't look forward to going to school. I look forward to my babies when I get here.

Here, the teachers highlight the ways in which the change in emotional tone of the school shaped changes in behavior that, in turn, diminished opportunities for collegial interaction. At the time of the survey, teachers enjoyed a high level of trust and psychological safety at Colere embedded within what they unanimously described as a fun and supportive culture. The stark contrastive claims made about the current climate underscore the relationship between the emotional tone of the school and teachers' enjoyment of and, perhaps, efficacy for the work.

3. Vicarious Experience

While theorized to be a remote source relevant to the formation of collective efficacy beliefs, this code was not applied in any of the eight interview transcripts. None of the participants in the study at Colere Academy made reference to learning from the success of other, similar teams, and there is no evidence that vicarious experience contributed to the collective efficacy experienced at the school.

4. Social Persuasion

Interview data reveals that social persuasion may have functioned as an antecedent to Colere Academy's reported CTE, though the specific way in which it inflected the collective efficacy beliefs diverged from those documented in the literature. When asked about the

frequency and degree of verbal encouragement teachers receive in their work, and the extent to which such encouragement contributed to their sense of CTE, teachers primarily referenced examples of social persuasion divorced from expectations for teaching and learning. Teachers generally felt valued and appreciated by the leader at the time of the survey, and they spoke fondly of that principal's encouraging and supportive leadership. The examples provided, however, did not constitute verbal encouragement tied to specific academic expectations. In fact, teachers were unable to point to established expectations for instruction and learning and a small subset of teachers suggested that the leaders' encouragement and feedback was not entirely credible.

In thinking about how often they received verbal encouragement, and from whom, most teachers cited the leader as the primary source of social persuasion. Teachers unanimously characterized the leader as one who actively praised and celebrated his team. One teacher captured this culture of affirmation, describing him as a "cheerleader who was proud of us." Another teacher reflected on his verbal encouragement explaining, "His positivity was always constant."

When pushed to provide specific examples of verbal encouragement from the leader, however, nearly all teachers pointed to interactions outside of the classroom and unrelated to teaching and learning. About half of the teachers referenced common, general approaches to teacher appreciation rather than specific types of social persuasion linked to performance expectations. For example, teachers noted email notes, messages of celebration during morning announcements, or treated as examples of the leader's encouragement for their work. One teacher explained that "he liked to cook" and so would periodically "make a big luncheon for us." She described this as his "kind of personal touch." A few teachers recalled how he would

often buy specialty local donuts and put them in the teacher's lounge. One teacher described how these gestures boosted morale at times, saying, "We see those donuts and feel, 'Yay, Mr. X brought us some donuts!' and you know he is thinking of us and appreciates our hard work."

Other teachers offered more specific examples, but these instances were similarly untethered to clear teaching and learning expectations. One teacher shared how much it meant to her when he would say, "Wow, Mrs. X, your class is doing great in the hallway." She admits that while it may seem like "it's something silly," in fact, "It's hard to control kids in the hallway. It's super difficult." She continued, "So just his saying, 'Wow, good job on that.' really means a lot and makes you feel good." Another teacher referenced the same type of interaction as she reflected, "I guess the most noticeable would be when you're walking down the hall with your class and he sees you and he says, 'Oh, my, what a nice line. This is a great kindergarten line.' Small things like that."

The various examples provided by Colere Academy teachers point to an affirming and encouraging leader, but not one who articulates performance expectations and then leverages social persuasion to encourage the group to pursue those expectations. Some teachers explicitly named that the principal's verbal encouragement did not usually connect to teaching and learning. One teacher noted that "he didn't really get involved in our classroom," but that he was always reminding them, "I've got the best teachers. You all make my job easy." Others offered a more critical view of his deferential approach. One teacher acknowledged that he created opportunities for celebration, but questioned how meaningful they were:

> I don't know if we knew what we were celebrating. I mean, I could go into a classroom any day and share something positive. If I go to a meeting and am asked, "Can you share something good that's happened this week?" that's pretty easy to do. But how meaningful it is to the learning? How can I relate it to something that I've tried new or learned? That was not necessarily the case with him.

The question around the credibility of the leader's verbal encouragement also surfaced in discussions of the principal's approach to teacher evaluation. Teacher perceptions of their evaluations under the leader during the time of the CTE survey were often discussed in terms of contrast to the evaluations they received from the newly hired school leader. One teacher described evaluation under the former principal as a highly predictable process in which "you'd always get two things that were in need of improvement in thirty categories of whatever. And the rest would be superior or good." Another teacher identified the four rating categories as superior, good, needs improvement, and unsatisfactory, and went on to describe the predictability of teacher evaluations after nearly 40 years and eight principals. She said:

> I've been here a long time and I'm friends with teachers and we all had good evaluations always. He would choose one or two things for you to work on, to improve. That's typical of the other eight principals before him, and that is pretty typical broadly. So, mine last year – shocking for the first time – was I had 15 yellow "needs improvement" and I'm used to two after 38 years.

This teacher expressed frustration with the new leader and felt that the prior, more positive evaluations were more appropriate and fairer. Other teachers and the new leader, however, questioned the validity of the performance feedback provided by the former principal. According to the new principal, despite inheriting "file after file documenting every teacher as good," her own observations revealed significant gaps in instructional practice and a fundamental "lack of adherence to the curriculum." She noted that "everyone had nearly the same exact rating - these stellar performance reviews - but I can tell you, they aren't all the same in terms of their teaching." Two teachers expressed similar misgivings about the credibility of the leader's performance feedback. One noted, "Everyone thought we were doing great

regardless [of outcomes].” She underscored her point, sharing:

> He could come into my classroom, and ...No matter what I was doing or how crazy it was, I could convince him that there was a good reason to do it. I mean, if we were all sitting and doing puzzles, I could probably say, “Well, there’s the hand coordination. There’s all kinds of things this helps.” And he’d be like, “Oh, okay.” Not like, “Yeah, but where’s Unit 4, Week 2?”

Another teacher affirmed this viewpoint. This teacher described how the leader “trusted that educated teachers know what they are doing,” but noted that he was “perhaps a little too lenient.” She continued, “People felt good around him, but were we getting any better? I don’t think so. Most people felt good about themselves, but our scores were going the wrong direction most of the time.” These insights suggest that while the leader’s verbal encouragement may have contributed to teachers’ collective efficacy beliefs, this confidence may have been overinflated, if not unwarranted.

Teachers at Colere Academy felt appreciated by the principal and often characterized his leadership as encouraging. However, the delineated examples do not constitute social persuasion as it has been defined in the literature. Importantly, the verbal encouragement was predominantly unrelated to teaching and learning and instead focused on personal support or meeting procedural expectations, and it occurred absent any clearly defined expectations for performance. The principal’s approach to performance evaluation seems to have fostered collective efficacy beliefs among the teachers. However, there is evidence that the performance feedback was not entirely credible, and as such, may have contributed to an inflated or false sense of efficacy among Colere Academy teachers.

D. Contextual Factors

In the following section, I report Colere Academy teachers' and the principal's experiences of school composition, teacher influence, collaboration, and leadership, and their perceptions of how these contextual factors related to their collective efficacy.

1. School Composition

Each year between 2015-2018, Colere Academy had the highest percent of students qualifying for free or reduced lunch of all elementary schools in Hope District. The percentage of students qualifying for free or reduced lunch ranged between 98% and 99% during those years. Given the documented inverse relationship between low-SES and CTE (e.g. Adams & Forsyth, 2006; Cybulski et al., 2005; Francera & Bliss, 2011; Hoy et al., 2002), this report card data suggests school composition was unlikely to contribute to teachers' collective efficacy beliefs at Colere Academy. However, interview data revealed that teachers attributed the school's level of achievement almost entirely to student demographics and family characteristics, and that this attribution enabled teachers to maintain a sense of collective efficacy for their practice despite the school's chronic low performance. These findings connect to those described within teachers' sensemaking around performance metrics.

School composition was the fourth most coded child code under antecedents, with twenty-six applications across the eight interviews. When asked to describe the student population at Colere and the extent to which student and family characteristics influenced the shared belief that teachers, together, could improve student learning, teachers consistently situated the school's underperformance within demographic shifts in the neighborhood and student population. One teacher commented that "this neighborhood used to be different," and

when probed, went on to say, "there are vacant lots and less people who actually own and take pride in their homes." Another teacher echoed this, saying:

> First of all, we are in a neighborhood that in the past 10 years has changed pretty drastically. You can drive around and see there's a lot of empty houses. This area, which is called River Park, I have a friend that's a social worker, and she's like, "They used to call that area Pawneewannabes," because we were so close to Pawnee [a neighboring, affluent area]. And it was a little better neighborhood in Hope back then. But it now has a lot of poverty, a lot of rentals, a lot of empty houses.

The shifting demographics strongly shaped teachers' understandings of student outcomes at Colere Academy. When asked, what they believed to be the most significant influence, positive or negative, on student performance, every participant from Colere academy named student demographics or family life as the primary factor contributing to their low academic achievement. One teacher replied, "We definitely have a high poverty group. And we have a lack of parent involvement. So those are some of the struggles we face with enforcing learning." Still another teacher described parents as "not educated enough to know what to do, or, some on the other hand who just don't do it." She remarked, "That's just our demographics. It's just the area. We have an urban city school. It's really hard to get parents to participate, to enrich their kids, to do more things with their kids." Another colleague similarly positioned parents and home life as a primary obstacle to learning at Colere:

> Probably their experiences that they arrive to school with from what they've learned in their home. Some parents do a great job, but others are kind of dropping the ball. We don't have a PTO anymore because we just can't get people here and when we have a math night or things here, we get a handful. Even upcoming like Kindergarten Roundup, we get maybe eight and of course we'll have 80 kindergartners. So, we just don't get a lot of participation from home.

Teachers make a claim that home experiences, and the lack of parental involvement in the school, are the primary reasons the school is not meeting standards for academic proficiency. This pattern of external attribution seemed to be leveraged as a way of qualifying the potential impact teachers could have on student learning. One teacher succinctly articulated what she believed to be the primary contributor to the school's level of performance, replying, "Just our demographics." She went on to remark, "It is nearly impossible to get past what is going on at home "or more like what isn't going on at home."

She was not alone in making the claim that due to the student and family demographics, the school could not reasonably achieve the high expectations embedded within the state and district performance ratings. Another teacher commented that when kids are "walking in the door tired, and angry, and maybe even hungry, it is hard to just jump right into learning." She referenced students' "hierarchy of needs" and described the challenges of students acting out or not fully motivated or engaged in the learning. She concluded, "It is an uphill battle just to get them to pay attention, let alone learn, some days." Another Colere faculty member initially posited that teachers' influence on student learning was "huge," but then continued, saying:

> Even though I identified all those deficits that children come with, I didn't say them to use them as excuses. I mean we get what we get. I don't think we've had any child come through the door that just couldn't learn, so you just try to take them as far as you absolutely can.

Teachers appear to minimize the possible magnitude of influence they as teachers can have on student achievement, and as such, collectively lower the bar for expected outcomes. One teacher noted, "Part of it, it's outside. We can only do so much in the six or seven hours we're here at school." Similarly, a fellow teacher described teacher efforts to "Do our best to try and keep fidelity in everything that we do," despite the many challenges presented by the school's

demographics. She said, “Those things we can’t control. We can only control what’s in here in our school.” Another teacher was perhaps even more resigned in her reflections, sharing:

> I’m sad to say I don’t see a lot of good things. There’s so much lack of parent involvement. I would like to say that the staff helps the students, but I don't know. We all try to be positive and stuff, but I don't know if that’s truly helping them because of everything that’s happening at home.

Two of the teachers interviewed acknowledged the dominant narrative that student and parent demographics were the primary cause of low student outcomes, but challenged that mindset. One said that the changing neighborhood “gave teachers who had been here quite a while” something to blame for the decline in test scores. She noted that teachers would claim, “The kids just are worse every year. I don’t know how we’re gonna overcome that,” and “They’re scoring us based on kids we don’t have anymore.” She further noted that the principal accepted those excuses as well. The other expressed frustration with teachers constantly claiming, “We do great with what we’ve got.” She shared how that sort of “deficit language makes me angry.” She continued, “I feel like I’m constantly having to remind them - our parents send us their best kids. They aren't keeping the best at home for themselves.”

These two teacher’s reflections stand in sharp contrast to the dominant narrative at Colere Academy that largely focuses on the ways in which “parents are kind of dropping the ball” or what students “have or have not learned in their home” to create a new reference point from which to assess their own abilities and success in influencing student learning. Overall, teachers appear to maintain a high level of collective efficacy for the work, despite chronic low performance, by drawing on school composition to qualify the possible magnitude of school and classroom level influences on student learning. Teachers at this school appear to reconcile

chronically low student achievement with their own positive sense of efficacy for the work by foregrounding external factors in explaining the lack of student success.

2. Teacher Leadership and Influence

Teacher influence was a salient theme in the interview data. When asked to describe how formal and informal leadership opportunities and teacher influence over decisions may have contributed to the school's sense of CTE, teachers described having input in school decisions, but did not identify many informal or formal avenues for teacher leadership within the school. This study did confirm previous findings that the way in which teacher voice is tapped matters for the formation of CTE. Teachers described an inclusive and invitational approach to teacher involvement in decisions that engendered efficacy under the former leader, and contrasted this with the newly hired leader's approach to "hand select" a "chosen few." Finally, Colere teachers described a type of unbounded autonomy within their classrooms and in terms of their professional learning that made it unlikely to contribute to student achievement gains.

Teachers did not identify specific structures or processes for teacher influence or leadership, but instead described an atmosphere of openness and accessibility to the leader that enabled their input. Several teachers used the phrase, "You could always go to him," and many noted, "His door was always open," when asked about the extent to which teachers had influence over school decisions. One teacher emphasized the leader's making himself accessible to teachers, saying, "There was nothing that you couldn't say to our principal. And in fact, he gave us his own phone number and said, 'Hey, you ever need something, call me." A fellow teacher similarly remarked, "He always asked us and let us speak our mind. That doesn't mean he always went with what I wanted, but I had a shot to make my case."

While teachers acknowledge an openness to input, there did not appear to be defined means for participation in decision making. What teachers described seemed to be more of an opt-in to voicing one's opinion rather than structures to solicit all teachers' voices. A teacher described this dynamic:

> He just wanted everyone's input. If you wanted to give input, you were allowed to give input. If you were one that didn't really care, then you didn't have to care, but it was just kind of like you didn't have to but you also could if you wanted to.

The teacher observes that this "suggestion-box" approach to teacher voice does not require anything of teachers: "If you were one that didn't really care, then you didn't have to care." Another teacher notes that some felt the approach was too laissez-faire, saying, "Some teachers feel that he put too much trust in us. And he just let us do whatever we wanted to do. But it was not like that to me. I mean, he was just more open and available." By contrast, with the new principal, she shares, "If I have a problem now, I have to email her, and then I'm still waiting on an email I sent two weeks ago." For this teacher, the principals' approach was notable because she felt heard, not because he left her alone.

Teachers at Colere did reference committees as one formal avenue to exert their influence. One teacher explained that the former leader would convene committees as needs surfaced within the building, telling teachers, "This is what our school needs right now. Can your committee come up with a plan as to how to make this work and present it to the staff?" Teachers described an inclusive and invitational approach to teacher involvement in committees that engendered efficacy, often contrasting this with the newly hired leader's selection processes. One teacher expressed that she felt teachers influenced school decisions "all the time" and

identified teachers' ability to choose committees to get involved with as the primary mechanism for that influence:

> We got to choose different committees that we wanted to have. There were different committees that you could be on. So, that just gives you more autonomy and like I really don't care about math, but I care about writing. So, I'll go and be on the writing committee, you know?

Teachers had agency in identifying areas of focus and committees to join. This agency and opportunity to lend their voice to school leadership mattered to teachers. One teacher described the new dynamic, "Now, you're placed on a committee whereas before you got to choose." Another noted that not everybody is welcome to participate, "But now you're placed on a committee, if you're placed." In other words, not everyone gets assigned to a committee.

When probed for how these two approaches to involvement, opt-in and appointment, contributed to teachers' collective efficacy, Colere teachers noted that the invitation for all to be involved, and agency in choosing how to be involved, bolstered their CTE. One teacher described the shift, noting that previously "Everyone was involved in ways they wanted to be so there was a real openness to sharing and we could talk freely." She went on to say that now, involvement is dictated by "the strong-willed inner circle of teachers" and that these shifts have "just broken our team up tremendously." Here the teacher indicates that the change in how teachers are tapped for leadership and influence matters to team dynamics. Another teacher similarly described those who get assigned to committees under the new principal as a "clique" and the "chosen few." This teacher spoke in positive terms of having the opportunity to opt in to committees and being able to "run with ideas" under the previous leader, drawing a stark contrast to new leader, who stifles the "run with ideas" culture by tapping only a handful of people on the shoulder to participate in school leadership.

Another teacher explicitly connected these changes, and their impact on team dynamics, to collective efficacy. She says that before you could be confident the leader "knew we were all educated and we were here with a good heart and he respected that, but now it's hard to feel respected." She noted that, while before, the leader's openness to ideas "made you feel heard and made you more confident," the new principal's tendency to dismiss ideas makes you feel "like you're being corrected like you're one of the kids." She shared that these changes "make you question yourself" and feel "less sure about what we're doing." These reflections suggest that the previous principal's openness to all teachers' input and voice may have contributed to CTE both by affirming an inclusive team identity and enhancing teachers' confidence.

In a similar vein, teachers described experiencing a high degree of professional autonomy in their work, and repeatedly referenced how they were regarded as professionals whose expertise was honored. One Colere teacher shared that at the time of the survey, she "didn't have to prove that I was a good teacher." Instead, she continued, the former principal "treated you as a professional." Another teacher consonantly remarked, "He just respected you as a professional." This same sentiment was revealed in another teacher's statement, "He let us be the professionals we are. He knew he wasn't more expert than us." This autonomy often manifested in the latitude teachers were given over implementation of curriculum. One teacher reflected:

> [Back then], it was more what I saw going on in my classroom and I had the leeway then to say, "Oh, I'm gonna do this with them," or I could do this project. Right now I am pretty much nailed to a textbook, and I'm not really supposed to veer from it. The lesson plans are very lengthy that are required now. They weren't before. It was pretty much, "Here's the topic I'm teaching and here's what I'm gonna do with it." But now it's, "Got to do the four E's and got to make sure I tell them what time I'm doing this and how much time it is gonna be."

She goes on to suggest that such autonomy contributed to the fun atmosphere described in the findings related to emotional state. Under the new leadership, she said:

> It certainly isn't fun, and the kids know it's not fun. And so, it's really much harder now to make learning fun than it was before. I mean we used to do huge projects and we would just integrate all sorts of topics in them. And now it's pretty much, "No, you've got to stay on track with the curriculum."

The teacher associates an expectation to teach the curriculum as a mandate that has taken the fun out of teaching and learning. This teacher views the freedom to orchestrate student learning around topics of interest rather than the standard curriculum as an essential element of an enjoyable learning experience. Other teachers, who characterized the previous principal's deference to teachers as respect for their professionalism, similarly contrasted how the shifts away from the previous levels of professional discretion undermined teachers' enjoyment of, and even commitment to, their practice. One teacher described feeling stifled, saying, "We were seen as professionals back then. Now we are seen as, in my words, kind of puppets." She shared how now, the dominant message is, "This is what you must do." She went on:

> Some of that can be good. Some can be bad, in my opinion. Some of us need a little more structure and someone to guide us a little bit more. But then also you need to also give me a little bit of breathing room, and that was hard. Last year's transition was – I mean I almost quit teaching to be honest because it was so terrible. So, and I know there are a lot of people around, in this building in particular, that were ready to hang it up.

This teacher laments what she experiences as a significant loss of professional autonomy that she had enjoyed under the former leader, and suggests her sentiment is shared widely. She implies that the autonomy had, at least in part, sustained teachers' commitment to the work. However, she also concedes that the structure and guidance could be beneficial, particularly for

some teachers. In doing so, she intimated that autonomy under the former leader was unattached to any expectations of defined non-negotiables for teacher practice. Some teachers, and the newly hired principal, spoke directly to this kind of unbounded autonomy. One teacher shared:

> I can say that there's been good shifts with the new leadership. We are all following a curriculum, whereas before I would say that it wasn't [followed]. We were told that it was kind of like, "Use it supplementally." But now, we're forced to use it. Is it good? I think so. We'll have to see if there's a big difference in the test scores coming up because the third graders last year were the first time that we had to follow the curriculum.

This teacher acknowledges that the unbounded autonomy teachers were afforded in terms of curriculum implementation may have hindered student achievement. Other teachers relatedly suggested that the unbounded nature of teachers' professional autonomy may have undermined rigor at Colere Academy. One teacher noted that, with the transition to new leadership and subsequent new expectations for teaching and learning, the school "had a big increase in rigor." She continued, "We are really trying to follow a very succinct curriculum where everybody is on the same page. We used to all do our own thing."

Another teacher described how the hands-off approach of the earlier principal impacted professional learning as well. She defined the role of the building coach, a professional provided by the district, saying, "They provide in-house professional learning." She described how, under the former leader, there was no expectation that teachers engage in the professional development offered by the coach role. She recounted how when the coach, who was "passionate about trying to get some professional learning going," attempted to orchestrate some professional development, people were upset with her. The previous principal did not enforce it and instead told the coach that teachers "just needed a little time to chill out." Under the new leader, however, "[The coach] actually does that job. Before, it really wasn't about professional

learning." Another teacher described the professional learning in the building as "very lax, as far as laid back, fun, that kinda thing." The leader "didn't just dictate" what the team would learn but instead "had teachers pretty much run it." The teacher described the sessions: "It was more a show and tell by teachers, to other teachers."

These comments evidence that at least some teachers considered the previous principal's shared leadership style and his hands-off approach as a potential indicator of weak leadership:

> I think we were pretty involved. I mean, I don't know how much of it was he would rather just us do it. I mean, was that because it's "our building" kind of thing? Or was that because he wasn't a strong leader? I'm not sure. He was hands-off so teachers kind of drove decisions at a high rate across the board for the most part.

The newly hired leader described her experience acclimating to Colere as "stepping back in time," and viewed the laissez-faire approach of her predecessor as a liability that held the school back. She was struck by the number of district initiatives that Colere had not implemented, including curricular pacing guides, focus walls for core content, and data walls. She remarked, "[Teachers] had never been expected to actually have these even though they have been district expectations since before my time." She continued, claiming that Colere "was a free-for-all."

One teacher indicated that teacher dissatisfaction with her implementation of district expectations had risen to the attention of the teachers' union. The local union leader even noted that the teachers had been "protected" from standard expectations by the previous principal. She explained:

> Our union director corporation-wide came around and was talking to buildings. And people were questioning some things that were starting to happen here and in the district, and our union director said, "Well, a lot of

> those things have been in place in the district, and other principals have required them, but your principal kind of protected you from a lot of that." That was his exact wordage. So, it's like, "Oh."

The union head helps this teacher understand that the previous principal's deferential treatment of teachers may have felt like professional deference and been rooted in respect for professional capacity, but the result was that the teachers fell behind district professional standards. The informal, undirected form of autonomy the principal enabled may have contributed to a sense of teacher leadership and efficacy, but the "choose-your-own-adventure" management approach, some felt, did not leverage teacher leadership to yield long-term school gains.

3. Collaboration

Interview and survey evidence suggest that collegial dialogue and a collaborative culture were present at Colere at the time of the survey. Interview data further indicates that the collegial exchange and mutual support experienced among teachers likely strengthened collective efficacy beliefs at Colere Academy. The collaborative culture is captured in part by teachers' survey responses to items measuring reflective dialogue (i.e. "teachers share and discuss student work") and knowledge sharing (i.e. "I share my skills with colleagues"). The majority of teachers selected "agree" or "strongly agree" for both items measuring reflective dialogue and the four items measuring knowledge sharing, and no teachers selected "strongly disagree" or "disagree." These responses indicate teachers' perceptions of the school's emotional state are positive (Table XXXV).

Table XXXV

XXXV. COLERE ACADEMY TEACHER RESPONSES TO COLLABORATION RELATED 2015 SURVEY ITEMS

	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent		
Reflective dialogue							
Teachers talk about instruction in the teachers' lounge, faculty meetings, etc.	0	0	13.33	53.33	33.33	5.13	.72
Teachers in this school share and discuss student work with other teachers	0	6.67	13.33	40	40	5.06	.93
Knowledge sharing							
My colleagues tell me what they know when I ask them about it	0	6.67	0	26.67	66.67	5.44	.89
My colleagues tell me what their skills are, when I ask them about it	0	6.67	0	33.33	60	5.38	.89
When I've learned something new, I see to it that my colleagues can learn it as well	0	0	20	53.33	26.67	5	.73
I share my skills will colleagues	0	0	0	73.33	26.67	5.2	.54

As shown in Table XXXV, teachers report frequently discussing instruction and student work and sharing knowledge and skills with each other. After calculating descriptive statistics and frequencies for the various individual items, summed scores for reflective dialogue and knowledge collection were tabulated. Because higher scores on all items indicate a more positive perception, no reverse scaling was necessary before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Colere Academy teachers reported overall positive perceptions of reflective dialogue (*M= 5.1, SD = .87)* and knowledge collection (*M= 5.33, SD = .55).*

Interview data further evidence collaborative dialogue and collegial exchange as part of the daily work of teachers at Colere Academy, with twenty-five total applications across the eight interviews. Data also suggest such collaborative interactions operated as an antecedent to CTE. When asked if and how the school supported collaboration at the time of the survey and the extent to which that level of collaboration contributed to the sense of CTE, teachers described a spirit of collegiality and informal interactions that engendered a strong sense of team identity, but examples did not constitute the types of professional exchange likely to lead to tangible improvements in student outcomes.

Teachers describe a general spirit of collaboration, one primarily characterized by informal exchange and fun, more so than specific structures for collaboration. One teacher noted that, at the time of the survey, there was not a designated time for teams to meet. Instead, "it was kind of like, just like, known that, 'This is your time if you guys want to meet as a group' because...He made sure that all of our grade levels had the same planning time." Teachers had opportunities to meet to plan together, but no expectation that they do so.

Under the new leader, collaboration has become more purposeful, according to some teachers. One explained:

> Now the coach is in on most of those meetings. Back then, not as much. We had a meeting once a month under the previous that was supposed to be more data driven, and with our principal, but they weren't really all that productive. And we had some real dysfunctional teams under him – grade level teams – I guess because everyone was allowed to do their own thing, and so collaborating and coming together, I don't know, it didn't work real well.

Another teacher described what the earlier grade level meetings looked like and a negative impact of the change in these meetings on morale.

> Three years ago in the fourth grade team that I was in, we just volunteered to collaborate. Every Monday we would have a team meeting. It wasn't a requirement, but we did that every Monday just so we could stay on the same page. And then when we'd collaborate in staff meetings, it was much more of a laid back, much more of a gamey kind of thing rather than an, "Okay. We're doing this, this, this, this." No one got in trouble if they came in late. Nobody got in trouble if they had to leave. Now people are kinda feeling like if I have to leave early, I'm kind of ostracized a little.

The teacher acknowledges that the meetings were not guided by expectations, or necessarily focused on planning or improvement, but instead were teacher-directed, informal, "gamey" and "laid back." While the first teacher appreciated the new data-driven direction and expectations the coach brings, the latter teacher shares frustration over the new oversight and guidance.

Under the earlier leader, teachers were not able to fully specify activities that directly aligned to teaching and learning. One teacher explained that professional development was offered but not required, saying, "I mean, there was some [professional development] offered at

the district level, and some went, and some didn't. If you didn't go, I think he'd let you out of it easier than some administrators."

Most teachers named a book club as the main mode of professional collaboration. Teachers could opt in to the book club; there was no cadence of accountability and some groups simply went to the local Chili's to discuss the book. The principal "didn't make us stay here to do it," a teacher explained, saying, "If you all wanted to go to a restaurant...you could go discuss it, because it was about guided reading and differentiation." They appreciated that "we could go someplace fun and have a good time."

Another teacher provides an extended description of her experience of professional development expectations:

> [The leader] bought all these books. They gave you all five books, but then you had to choose one. Now, you kept all five, so we've all got this library...on differentiated instruction. And then based on the book you chose, you had a group of other people who chose that same book. Most of us chose the thinnest one with tennis shoes on the front because it looked kind of manageable. And then we had groups, and we were kind of on our own to meet in these groups. Some groups met at Chili's. Anyway, it never really went anywhere. Some groups became more invested than others. The particular group I was in hardly met. I mean, I think they probably were okay books. Well, I mean, I think the feeling was we were ticking a box for downtown.

Another teacher admitted that some groups did not really talk about the books, and that there was no follow up with the larger faculty or commitment to action that followed from the discussion. "The book is still on my shelf. It was a fine book, but no, I can't stay [there's] something specific we implemented from it." While these sessions were not meaningful in terms of professional growth, she suggested they nevertheless contributed to the emotional state of the team, saying, "We had fun. Yes, we would work together, but we were able to have fun doing it."

Teachers did not reference the consideration or analysis of data use as part of their collaboration. The interview data points to collegial dialogue rather than any efforts to engage in structured inquiry and intervention or translate inquiry into practice. Teachers did not readily connect examples of collaboration to any discrete uptake or improvement in practice or student outcomes.

The contours of collaboration among teachers, and how they have shifted, are described by a teacher who contrasted how, under the previous leader, "we went to people because we wanted more ideas on things" to how, under the new leader, "now we collaborate on data." The new parameters are framed as constraints:

> I don't get to work on a lesson like, "Hey, my kids are struggling with trick words." I can't say that. Now, it's like we're in a meeting with a person so it's not even just the two – the people who are actually teaching. There's a data coach that's sitting there and we're being told what's to happen. You're just telling us more and more initiatives and things that we have to add into our classroom on top of all of the curriculum we have to teach whereas before you could, "Hey, I need help with this" or "What do you think about this" or "Let's do a theme week on this." So, it was fun. I would say welcoming. I mean we do have collaboration in both, but it's a different type of collaboration."

This teacher frames the previous administration as a time when teachers had agency to make decisions and had influence over the process and content of their own professional development. Teachers were self-directed and enjoyed minimal intervention from the school leader. Several teachers shared this sense and by contrast they described the new principal's approach as more top-down, with less or no teacher agency or influence over content or process.

When asked to describe collaborative staff meetings under the new regime, one teacher said, "We're told stuff." The previous principal did not impose set meeting times or topics, but instead ensured that teachers of the same grades or subjects had the same planning periods and

encouraged them to gather, providing a selection of professional development texts on a common theme for them to choose from. The new principal, by contrast, utilizes a data coach and schedules mandatory meeting times to discuss student data. “We’re being told about student data. We’re being told what we have to do in the classroom.” The teacher considers whether this is actually collaborative. “I don’t know. It depends on what you think collaboration is...We might have some input, because she has a question, but it’s not like we exchange ideas and really get a say.”

Teachers valued the previous principal both because they felt a sense of agency in this collaboration and because they felt heard in their interactions with him. One describes monthly grade level meetings with the leader, in which “he actually took the time to sit in on those meetings, and he would take notes, and then you would see changes...So you felt like he was truly listening.” A colleague described the leader’s approach to the monthly grade level meetings, saying the leader would ask questions like “How’s it going? What do you need from me? How can I help?” but that he would also tell them, “Here are some things I would like you to look at.” The teacher concluded, “So it was a give and take. And now grade level meetings are every single week – so four times a month – and when we go, the curriculum leader has an agenda.” When teachers were asked about the outcomes of their collaboration, some described a general sense of having “new ways to think about differentiating,” but none described concrete shifts in instructional practice or changes in student achievement.

The new leader of the school also identified this dynamic, though she framed it differently than the teachers who valued the agency granted them by the previous principal. While the teachers valued the community that formed as a result of the latitude the principal had given them to select content and self-determine the professional learning process in teams, the

new leader bluntly shared, “Hanging out is not professional collaboration.” She shared that she observed much more of the former than the latter. She explained that she believes hanging out has its place, but community and defined professional collaboration and learning are not mutually exclusive.

The new leader described her efforts to institute a formal learning log, and to introduce success blocks into the school. She described the resistance she has encountered among the faculty to making changes, and she said that one consequence of the previous administration’s approach is that standard district expectations feel draconian to teachers now, because teachers had been given the option whether to participate in what were not intended to be optional development activities. “They need to realize the expectation has been there for years; their leader just wasn’t following through on it.” As a result of a lack of learning-oriented collaboration, the principal explained, the student data shows, predictably, stagnated underperformance. “The student data shows it and so does the teacher evaluation data.”

The interview data supports the survey data to confirm that collaborative dialogue and collegial exchange were present at Colere Academy, and also suggests collaboration was likely relevant to their CTE. However, as the teachers and new principal have described, the collaboration at Colere at the time of the CTE survey was not focused on structures or processes related to curriculum, instruction, or student achievement. Instead, collaboration at Colere Academy under the former leader focused on giving teachers autonomy to make decisions about the process and content of their own professional development. Teachers were self-directed and enjoyed minimal intervention from the school leader, which yielded “fun,” “engaging” sessions that were described as “hanging out” and which teachers did not link to growth outcomes. Some teachers and the new leader expressed the value of this community for building efficacy and

emotional tone but they link the low-expectation approach to professional growth and collaboration to low school and student outcomes.

4. Leadership

Survey and interview data suggest that the supportive and pastoral leadership at Colere Academy enabled teachers' efficacious beliefs. Teachers' responses to the survey items measuring leadership capture an overall positive perception of leadership across both instructional and inclusive indicators. A majority of teachers selected "somewhat agree," "agree," or "strongly agree" for all ten items measuring leadership. These responses indicate teachers' perceptions of the school's leadership are fairly positive (Table XXXVI).

Table XXXVI

XXXVI. COLERE ACADEMY TEACHER RESPONSES TO LEADERSHIP 2015 SURVEY ITEMS

	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
Makes clear to staff his or her expectations for meeting instructional goals	0	0	13.33	26.67	46.67	13.33	4.6	.91
Communicates a clear vision for our school	0	0	13.33	26.67	46.67	13.33	4.6	.91
Sets high standards for teaching	0	0	0	33.33	53.33	13.33	4.8	.68
Understands how children learn	6.67	0	6.67	40	33.33	13.33	4.33	1.23
Presses teachers to implement what they have learned in professional development	0	6.67	13.33	13.33	46.67	20	4.6	1.18
Actively monitors the quality of teaching in this school	0	0	0	20	53.33	26.67	5.07	.7
Knows what's going on in my classroom	0	0	6.67	60	26.67	6.67	4.33	.72
Is strongly committed to shared decision-making	13.33	0	6.67	26.67	26.67	26.67	4.33	1.63
Works to create a sense of community in the school	6.67	0	13.33	20	13.33	53.33	4.73	1.53
Promotes parent and community involvement in the school	0	0	6.67	6.67	26.67	60	5.4	.91

As shown in Table XXXVI, teachers feel that the leader communicates a clear vision for the school and has high expectations for student learning. According to the survey, teachers also agree that the leader creates and promotes community in the school and with parents and the local community. After calculating descriptive statistics and frequencies for the various individual items, I tabulated a summed score for leadership. Because higher scores on all the items indicate a more positive perception, no reverse scaling was necessary before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Colere Academy teachers reported overall positive perceptions of leadership (*M= 4.68, SD = .82).* I then repeated this process to compute a summed score for the seven items corresponding to instructional leadership behaviors and the three items corresponding to inclusive leadership behaviors. While teachers rated inclusive behaviors slightly more positively than they did instructional behaviors, the difference was marginal (Table XXXVII).

Table XXXVII

XXXVII. COLERE ACADEMY MEANS AND STANDARD DEVIATIONS

	Overall	Inclusive	Instructional
Colere Academy	M = 4.68, SD =. 82	M = 4.82, SD = .54	M = 4.62, SD = .26

Interview data underscore the survey findings that teachers at Colere Academy held generally positive views of the principal's leadership, especially as a community leader, and suggest that the pastoral and laissez-faire aspects of the principal's leadership appear more relevant to teachers' collective sense of efficacy than his instructional leadership.

Leadership was a salient theme in the teacher interviews and was the most commonly coded antecedent, applied 103 times across the eight interviews. When asked to describe the leadership at the school at the time of the survey and reflect on the descriptors and leader roles that have been most beneficial to teachers' CTE, responses focused overwhelmingly on the leaders' accessible and supportive leadership style. "Leadership" was coded in every individual interview with a frequency ranging from four to nineteen. Of these applications, fifty-one were also given the child code "inclusive/supportive" while the child code, "instructional" was only applied once.

When asked how the leader at the time of the survey helped the faculty to feel efficacious about their work, teachers most often emphasized the leader's constant presence and the pastoral role he played within the school community:

> His door was always open for us. He's a pastor, and that really came across in his work as a principal. He had a knack for listening and empathizing. He never made you feel like he had somewhere else to be or something else to do.

Another teacher similarly pointed to his "open door" as an indicator of presence and framed this accessibility in terms of supportive leadership, "His door was always open so if you needed him, you went in there. You didn't have to make an appointment. You just went in there, 'Hey, I need help.' and he was there for you." For another teacher, the prior leader helped the team feel efficacious "just with his openness and being able to communicate." Teachers

described him as “constant” and “always around.” One teacher noted that this presence ensured both that “everyone knew him - students and parents” and that “teachers felt supported.”

While many Colere teachers perceived his presence and the “open-door” culture to be facilitative of their work and collective efficacy, several felt his support was too passive. One teacher suggested that in “trusting educated teachers to know what they’re doing” the former principal “was almost a little too lenient.” Another described passivity as not just an approach to the principal’s leadership, but as part of his personality:

> He was an extremely passive individual. He even had a bumper sticker on his car about being passive. I can’t remember exactly. And it had to do, I think, partly with his religion and things. The problem with that [passivity] became that everyone thought they were doing everything great regardless of reality.

She later noted that while he would listen if you sought his support, “he wasn’t going out on a limb to help people.” She continued, “Sometimes people who need help don’t know they need help. So you can’t expect to fix all of the problems just waiting for them to walk in your door.” This teacher problematizes the open-door stance, suggesting that there were teachers who needed support that did not receive it because the principal did not actively seek out and address areas of need.

When discussing specific ways in which the leader supported teachers, and consequently helped them feel confident in their ability to influence student learning, Colere teachers overwhelmingly focused on student behavior and discipline. According to teachers, the principal’s approach to discipline enabled them to better do their jobs within the classroom. Teachers noted that he was “on top of issues” and always “backed [teachers] up to kids and to parents.” One teacher specified that “sometimes we have crazy parents and crazy issues” but that teachers could give the leader a heads up and he’d “have your back.”

Teachers also described the principal's role in behavior management issues, noting that if an issue arose in the classroom, he would jump in to help "in a heartbeat" and that "he never questioned if you were sending a kid to his office." One teacher emphasized the active role the school leader played in classroom management issues, explaining, "Sometimes the principal would come and he would sit with the child. Or he would take the child out and talk to them and then they would come back [to the classroom]."

Several teachers shared this sense and by contrast they described the new principal's approach as less actively engaged and supportive in discipline issues:

> Before [the administrator team] would do something. But now, it's none of that. And I don't even need – It's for me. It's like, I don't want to yell at this child so I need them out because it could just be that I'm gonna go, you know? But I don't have that support now at all.

Other teachers lamented the loss of disciplinary support as well. One teacher remarked that now "discipline is horrible because it's solely on the teacher." She shared, "You want to have backup but you don't have backup. There is none from the new administration whatsoever." Some teachers described how previously they "felt more at ease to send students to the office" because they "wouldn't get in trouble" if they did so. One teacher described how, even in cases where she does send someone to the office, she does not feel that the new leader provides effective support and therefore tends to just "take care of it myself." She elaborated:

> I mean, I call my parents, but usually, if it's a kid that is doing something horrible, that doesn't really make a difference because the apple usually doesn't fall far from the tree. But I always take care of it myself, unless there's something [that has been] broken because then I need paperwork to document. But if there's nothing broken, I always take care of it myself because I don't want the principal – sending someone to the principal is like a time-out, and they get patted on the back. I want them to think it's a scary thing. Like, "We

> better get this fixed. Check yourself and fix it because you do not wanna go [to the principal's office.]

The teacher dismisses parents as an avenue of support then expresses dissatisfaction with how the new leader handles student discipline issues, expressing that she ultimately feels alone in figuring out solutions to student behavior concerns. Other teachers similarly grieved the loss of a leader who backed them up and extended help when it came to misbehavior in the classroom. One teacher described how the decrease in support had led to an increase in teacher frustration: "[Teachers] feel like, 'I send them to the office and they're back five minutes later seemingly with no consequence' whereas "the previous principal was supportive." Another teacher described the negative impact the change has on her class and their learning:

> I can have a discipline problem in [my classroom] and it's absolutely not taken care of. I have to deal with all that myself. Which, I don't mind doing that, but that kinda shows the other kids that they're not important. Because someone's not helping them with this particular lesson, you know?

Teachers valued the previous principal because he supported their work in the classroom by actively monitoring and addressing student behavioral issues. This, coupled with his open door and listening ear, helped teachers to feel seen and supported in their work. Teachers' experiences suggest that supportive and pastoral leadership, and active involvement in the disciplinary climate of the school, engendered efficacious beliefs among the faculty at Colere. However, his laissez-faire approach may have led to an inflated sense of competence and efficacy among teachers, resonant with findings detailed under teacher influence and collaboration. Some interviewed teachers explicitly made this connection, noting how his passivity created a passivity in which "everyone thought they were doing everything great regardless of reality."

E. Research Question 2: Consequences of Collective Efficacy Beliefs at Colere Academy

The second research question explored how, and to what extent, do higher levels of collective teacher efficacy in a low-performing school work through effort, persistence, resilience, and goal setting to foster positive organizational outcomes identified in the literature?

The literature related to social cognitive theory suggests the value of considering the normative consequences of teacher goal setting, effort, persistence, and resilience on collective teacher efficacy. In addition, the research literature on collective teacher efficacy in schools has surfaced relationships between CTE and outcomes including achievement, teacher commitment, and collective responsibility. As with the first research question considered at Colere Academy, the primary data for exploring this question are interview transcripts and survey responses, as well as public school report card data. The key findings are summarized here before each factor is explored in depth.

Of the four remote normative consequences associated with high CTE, only one, effort, was evidenced at Colere Academy. The other normative outcomes included in theoretical models of CTE - goal-setting, resilience, and persistence - were not salient themes in the data. Analysis of data related to these consequences suggest the following key findings:

- Goal Setting: Teacher interviews at Colere Academy did not provide evidence that collective teacher efficacy had prompted more ambitious or clearer goals for learning. Teachers made only vague references to a school improvement plan and even the more vaguely articulated goals could not be considered ambitious.
- Effort: While not a particularly salient theme the normative consequence of effort appears to have been somewhat realized as a result of the high level of collective teacher efficacy at Colere. Teachers perceived a high level of effort within their own work and from their colleagues. It seems likely, however, that absent clear and ambitious goals for student

outcomes, perceived or exerted effort was unlikely to lead to gains in student achievement.

- Persistence: While theorized to be one of the four normative consequences of strong CTE beliefs, the data does not support that persistence was a salient factor at Colere Academy. Persistence did not emerge as a theme in teacher interviews; it was only coded only twice across all transcripts.
- Resilience: With only one isolated example of resilience identified in interviews, data does not indicate that Colere teachers' sense of efficacy had led to a strong embodiment of resilience in their work.

I found evidence that one of the three organizational outcomes associated with high CTE, was at least partially realized at Colere Academy: teacher. Analysis of interview and survey data surfaced a number of key findings related to the organizational outcomes identified in the literature:

- Student Achievement: The school was chosen for the study because it reported some of the highest levels of CTE in the district and then received the lowest rating on the statewide assessment. As somewhat expected based on this purposeful case selection, no evidence emerged of a relationship between CTE and achievement at Colere Academy similar to that described in the research literature.
- Teacher Commitment: The research literature suggests that high levels of CTE can be predictive of teacher commitment, a relationship that was at least partially realized at Colere. Teachers spoke of feeling more committed to the school at the time of the CTE survey than they did at the time of the interviews, under a new school leader. There was also a marked difference between professional and organizational commitment across

both surveys and interviews. Overall, teachers appear to be more committed to the specific school than to the profession.

- Collective Responsibility: Survey data show an overall positive perception of collective responsibility, with teachers evincing a sense of shared responsibility helping others do their best. However, interview data did not support that Colere teachers took up collective responsibility for student outcomes. Teachers' descriptions of collective responsibility suggest a superficial understanding of collective responsibility, one that stalls at informal support for one another, rather than full acceptance of responsibility for student outcomes and actions directed toward improving student performance. When probed, Colere teachers often abdicated responsibility for student learning outcomes.

1. Normative Consequences

This section explores the extent to which Courage Prep teachers experienced ambitious goal setting, effort, persistence, and resilience in their work, and the ways in which they connected those normative consequences to their perceptions of collective teacher efficacy.

a. Goal Setting

Teacher interviews at Colere Academy did not provide evidence that collective teacher efficacy had prompted more ambitious or clearer goals for learning. The code was only applied five times across the eight interview transcripts, and not at all in half of them.

When asked about the school's goals for student learning at the time of the survey, teachers were unable to point to any specific expectations or goals. Some teachers explicitly asserted that the previous leader did not articulate clear, ambitious goals for student learning. One teacher responded, "No. I don't feel he set clear goals for us." Another stated, "We weren't ever told specific goals for our work. We all knew we had to improve on the [state assessment],

but it wasn't like a SMART goal or anything we could all name." She acknowledged the existence of a school improvement plan, but did not feel that the plan itself constituted unambiguous or compelling goals for the school. This was similarly expressed by a teacher who felt that, while the improvement plan likely included specific indicators and goals, those had not been shared broadly with teachers:

> I mean, we wrote our plan. But it was just all the stuff you put into an improvement plan which has to do mainly with the [name of the state's annual assessment]. You want those kids to grow. It's all based around that. It wasn't - I guess it was in there but I don't know how well-defined it was for teachers.

Other teachers were more likely to initially respond affirmatively to the question about whether the school has clear and ambitious goals for student learning. However, when probed, they were unable to articulate those goals with specificity. One teacher, despite being "on the committee" that "collaborated for the highest outcome" in the improvement plan process, was still unable to name a specific goal:

> Well we just all worked to make a plan. Our goal is always to be the best Colere Academy we can be. It had numbers in there too, about our [state assessment] levels and whatnot. But always we strive for the best outcome for us.

Here again, the existence of the improvement plan surfaces as the only proxy for school wide goals. One teacher drew a contrast between the vague nature of goals under the previous principal and those articulated by the new leader, sharing, "I think his goal was just that he wanted the kids to do the best that they could. Whereas now, she's like, 'We're gonna be an F school that moves to an A school."

Language such as “best we can be” and “the best that they could” in teacher’s descriptions of goals under the previous leader underscores the absence of ambitious goals for learning, and instead communicates a circumscribed framing of goals that is resonant of the findings related to school composition:

> I think with him, we were led to believe that we were doing the best we could. And so, when you think this is the best I can do, that’s the best I can do. Whereas now, I think there’s definitely a “We can do better. We can always do better.”

The interview data does not support that robust efficacy led to more ambitious goals for student learning. Teachers were not able to point to any specific goals that oriented their work, and even the more vaguely articulated goals could not be considered ambitious. At Colere, teachers’ collective efficacy did not translate to robust organizational goal-setting; instead, qualified goals seemed to have potentially enabled CTE.

b. Effort.

While not a particularly salient theme in the data, teachers did feel as though the normative consequence of effort was realized at Colere. Nearly all interviewed teachers felt as though there has always been a high exertion of effort among the faculty members. Some teachers indicated that the factors motivating the effort had shifted from when the survey was administered.

When asked if teachers, at the time of the survey, exerted a great deal of effort to ensure student learning, multiple teachers referenced working long hours in their affirmative responses. One teacher shared:

> There's a lot of us that would be here early in the morning, at least half an hour or forty-five minutes before school. I'm one of them. Every morning. And we'd be here after school, after the time that our contract ends technically. After 3:20 p.m. Even when we'd have parent curriculum nights, our staff would always be there to help out with that in their own time. Our staff tries to be as prepared as we can…. I prefer the morning because I wear down by the end of the day. I'd rather get out of here. But there's some days I'm here until 5 or 5:30 p.m. getting things done, which you just have to do.

The teacher highlights the willingness of teachers to come in early and stay late, beyond the stipulated hours of their contract, to get what needs to be done, accomplished. She described this level of effort as the consistent "tone" at Colere. This was also acknowledged by the newly hired leader who noted teachers' effort saying, "They arrive early and stay late." She said that is not new to the changes she's instituted but instead appears "baked into the culture here."

For some teachers, while the level of effort put forth in their work had remained the same, they noted a change in what motivated that level of effort. Previously, these teachers expressed, the effort stemmed from their own passion in the classroom and the comradery among teachers; now, however, they described it as an unavoidable response to burdensome mandates and requirements. One teacher expressed that all teachers put forth a great deal of effort and said, "I think we're all good teachers. We all believe that all kids can learn, and we all work our tails off to do what we can." When asked to what extent that level of effort was present at the time of the survey, she noted "We have always exerted a lot of effort." She bemoaned the fact that "before it was because we did it together and had fun doing it" and "now we're doing it just because we don't wanna get in trouble." She concluded, "So it's more out of fear than [because] you want to do it." Another teacher also captured this shift in motivation while maintaining the same level of effort:

> I spend lots of hours at school, but I always have spent lots of hours. I mean I usually have a 12-hour day. I choose to do that. But before I was doing it so that I could get really cool things ready for the kids and all excited about, "Oh, this is what we're gonna do," what-have-you and now I spend my time because I'm so overwhelmed with the mandates that I just can't keep up with them.

She continued, holding up a massive, fully stuffed binder, "Now we are required to have these lesson plans, just to show you. This is how in-depth she wants it for one week of reading. This is just for one week of reading." These teachers did not feel as though they were working any harder under the new leadership, but believed that the motivation behind the effort had changed. Teachers felt as though the positive collegial culture at Colere and their shared sense of efficacy led, in part, to a culture where significant effort was the norm. However, given the previously documented lack of clear and ambitious goals to orient their effort, it is unlikely that their exerted effort, perceived or actual, would have been of significant consequence to student outcomes.

c. Persistence.

While theorized to be one of the four normative consequences of strong CTE beliefs, interview data did not evidence that persistence was a salient factor at Colere Academy. The code was only applied twice, once each in two interviews. In one instance, it was co-coded with "teacher commitment" and upon closer review it was apparent that the passage spoke more to the individual teacher's commitment to the school rather than to a shared normative experience of persistence. The other passage recounted an example of the faculty working together, persisting through challenge, to meet the needs of a particular student, though ultimately the child's needs were not met within the school. According to the teacher the student "just wasn't ready for school." The teacher shared that the boy "wore [her] down every single day" and " would just wreak havoc in [her] room." She went on to describe working together

with other adults in the building to keep him safe. She shared that together they collectively decided to reduce the child's day because the full day option was not working. While they had hoped they could work back up to a full day, "He never got to that point. He was just not ready." While this example highlights teachers working together in the face of challenge, it does not fully evidence a normative consequence of persistence.

d. Resilience.

Data from this study do not support resilience as a normative consequence of Colere Academy's high level of collective teacher efficacy. The code was applied only once across all of the interviews, and the coded passage was also coded for "effort." Upon closer review, the passage actually suggested an absence of resilience in the normative culture of the school at the time of the survey. The teacher made the claim that "we're more resilient now" than during the years focused on for this study. She elaborated that previously, because teachers "were led to believe that we were doing the best we could," there was no incentive to exhibit resilience to challenges. The interview data does not indicate that Colere teachers' sense of efficacy had led to a strong embodiment of resilience in their work.

2. Organizational Outcome

This section explores Colere Academy teachers' perceptions of the relationship between their sense of collective efficacy and student achievement, teacher commitment, and collective responsibility.

a. Student Achievement.

Public report card data suggests that Colere Academy's strong perceptions of

CTE were not accompanied by increased levels of student achievement. Public report card data in this state, as described in more detail in the methods chapter, served as a fair proxy for student proficiency on the annual state assessment, and suggested that Courage Prep's strong perceptions of CTE were not accompanied by high levels of student achievement. According to the state report card, Colere Academy remained one of the lowest performing schools in the district.

The state provides a broad A-F grade for the school, determined by an accountability formula, and reports the percentage of students achieving proficiency at each school and across the district. In the time period leading up to the 2015 survey, Colere Academy ranked in the bottom quartile in the district, underperforming the district average by 10-20 percentage points each year. In 2014-15, the statewide test was adjusted to increase the rigor of the test, and schools and districts statewide experienced a decline in the percent of students achieving proficiency. Courage Prep had the second-lowest percentage of students achieve proficiency in the district that year, which was the year immediately following the 2015 survey. Colere Academy's high CTE marks in the 2015 survey followed by low student proficiency on state testing later that year confound the relationship between achievement and CTE described in the research literature, which finds achievement to be a consequence of CTE. The school's performance trajectory is detailed in Table XXXVIII.

Table XXXVIII

XXXVIII. COLERE ACADEMY PERFORMANCE INDICATORS

	2012	2013	2014	2015
School Report Card Grade	F	D	F	F
District Report Card Grade	C	D	C	C
School Percent of Students Meeting Proficiency (Rank among 28 District Elementary Schools)	39 (25)	49 (23)	46 (22)	13.9 (27)
District Percent of Students Meeting Proficiency	58.6	59.7	59.1	33

b. Teacher Commitment.

The survey and interview data suggest that the relationship between high collective teacher efficacy and robust levels of teacher commitment was partially realized at this school. There is evidence that teachers' commitment to the school was greater than their commitment to the profession broadly and that this organizational commitment had begun to erode under a new leadership regime.

Teachers' responses to the survey items measuring both organizational and professional commitment indicate an overall positive perception of teacher commitment. The majority of teachers selected "somewhat agree," "agree," or "strongly agree" for all four items corresponding to organizational commitment. There was much more variation in and overall lower perceptions of professional commitment. A majority of teachers selected "strongly disagree," "disagree," or "somewhat disagree" for one of the three items measuring professional commitment, and the responses were almost evenly split across positive and negative responses

for a second item corresponding to professional commitment. These responses indicate an overall strong sense of organizational commitment, and a weaker sense of professional commitment, among teachers at Colere Academy (Table XXXIX).

Table XXXIX

XXXIX. COLERE ACADEMY TEACHER RESPONSES TO COMMITMENT 2015 SURVEY ITEMS

Organizational Commitment								
	1 Strongly Disagree	2 Disagree	3 Somewhat Disagree	4 Somewhat Agree	5 Agree	6 Strongly Agree	M	SD
	Percent	Percent	Percent	Percent	Percent	Percent		
I put in a great deal of effort beyond what is normally expected in order to help this school be successful	0	0	0	0	26.67	73.33	5.73	.46
I usually look forward to each working day at this school	13.33	6.67	6.67	13.33	33.33	26.67	4.23	1.75
I wouldn't want to work in any other school	20	6.67	6.67	13.33	13.33	40	4.13	2.03
I would recommend this school to parents seeking a place for their child	6.67	6.67	13.33	20	20	33.33	4.4	1.59
Professional Commitment								
I do not seem to have as much enthusiasm now as I did when I began teaching	6.67	26.67	13.33	20	6.67	26.67	3.73	1.75
If I could get a higher paying job I would leave the teaching profession	20	20	20	6.67	26.67	6.67	3.2	1.7
I think that the stress and disappointments involved in teaching aren't really worth it	13.33	6.67	20	33.33	0	26.67	3.8	1.7

As shown in Table XXXIX, teachers feel positively about the effort they exert toward the success of the school and express a commitment to working in the school. Teacher survey responses indicate a much more mixed perception of commitment to the profession; nearly half of the teachers believe the challenges of teaching are not really worth it and a majority would leave the profession if they could find a higher paying job.

After calculating descriptive statistics and frequencies for the various individual items, I tabulated a summed score for both organizational and professional commitment. Because lower scores on the items corresponding to professional commitment indicate a more positive perception, I reverse scaled these before the summed score was calculated. Summed scores were averaged to maintain the same scale as the original survey. Colere Academy teachers reported overall high levels of organizational commitment (M= 4.63, SD = 1.17) and less positive perceptions of professional commitment (M = 3.58, SD = 1.57).

The interview data provided additional evidence that teacher commitment to the organization was stronger than to the profession more broadly. When asked, "How committed were teachers to this school?" and "How committed were teachers to the teaching profession?" teachers at Colere focused largely on organizational commitment. Nearly three-fourths of the passages coded for teacher commitment were related to organizational, rather than professional, commitment. Several teachers even described feeling "beaten down" and "under attack" by the system. When expressing their commitment to Colere, teachers primarily did so by referencing the extent to which it has declined as a result of new leadership.

Teachers at Colere felt overburdened by the demands of the profession, especially in the context of the state's high-stakes accountability performance management system. One teacher expressed feeling like "there is more and more thrown at us" and that the amount of time needed

to complete the work was more "than we get paid for." She described the challenge to "keep up with all the demands that they want us" and "fit that all in with fidelity." She continued, "Sometimes it just feels like there is always one more thing they are giving us to add our day with the kids." The teacher views the additional demands as something external to her work with her student rather than as something that enhances her time with them. Another teacher expressed frustration with the system and the way in which it intensifies pressure on teachers without acknowledging their impact:

> I do feel the system in education is beating down teachers. They just feel that they are not appreciated. Teachers are worn out. It's all emphasis on the state test. That's what you've got to manage. That's what your evaluation has been on.
>
> And, it's not necessarily the growth. And, I do see, coming from my kids, from kindergarten starting with them last year and this year, they've grown so much. Now, if you're looking at the data, not necessarily. That doesn't show a lot unless you really digging in deeper into it.

Despite these very real professional pressures, teachers were still highly committed to Colere Academy at the time of the survey. One teacher shared:

> Colere is kind of known. It's a beautiful building with an atrium. I had been at [another district elementary school] for twenty-five years so then, to move here, it was - building wide - a big step up. And it was a big step up to come to a little smaller education family.

In contrasting her tenure at another district school with Colere, this teacher underscores commitment to the school and positions Colere as a desirable placement within the district. When asked, however, to describe teachers' commitment to the school now she states that it has declined significantly, partly due to "an underlying tone of them and us." A fellow teacher's reflections echoed this theme of eroded commitment to the school. She recalled, "I always felt

happy. I was happy to come to work. I wasn't dreading coming to work." She described how previously, she was not only excited for the happenings within her classroom but also to be part of the broader Colere community and laments the change:

> I still do think, "What's gonna make today exciting?" but exciting only within my classroom. I'm not going to go outside my box. I was even leery about when I gave the kids antler ears for Christmas - "Are we gonna be able to wear those to lunch today or not? Am I gonna get in trouble for that?" You think about your every move in a different way. Your whole idea of coming to work is different.

Other teachers similarly described feeling the need to retreat to their own classrooms whereas they once eagerly anticipated interactions with colleagues. One teacher shared that she "used to love coming to school" and that her door "was always open, like 'Come on in.'" Now, however, she said, "My door is shut just because that's how I feel. I don't look forward to going to school." Some teachers attributed this change in part to ways the new principal sowed division among a once unified team. One teacher noted that, as opposed to the previous levels of input and teamwork that characterized Colere at the time of the survey, the new leader now "has - a lot of people call them the minions - I call them the inner circle. They are able to put their words in, but the rest of us, we do as we're told." She continues, "We were able to admit when you did something wrong, and then you got help on how to do it better. Now, you go to your select few people." For this teacher, these shifts in the overall atmosphere seem to have negatively impacted her love of Colere Academy:

> I don't look forward to all the drama. We got lots of drama. Adult drama. But it's nothing to do with the kids. The kids haven't changed. It's sad. Everybody, when they wanna say something, they shut the door first. You should be able to talk. That's how it always has been where you were just, "Hey, guess what?" But now we shut the door before we talk just in case. It just isn't the same being here anymore.

The survey and interview data suggest that the robust efficacy beliefs shared among Colere teachers did not foster commitment to the profession broadly as much as it seemed to engender commitment to the school itself. The stark contrast between teachers' sense of belonging and commitment to Colere at the time of the survey and more recently under the new principal, helped to illuminate the ways in which the emotional tone of the school, described in the findings for the first research question, and the robust efficacy beliefs shared among teachers undergirded teachers' commitment to Colere Academy - at the time of the survey.

c. Collective Responsibility.

Survey data show an overall positive perception of collective responsibility at Colere Academy, with teachers reporting a sense of shared responsibility for helping others do their best and for ensuring student learning. Teacher interviews elaborate these survey results, and suggest that, while teachers believe they experienced collective responsibility at Colere Academy, there is little evidence to support this belief. What teachers described primarily took the form of informal teacher support for one another rather than full acceptance of responsibility for student outcomes.

Teachers' responses to the survey items indicate an overall positive perception of the level of collective responsibility at Colere Academy. Nearly all teachers selected "most" or "all" for all seven of the eight items measuring collective responsibility. No teachers selected "none" for any of the items (Table XL).

Table XL

XL. COLERE ACADEMY TEACHER RESPONSES TO COLLECTIVE RESPONSIBILITY 2015 SURVEY ITEMS

Collective responsibility "Teachers at this school..."	2 Some	3 About Half	4 Most	5 Nearly All	M	SD
	Percent	Percent	Percent	Percent		
Help maintain discipline in the entire school, not just their classroom	13.33	0	33.33	53.33	4.25	1
Take responsibility for improving the school	6.67	0	33.33	60	4.44	.81
Feel responsible to help each other do their best	6.67	0	26.67	66.67	4.5	.82
Feel responsible that all students learn	6.67	0	26.67	66.67	4.5	.82
Feel responsible when students in this school fail	6.67	26.67	46.67	20	3.81	.83
Are really trying to improve their teaching	6.67	0	60	33.33	4.19	.75
Are willing to take risks to make this school better	13.33	6.67	53.33	26.67	3.94	.93
Are eager to try new ideas	13.33	0	46.67	40	4.13	.96

As shown in Table XL, teachers feel that the majority of teachers at Colere Academy take joint responsibility for the disciplinary climate and for supporting teaching and learning across the school. There was more disagreement, and overall less positive perceptions, that teachers "feel responsible when students in this school fail", (M = 3.81, SD = .83). After calculating descriptive statistics and frequencies for the various individual items, I tabulated a summed score. Because higher scores on all items indicate a more positive perception, no items required reverse scaling. Summed scores were averaged to maintain the same scale as the original survey. Colere teachers reported overall high levels of collective responsibility (M= 4.23, SD = .69).

Survey data show an overall positive perception of collective responsibility, with teachers evincing a sense of shared responsibility for student learning and helping others do their best. In

interviews, however, teachers did not articulate an embrace of collective responsibility for student success, though they did describe informal support among colleagues. However, examples of the lackadaisical book club and circumscription of the instructional coach's role, suggest that even this sense of informal support was not representative of shared responsibility for authentic professional improvement. This is underscored by several teachers who explicitly communicated that collective responsibility was not as high as they felt it needed to be, and that while it was a friendly and fun place to work, they did not often engage in joint work related to teaching and learning. One teacher describes the general "open door" tone of the building and the sense of collaboration and responsibility for helping one another.

> I knew I could go to any teacher and get support. So, we all knew who we could go to if we had technical problems, computer issues, if I needed an idea for something in my classroom, I knew who to go to...The staff is one of the most welcoming in the corporation. They just love them. Some buildings you go into, you don't get that feeling at all. It's very cold, very – our building is not that way. And never has been.

Teachers' examples of responsibility for one another were vague, and rarely exhibited a true responsibility for improvement in practice, and certainly not one anchored in student outcomes. One of the teachers characterized the informal nature of monthly grade level meetings under the previous administration. She said:

> When we'd go to grade level meetings, we would have them once a month. And we would collaborate, "How's it going? What do you need from me? How can I help?" And then, "Here are some things I would like you to look at." So, it was a give and take. And now grade level meetings are every single week – so four times a month – and when we go, the curriculum leader has an agenda.

The teacher contrasts the previous approach to the new weekly meetings, which are supervised and where the agenda is no longer set by teachers. This suggests that while teachers worked in a "give and take" relationship, that there were no expectations for concrete improvement to be taken up as a result of such discussion. Under the previous leader, teachers described supporting one another and sharing trust in the group, which allowed for meaningful professional sharing. One teacher describes the dynamic:

> We were able to admit when you did something wrong, and then you got help on how to do it better. Now, you go to your select few people, and they usually know what to do, too, but it's just not as collaborative, like, "Hey, we're all first-grade teachers. Let's all discuss how did that lesson go that you taught?" That's how it was before."

Meetings under the new leader feel more high-stakes for the teachers than professional problem-solving conversations in the past. Before, the teacher might have gathered with a group of teachers to discuss an issue of their choosing; the grade level meetings now feel less collaborative, more directive, driven by an agenda, and limited to a "select few people," meaning curriculum leader, district coach, and others assigned to the group. In tandem with the findings reported for collaboration and teacher influence, teachers' accounts of mutual responsibility for each other's practice was unlikely to be of consequence to instructional improvement or to translate to true collective responsibility for student learning. When asked about responsibility for strengthening student learning, one responded, "We are working together and doing our best, but if students come in so behind, or don't retain the information, or if home doesn't reinforce the learning, then we can't be held accountable for that." Here the teacher makes the explicit claim that, while teachers do their best to meet students' needs, teachers cannot fairly be held accountable for student learning.

Another teacher deflected full responsibility for student learning from teachers as well, and similarly emphasized student's retaining of information as a primary factor in student achievement. She explained:

> We're all scored on that because that all goes on our evaluation as well. But ideally, it's because our first grade went to second grade up to third grade. So, hopefully they learned something in first grade and were able to learn something more in second and third, so I mean, we're all responsible. But it's also whether they remember. A lot of things are forgotten, and if you don't keep doing it and keep doing it, which we don't have time to keep doing it, because we gotta move on to the next thing, you forget it. So, it's all being taught. It's just how much is actually being remembered.

The teacher indicates that, regardless of the grade taught, teacher evaluations are based at least partly on the school's performance on the annual assessment. She acknowledges that student performance in the later grades is a product of their learning throughout the grade levels, intimating a sense of collective responsibility for student learning. However, by suggesting that ultimately, it's a question of "how much is actually being remembered" by the student, she places responsibility for achievement on the students themselves. This punctuates what the previous teacher notes, "We can't be held accountable" if students "don't retain information." The sense of collective responsibility expressed here is significantly circumscribed by the teachers' expressed belief that student success is a function of the students' capacity for information recall more than it is influenced by the teachers' effectiveness in teaching the material. By shifting the responsibility on to students, teachers preserve their sense of efficacy for teaching despite trends of underperformance.

While survey data show an overall positive perception of collective responsibility, teacher interviews suggest that, while Colere teachers believed they exhibited collective responsibility, in their own words they often abdicated responsibility for student outcomes. What

teachers at Colere described when thinking about collective responsibility is better characterized as informal collegial support rather than as collective action oriented toward improving student learning.

F. Conclusion

Colere Academy provided a unique opportunity to explore the extent to which the theorized model of collective teacher efficacy was operant in a low-performing setting. Public performance reports, survey, and interview data provided evidence that several of the factors included as antecedents and consequences of collective teacher efficacy in the literature were relevant to CTE at Colere Academy. This study illuminates nuanced ways in which teachers at a low-performing school construct efficacy beliefs and the extent to which those beliefs translate to positive organizational outcomes, and ultimately, student outcomes.

Mastery experience and emotional state were evidenced as salient remote sources of CTE. While mastery experience, as conceptualized in the literature, was not a salient factor, teachers drew on proximate, incremental experiences of success within their classrooms to form efficacy beliefs. Furthermore, teachers actively questioned the validity of the accountability system that deemed them "underperforming," further enabling their collective efficacy beliefs. Emotional state also surfaced as a relevant factor to the formation of CTE at this school. The warm and welcoming environment described by teachers fostered a shared sense of enjoyment of, and confidence in, their work. Additionally, contextual factors such as school composition, teacher influence, collaboration, and principal leadership helped foster robust efficacy beliefs among teachers at Colere Academy. These factors, however, proved temporary and superficial, as they were unconnected to student learning and were not sustained beyond the tenure of the

leader. They seemed to be constructed in ways that contributed to what appeared to be a false, or at least inflated, sense of collective efficacy among Colere Academy teachers.

The robust collective teacher efficacy beliefs held by Colere Academy teachers did not appear to work through the normative consequences suggested by the theoretical model. While interviews suggest effort was perhaps a normative expectation among teachers, the data did not evince ambitious organizational goal-setting, resilience, or persistence as constituent to the normative culture of Colere.

Finally, Colere Academy only somewhat evidenced the positive organizational outcome of teacher commitment, and, despite teachers' belief that they embodied collective responsibility, the data suggests Colere teachers did not take shared responsibility for all students learning. Ultimately, Colere Academy did not experience increased levels of student achievement. Findings in both of these categories were inflected by a change in leadership, with teachers contrasting in interviews their experience of having two separate principals at Colere. In interviews, teachers evinced stronger commitment to the school than to the profession, and they expressed strong commitment to Colere under the previous principal than during the tenure of the new leader. Teachers described a sense of collective responsibility for each other but not for student learning under the previous leader. Some described the new focus of the current leader on student growth as detrimental to the esprit de corps the previous leader fostered.

VI. A CROSS-CASE ANALYSIS

The conceptual framework of this study posits a model of the formation and influence of collective teacher efficacy in schools. The framework draws on the research literature to identify contextual factors (including school composition, teacher influence/shared leadership, collaboration, and leadership) and remote sources (including mastery experience, vicarious experience, social persuasion, and emotional state) that contribute to the formation of efficacy beliefs. The model also identifies the normative consequences (including goals, effort, persistence, and resilience) and outcomes (including student achievement, teacher commitment, and collective responsibility) associated with high collective teacher efficacy in the research literature. In each of the previous two chapters, I organized case studies and presented data that illuminated collective teacher efficacy, its formation, and its influence in a high- and a low-performing setting through the lens of this conceptual framework. The existence of a school with high collective teacher efficacy but low student achievement challenged the current model, and this study took advantage of the unique opportunity to explore the ways in which CTE formed and the extent to which it contributed to positive organizational outcomes as suggested by the literature in two different school contexts. The cross-case analysis that follows builds on the two cases by examining the similarities and differences across contexts to identify themes and draw conclusions about how CTE seemed to form, sustain, and operate in each of the schools. This chapter not only addresses how and to what extent the two schools' experiences of CTE aligned to the predominant model captured in the conceptual framework, but also explores the two propositions I offered as hypotheses for why the mutually reinforcing cycle between higher levels of collective teacher efficacy with higher levels of student achievement may not have been fully operative at the low-performing setting.

In the first section of this chapter, I present survey results and state report card data to compare the reported levels of collective teacher efficacy and academic achievement at Courage Prep and Colere Academy. Next, I present survey, performance, and interview data to address the first research question, contrasting how and to what extent factors identified in the literature as relevant to collective teacher efficacy seemed to have contributed to the formation of strong efficacy beliefs in the high- versus low-performing settings. This data is presented as a factor-by-factor comparative analysis. By investigating and analyzing each of the factors independently, I describe how the formation of CTE converged and diverged in different ways at each school. This factor-by-factor analysis offers insights into how and to what extent these factors contributed to the formation of strong efficacy beliefs at each school.

Next, I address the second research by comparing how and to what extent the higher level of collective teacher efficacy in these schools worked through teacher effort, persistence, resilience, and goal setting to foster the positive organizational outcomes identified in the literature. This data is presented in a comparative analysis of the normative consequences and then the organizational outcomes.

In the last section of this chapter, the school sites are considered holistically through the lens of the initial propositions formulated at the beginning of my inquiry, "false or delusional efficacy," and "underdeveloped or unharnessed normative consequences." This structure illuminates the constellation, and differential weighting, of information that appeared most relevant to the formation of CTE at the low- versus high-performing school and the nuanced ways teachers at each school interpreted parent participation and family demographics in making sense of their collective efficacy. I draw on the comparisons across cases of the formation of

CTE across the schools to investigate how the factors that form CTE work together in different contexts such that two schools could have strong CTE but such different performance outcomes. I also explore the differential manifestation of normative consequences, and the extent to which they are oriented towards the "right things" to drive achievement, between the two performance settings. In this last section of the chapter, I draw on the comparisons across cases of the influence of CTE on outcomes across the schools to investigate how the relationships among CTE and different outcomes can be bound up together in different contexts such that two schools could have strong CTE but such different performance outcomes.

A. Collective Teacher Efficacy and Achievement at Courage Prep and Colere Academy

In a spring 2015 survey of collective teacher efficacy in all 32 schools of the Hope District Courage Prep had the highest level of CTE and Colere Academy ranked fourth. Both schools' CTE scores were high not only relative to other district schools, but also compared to the available norm group, as detailed in the previous two chapters. Courage Prep teachers reported an overall higher perception of collective teacher efficacy (M = 5.43, SD = .6) than did teachers from Colere Academy (M = 5.11, SD = .69). Furthermore, Courage Prep teachers reported more positive perceptions for five of the six individual items measuring collective efficacy beliefs, scoring higher on items in which higher scores indicate positive perceptions of CTE and lower on those in which lower scores indicate more positive perceptions of CTE. The one exception was the sixth item, "Teachers in this school do not have the skills to deal with student disciplinary problems." Table XLI details the mean and standard deviations at the two schools for each survey item measuring CTE.

Table XLI

XLI. MEANS AND STANDARD DEVIATIONS FOR COLLECTIVE TEACHER EFFICACY SURVEY ITEMS

	Courage Prep		Colere Academy	
	M	SD	M	SD
Teachers in the school are able to get through to the most difficult students.	5.14	1.07	4.47	.92
Teachers here are confident they will be able to motivate their students.	5.14	1.07	4.87	.84
If a child doesn't want to learn, teachers here give up.	1.43	.53	1.6	.83
Teachers here don't have the skills needed to produce meaningful student learning.	1.29	.49	1.47	.64
Teachers in this school believe that every child can learn.	5.86	.38	4.87	1.77
Teachers in this school do not have the skills to deal with student disciplinary problems.	1.86	.69	1.47	.74

This initial analysis indicated more positive perceptions of CTE at Courage Prep than at Colere Academy, which prompted me to explore whether or not the difference was significant. An independent t-test was conducted to evaluate whether or not the reported levels of CTE differed significantly at Courage Prep (M=5.43, SD = .6) and Colere Academy (M=5.11, SD = .7). The assumptions of normality and homogeneity of variance were first assessed. The results of a Shapiro-Wilk test were not significant for either group, $W = .868$, $p = .143$; $W = .94$, $p = .38$. Thus, the test failed to reject the null hypothesis that the test distribution differed significantly from the normal distribution and therefore normality could be assumed. Levene's test for equality of variance was used to assess whether the homogeneity of variance assumption was met. The result of Levene's test for equality of variance was not significant, $F(1,20) = 3.578$, $p =$

.456, which indicates that homogeneity of variance can be assumed. The results of the t-test were not significant, $t(22) = 1.044$, $p = .31$. Teachers at Courage Prep and Colere Academy did not have significantly different perceptions of collective efficacy at the time of the survey.

While there was no significant difference between the schools' reported levels of collective teacher efficacy, the schools had experienced significantly different performance trajectories in the years leading up to, and immediately following, the survey. Prior to this period, Courage Prep received "A" grades on the state accountability instrument, between 2012 and 2015, indicating Courage Prep as a high-performing setting with high collective teacher efficacy. At the same time, Colere Academy received failing grades on the state report card ("F" grades each year between 2012 and 2015 except 2013, when the school received a "D"), indicating Colere Academy as a low-performing setting with high collective teacher efficacy. The U.S. Department of Education (2010) defined lowest-performing schools as those in the bottom five percent of schools within a state or district. At the time of the survey, Colere Academy was in the bottom four percent of elementary schools across the state and had the second lowest percent of students scoring proficient across Hope District elementary schools. Courage Prep, on the other hand, was in the top 20% of schools across the state and had the second highest percent of students scoring proficient across Hope elementary schools.

As detailed in the methodology section, school performance in this study is operationalized as schools' A-F rating on the state accountability report card. During the time of interest for this study, these grades were determined by establishing a preliminary English/Language Arts score and a preliminary Mathematics score based entirely on the percentage of students that passed the mandatory statewide annual assessment. That preliminary score could then only be slightly adjusted due to penalty or bonus points if the school decreased

(or increased) student growth or failed to meet (or met) participation rate targets. As such, the reported letter grade is a fair proxy for student proficiency rates on the annual assessment and better protects the anonymity of the participating schools than proficiency rates.

Table XLII

XLII. STATE ACCOUNTABILITY LETTER GRADES

	2012	2013	2014	2015
Courage Prep	A	A	A	A
Colere Academy	F	D	F	F
Hope District	C	D	C	C

In summary, Courage Prep and Colere Academy reported similarly robust levels of collective teacher efficacy in the 2015 survey. Leading up to the survey, and in the academic testing window following the survey, the experienced divergent academic performance. Courage Prep consistently outperformed the majority of Hope District elementary schools and earned an A on the state's accountability report card. Colere Academy, on the other hand, was persistently ranked as one of the lowest performing elementary schools in Hope District and received a failing grade on the state's accountability report card.

B. Formation of Collective Efficacy Beliefs at Courage Prep and Colere Academy

In the prior two chapters, I used the conceptual framework to organize and present data to consider the factors that likely contributed to the formation of CTE at each case school in detail to address the first research question: How, and to what extent, did factors identified in the literature as relevant to collective teacher efficacy contribute to the formation of strong efficacy beliefs in both a high- and low-performing school? Here, I compare and contrast teachers' experiences of these antecedents in relation to their CTE in order to further illuminate the nuanced ways in which collective efficacy beliefs were formed in a high- versus low-performing setting. My decision rules for inclusion of factors were:

- Not included: Factors that were not in evidence at either school.
- Included: Factors that lacked evidence at one school, but were in evidence at the other. I explored potential reasons for this difference across contexts.
- Included: Factors that were in evidence at both schools. I examined the similarities and differences in how those factors manifested in each context.

Of the four remote sources of efficacy, three appeared relevant to cross-case analysis: mastery experience, emotional state, and social persuasion. The other remote source included in theoretical models of CTE formation, vicarious experience, was not a salient theme in the data at either school. All four contextual factors were included in the cross-case analysis. A summary of the decisions for inclusion is provided in Table XLIII.

Table XLIII

XLIII. RESEARCH QUESTION 1: DECISIONS FOR INCLUDING CONSTRUCTS IN CROSS-CASE ANALYSIS

Construct	Courage Prep	Colere Academy	Include?
Mastery Experience	Global measures of prior achievement present and relevant. Proximate, incremental experiences of mastery present and relevant.	Global measures of prior achievement not present. Proximate, incremental experiences of mastery present and relevant.	Yes.
Emotional State	Positive emotional state present and relevant. Trust and psychological safety present and relevant.	Positive emotional state present and relevant. Trust and psychological safety present and relevant.	Yes.
Social Persuasion	Social persuasion, defined as clear expectations and verbal encouragement in meeting expectations, not present. More general experiences of teacher affirmation and appreciation present and attributed.	Social persuasion, defined as clear expectations and verbal encouragement in meeting expectations, not present. More general experiences of teacher affirmation and appreciation present and attributed. Credibility of performance feedback was called into question.	Yes.
Vicarious Experience	Not supported by data.	Not supported by data.	No.
School Composition	Present and relevant, yet nuanced such that teachers attributed school's achievement primarily to parents and family life.	Present, but not as expected. Teachers attributed performance primarily to parent/student demographics which helped enable efficacy despite low-performance.	Yes.
Teacher Influence	Present and attributed. Bounded by expectation and structures.	Present and attributed. Influence and autonomy appeared unbounded by expectations.	Yes.
Collaboration	Present and relevant, with defined structures and systems to orient collaboration toward student outcomes.	Present and relevant, without formal structures or systems to orient collaboration toward student outcomes.	Yes.
Leadership	Present and relevant, with an emphasis on the supportive behaviors of the principal.	Present and relevant, with an emphasis on the supportive behaviors of the principal.	Yes.

In the following sections, I provide a brief comparison of each construct across the two schools, presenting relevant survey, interview, and performance data to illustrate how the factors were operative in similar and different ways in each school context.

1. Mastery Experience

Mastery experience, as typically conceptualized in the literature, appeared relevant to the formation of efficacy beliefs at Courage Prep, but not at Colere Academy. The performance trajectories of the schools, as described in the introduction and prior two chapters, diverged significantly. Leading up to the time of the original survey, Courage Prep had experienced a consistent record of high performance according to the state's accountability report card metrics, while Colere Academy persisted in low-performance categories.

Table XLIV

XLIV. PERFORMANCE TRAJECTORIES

	2013		2014		2015	
	Grade	Percent Passing	Grade	Percent Passing	Grade	Percent Passing
Courage Prep	A	90	A	90	A	66
Colere Academy	D	49	F	46	F	14
Hope District	D	60	C	59	C	33

Moreover, these public, external ratings aligned with teachers' internal perceptions of the school's performance. Across retrospective interviews, teachers at Courage Prep perceived and described achievement as "above average," while those at Colere Academy used phrases such as "low" and "low-average" to describe academic trends. In the 2015 survey, teachers at Courage Prep had higher perceptions of team performance, and greater unanimity in those perceptions, than did teachers at Colere Academy (Table XLV). One teacher at Colere Academy summarized her assessment of the school's performance, saying, "Overall, I would say that we are probably low-average...It's certainly not the lowest school I've ever taught in and it's not the highest. So, I would say low-middle." By contrast, one teacher at Courage Prep described the reputation of the school in the district as "the Disneyland of schools," and another summarized her evaluation of school achievement by saying, "Our school performs above not only district and state averages, we have high performing, high achieving students and we continue to push."

Table XLV

XLV. MEAN AND STANDARD DEVIATIONS FOR PERCEPTIONS OF PERFORMANCE SURVEY ITEMS

	School 1		School 2	
	M	SD	M	SD
This school meets or exceeds parents' expectations	5.63	.52	4.33	1.05
This school does superb work	5.88	.35	4.93	.88
There are critical quality errors*	5.63	.52	4	1.35
This school keeps getting better and better	5.25	.71	3.93	1.39

I conducted an independent t-test to assess if the differences in perceptions of performance among Courage Prep and Colere Academy teachers were significant. A Shapiro-Wilk test was conducted to assess normality and the results were not significant for either group, $W = .934$, $p = .557$; $W = .969$, $p = .850$. Thus, the test failed to reject the null hypothesis that the test distribution differed significantly from the normal distribution and therefore normality could be assumed. Levene's test for equality of variance was used to assess whether the homogeneity of variance assumption was met. The result of Levene's test was not significant, $F(1,21) = 3.266$, $p = .085$, which indicated that homogeneity of variance can be assumed. The independent t-test was significant, $t(23) = 4.164$, $p = .000$. Teachers at Courage Prep (M = 5.59, SD = .35) had significantly higher perceptions of team performance than did teachers at Colere Academy (M = 4.3, SD = .83).

The public performance report, survey, and interview data evidence that mastery experience, conceptualized as prior school achievement, operated as an antecedent to reported CTE at Courage Prep, but not at Colere. While this is the prevalent means of operationalizing mastery experience in the empirical literature (Goddard et al., 2004b; Ross et al., 2004), social cognitive theory specifies that actual enactive experience likely engenders efficacy beliefs (Bandura, 1997; Goddard et al., 2015). Enactive experience refers to the lived experiences of teachers that signal individual and collective mastery and success (Donohoo et al., 2020; Goddard et al.; 2015). Interview data at both Courage Prep and Colere Academy support this conceptualization of mastery experience as a contributing factor to collective efficacy beliefs. Teachers at both schools, when asked to describe moments of success related to student learning, tended to point to proximate experiences of success, such as individual student achievement or classroom-level growth, rather than school-wide, global success, such as receiving high marks on

the state report card. Teachers at Courage Prep certainly noted the state accountability performance record, but when discussing their own mastery experiences, they focused on student- and classroom-level learning progress

At Colere Academy, teachers also acknowledged some mastery experience in the form of enactive experience, that is, indicators more aligned to the lived experiences of teaching. For example, teachers noted experiences of students growing in their classes. Teachers seem to have drawn on these more proximate and incremental indicators of mastery experience as a source of efficacy information. A Colere Academy teacher shared how, even in the context of a school that performs at a low level on global indicators, she finds experiences of success in her work. She explained, "Well, I mean, according to the testing, we're not doing well at all. So, I think it's an F school." In her classroom, however, she noted:

> I see growth. So, I have a [student who scored] 40 percent on a math test, and he got a 97 percent this week. So: huge, big deal! So, we got that on our Wonderful Work board. Forty percent and they get a 60 percent? Big deal! Because I got a 40 percent last week, I got a 60 percent. So, is 60 percent good? No, not at all, but if you don't know anything, and now you got a 60 percent, that's an amazing thing.

This teacher's emphasis on student growth was echoed by others, and this sense of pride in growth seemed to fuel Colere Academy's teachers' efficacy beliefs, along with a frequent connection between performance and school composition. One teacher suggested that her sense of efficacy is facilitated by emphasizing growth over achievement, saying, "That's just what I look at...we're growing. We're not passing, but we're growing." Another teacher echoed this sentiment, saying:

> It's hard to say, "Oh, you're an F school." Well, you're comparing us to kids that come in knowing a lot more. When my kids don't know their letters or

> their letter sounds, and they're spelling words right, that's a big growth. So, it's just if you look at where they started, and where they are now.

Teachers also noted the discrepancy between the growth they observed, often anecdotally, among their students and the lack of school-wide growth reported on the state assessment and report card. One teacher elaborated:

> It's all emphasis on the state test. That's what you've got to manage. And, it's not necessarily the growth. I do see, coming from my kids, from kindergarten starting with them last year and this year, they've grown so much. Now, if you're looking at the data, not necessarily. That doesn't show a lot.

This teacher shared her frustrations with what she perceived to be a disconnect between the lack of progress captured on the annual assessment and what she saw in her classroom. A fellow Colere teacher echoed this sentiment, saying "All of the progress we see in our kids despite all of the challenges, it doesn't always show up in the data."

The focus on growth over achievement at Colere Academy seemed to inflate their sense of mastery experience, leading teachers to feel success regarding the achievement of benchmarks that were lower than what the teachers would expect of students attending other schools. While we might expect consistent low performance on the state report card to erode the teachers' CTE, they seem to have preserved their efficacy beliefs by constructing a narrative about the state accountability metric as unfair, because school composition differences are not taken into account. By delegitimizing the validity of the state report card, teachers could disregard low global performance, and the lack of incremental growth throughout the years on that assessment, and focus instead on individual and classroom-level growth. By understanding how teachers may have lowered their expectations for achievement and emphasized growth at Colere

Academy, we can start to understand how teachers might feel strong collective efficacy but continue to perform at a low level.

At Colere Academy, the construction of CTE was weighted heavily on incremental and more proximate benchmarks of success that were coupled with a delegitimization of the broader accountability metric and an emphasis on external factors when explaining achievement outcomes. This seems to have enabled a robust, but seemingly overinflated, sense of collective efficacy despite chronic underperformance. In contrast, Courage Prep teachers also drew on proximate enactive experiences of success in formulating CTE beliefs, but these more incremental indicators of success were complementary to the global measures of prior achievement.

2. Emotional State

Teachers' experiences of emotional state, and the extent to which it helped foster collective efficacy beliefs, were similar across the schools. According to the 2015 survey, teachers held positive perceptions of trust and psychological safety at both schools. Perceptions of trust were slightly higher at Colere Academy **(***M=4.9. SD = .74)* than at Courage Prep (M= 4.63,SD = .7), but the difference was not significant, t(23) = .865, p = .397. Perceptions of psychological safety were slightly higher at Courage Prep (M = 4.73, SD = .5) than at Colere Academy (M = 4.56, SD= .28), but again, the difference was not significant, t(23) = .512, *p* = .614.

At both schools, teacher interviews elaborated their experiences of trust and psychological safety as well as the positive emotional tone of the school overall. Teachers at Courage Prep remarked on how distinctly "bright and friendly" the school was, noting it was "a place you want to be" and "want to continue to come to." One teacher went so far as to liken the

school to “Disneyland.” Colere teachers felt similarly about their school at the time of the survey, describing it as “very positive, very encouraging, and very supportive” and indicating that overall the building was a “very comfortable” place to be.

Teacher interviews at both schools suggest that the high levels of trust and psychological safety likely contributed to a shared identity and collective sense of efficacy. For example, teachers at Courage Prep illuminated ways that trust and psychological safety had enabled deprivatization of practice and productive struggle within collegial exchanges. One teacher noted that trust and psychological safety enabled courageous conversations among teachers, which in turn, enabled a shared commitment to improvement, concluding that “we are all just here to make each other better, and that’s the huge thing.” Colere teachers similarly connected their experiences of trust and psychological safety with collegial exchange and support. One teacher described how it was a “fun place to work” in which “teachers looked to each other for guidance and for help.” She went on to say, “If someone couldn’t do something, people jumped right in and helped them.”

Interview data also surfaced nuanced ways in which the described emotional state inflected efficacy beliefs at each school. Teachers at Courage Prep oriented their experiences more concretely toward student outcomes and described specific ways in which psychological safety and trust were harnessed to improve instruction, while Colere Academy teachers spoke in much more general terms about collegial interactions and fun interactions, but they were not explicitly related to improvements in teaching and learning as they were at Courage Prep.

Specifically, teachers at Courage Prep emphasized a “community of learners” who, as one teacher described it, “come together in a non-judgmental way, pick apart a problem, and move on with the solution.” Courage Prep teachers spoke in terms of an “openness to new ideas”

and “willingness to try new things” regarding instructional strategies and approaches, and they described ways in which shared trust and psychological safety enabled innovative and collaborative solutions to problems of practice. As one teacher reflected, teachers at Courage Prep could “walk in and out of each other’s room” with “no sense of guard or anything like that.” Another teacher described the power in teachers being able to admit to one another, “Look, I struggle with this,” or “I need help with this.” These exchanges were often situated as a response to struggles teachers faced with individual students or in their classrooms. As one teacher summarized, “We can challenge each other. We can troubleshoot issues with students or say, ‘You’re really struggling with this kid and I can help.’”

At Colere Academy, by contrast, teachers tended to emphasize the positive atmosphere through the lens of their own enjoyment, describing how they used to spend time “laughing together” and “having fun.” One teacher remarked, “We had fun. We would work together, but we were able to have fun doing it.” Several teachers noted that the fun collegial environment enabled their efficacy, noting, “It made us feel like we could succeed because we had each other.” and “It felt good to be a part of a team.” However, the ways in which teachers at Colere Academy elaborated their experiences of emotional state did not explicitly connect to improvement of instructional practice. Teachers tended to describe the ways in which positive, often informal, collegial interactions enhanced their enjoyment of their work, noting that they “loved coming to school” and that “everyone was relaxed.” One teacher claimed that a visitor to the school would think, “Wow, they are having way too much fun.” Teachers at Colere did not articulate ways in which this environment catalyzed improvements in their practice.

Teachers at the two schools reported and described similar experiences of emotional state. They held positive perceptions of trust and psychological safety and a positive and

welcoming environment that facilitated asking one another for help. The schools differed in how they described what that positive environment looked like, with Courage Prep teachers emphasizing the formation of a community of learners oriented around instruction, and Colere Academy teachers emphasizing a fun team dynamic that was not associated with teaching and learning.

3. Social Persuasion

Teachers' experiences of social persuasion, and the extent to which it helped foster collective efficacy beliefs, were similar across the schools. Courage Prep and Colere teachers felt valued and appreciated for their work. Teachers at Courage Prep described a leader who was "always complimentary," "praised you all the time," and frequently told them, "You're doing a great job." Similarly, teachers at Colere referred to the leader as a "cheerleader who was proud of us" who made it known that he "appreciated our hard work."

While teachers indicated feeling valued and affirmed in their work, I suggest that social persuasion was only operant in a limited way in both settings, because the leaders' behaviors as described by teachers do not align to social persuasion as described in the literature — communicating expectations and displaying confidence that the group can meet the expectations. Instead, teachers' descriptions of social persuasion took the form of vaguer teacher appreciation such as encouraging notes, candy, meals, and general statements like, "I have the best teachers." Teacher interviews at both schools failed to evidence that the leaders leveraged social persuasion to persuade the group to pursue clearly articulated performance expectations. Courage Prep teachers described abundant verbal expressions of gratitude and even "teacher appreciation gifts of something like that" from time to time. However, their examples of encouragement were unanchored in specific outcome expectations and, as one teacher put it, "not necessarily specific

to a cause and effect." Colere Academy teachers noted the leader's "constant positivity" and frequent gestures of gratitude including cooking "a big luncheon" for teachers and leaving donuts for them in their lounge. Similar to Courage Prep, these behaviors were not tethered to specific expectations for teaching and learning. One Colere teacher reflected, "I don't know if we knew what we were celebrating. If I go to a meeting and am asked, "Can you share something good that's happened this week?" that's pretty easy to do." She went on to question how meaningful that type of encouragement was to their ongoing learning, saying, "How can I relate it to something that I've tried new or learned? That was not necessarily the case with him."

Despite not fully aligning to conceptions of social persuasion in the literature, teachers' perceptions indicate that even non-specific celebrations and encouragements helped teachers feel seen and valued at both Courage Prep and Colere Academy. While teachers did not describe specific feedback aligned to clear expectations, when asked about encouragement that contributed to their efficacy beliefs, teachers explicitly named these general sentiments of appreciation from school leaders.

One difference emerged between the two school's experiences of social persuasion. At Colere Academy, the credibility of the leader's feedback on teacher performance was explicitly questioned by several participants. While the majority of Colere teachers spoke fondly of the leader's encouragement and affirmation, two teachers and the newly hired leader, cast doubt on the credibility of his feedback on instructional practice. One teacher suggested the leader's instructional lens was limited and that even if she was clearly not utilizing instructional minutes well, she could always "convince him that there was a good reason to do it." This same teacher connected noncredible feedback to an unwarranted sense of efficacy, stating, "Everyone thought we were doing great regardless [of outcomes]." The newly hired leader lamented inheriting years

of indistinguishable performance reviews, claiming, “Everyone had nearly the same exact rating - these stellar performance reviews - but I can tell you, they aren’t all the same in terms of their teaching.” It appears as though the effusive, but not entirely credible, feedback led to an unwarranted and inflated sense of collective efficacy at Colere. As one teacher described, “People felt good around him, but were we getting any better? I don’t think so. Most people felt good about themselves, but our scores were going the wrong direction most of the time.”

4. School Composition

At both Courage Prep and Colere Academy, every interviewed teacher referenced some form of parent and student demographics as the primary contributor to the school’s level of performance. However, how teachers made sense of the relationship between parent/student factors and achievement, and how that ultimately shaped efficacy beliefs, diverged between the high- and low-performing setting. Courage Prep and Colere Academy served distinctly different student populations. Courage Prep served a predominantly white student body, less than half of which qualified for free or reduced lunch. Colere Academy, on the other hand, served a 93% minority student population, nearly all who qualified for free or reduced lunch (Table XLVI).

Table XLVI

XLVI. 2015 STUDENT DEMOGRAPHICS AT COURAGE PREP AND COLERE ACADEMY

	Percent of Students Eligible for Free or Reduced Lunch	Percent of Minority Students
Courage Prep	43	37
Colere Academy	98	93

Courage Prep exhibited the positive relationship between high student socio-economic status (SES) and CTE evidenced in the literature (e.g. Adams & Forsyth, 2006; Francera & Bliss, 2011; Hoy et al., 2003). While this, on its own, was not surprising, the ways in which teachers made sense of school composition in relation to their achievement and efficacy beliefs was. Interviewed teachers unanimously attributed the school's success almost entirely to parent and student backgrounds, stating, "I can't say enough about the parents," and, "We wouldn't be Courage Prep if it weren't for the parents." One teacher went so far as to say, "If you took our staff and placed us in a struggling school, we wouldn't do any better than that of the teachers that are there now." Teachers felt that "Absolutely, [the primary contributor to success] is the parent involvement. Kids come with a skillset ready to learn." Referencing the hierarchy of needs, one teacher noted, "If they're not getting that love and that comfort and security from home, then that's where you're spending your day." She went on to say that she can't imagine how a school could "duplicate" what "we have here" without the same parents and home experiences. In these reflections, teachers at Courage Prep claim little credit for the students' and school's accomplishments. Despite scoring highly on measures of CTE, in interviews the teachers did not attribute success to their instructional practices or organizational approaches; rather, in their descriptions, the success was largely a function of home life and parent SES. Collective teacher efficacy at Courage Prep seemed to stem more from who they were teaching than who was teaching. Therefore, the school's composition seemed to enable efficacy beliefs at Courage Prep primarily by minimizing the perceived challenge of the work.

Teachers at Colere Academy similarly attributed the school's level of performance almost entirely to students' background and homelife. While they did not attribute their collective efficacy to the students and families in their school community, they drew on student

demographics to lower their expectations for student success and appeared to qualify the possible impact of the school and teachers on student learning given their student body. One teacher said the biggest contributing factor to achievement was “Just our demographics.” and claimed, “It is nearly impossible to get past what is going on at home - or more like what isn’t going on at home.” Other teachers similarly signaled an abdication of responsibility for student outcomes, stating, “The kids are worse every year. I don’t know how we overcome [that].” and “[The state] compares us on the same output but our inputs are totally different.” This in turn, seemed to allow teachers to reconcile chronically low student achievement with their own positive efficacy for the work by foregrounding external factors in explaining student success. By focusing on ways in which “parents are kind of dropping the ball” and what students have or have not “learned in their home”, teachers seemed to create a new reference point from which to assess their own abilities and success in influencing student learning. One teacher underscored this collective lowering of the bar for desired impact on student learning given perceived external influences noting that “We do what we can given what we’ve got.”

Courage Prep and Colere Academy teachers foregrounded parent and student demographics when explaining their school’s level of performance. However, there were important differences in how the emphasis on school composition inflected CTE in these schools. Courage Prep teachers’ CTE was enabled by who they were teaching. The school’s composition of students and families lowered the perceived challenge of the task in ways that contributed to robust CTE. At Colere Academy, school composition was framed as a liability rather than an asset. While it would seem this might undermine efficacy beliefs among the team of teachers, Colere teachers leveraged student demographics and home life as a qualifying consideration in lowering their expectations for what their possible impact on student learning

could be. Colere teachers expressed a shared sense that they were doing all they could, and felt efficacious in their practice, but that their outcomes could never be exemplary because of the kinds of students that "walk in the door."

5. Teacher Influence

Limited empirical evidence suggests that teacher influence over school decisions, especially those related to teaching and learning, has a positive relationship to collective teacher efficacy beliefs. In this study, interview data suggest that teacher influence was operant as an antecedent to CTE at both the high- and low-performing sites. Teachers at both schools perceived a high degree of influence over their own classrooms and curriculum, a sense of voice in school processes and decisions, and involvement in leadership through committees and the school improvement process. Both Courage Prep and Colere Academy teachers connected these experiences of teacher influence to their collective efficacy for the work - one teacher at Courage Prep explained that "for decisions, if we can justify what we want with a focus on results and how they fit within our vision, then we have autonomy in how we do things and that feels empowering, like, 'Okay, we can do this." At Colere, teachers signaled that the autonomy and influence they enjoyed under the principal at the time of the survey helped foster CTE. Teachers noted that such influence indicated that the leader "knew we were all educated and we were here with a good heart and he respected that." They shared that he "made you feel heard and made you more confident." At both schools, teachers described experiencing a high degree of professional autonomy in their work, and repeatedly referenced how being regarded as professionals whose expertise was honored helped foster efficacious beliefs among teachers.

There were also important differences in how teacher influence was experienced, and its influence on efficacy beliefs, between the high- and low-performing settings. At Courage Prep

teachers described what has been characterized as directed or defined autonomy (DuFour & Fullan, 2013). That is, teachers enjoyed significant flexibility and freedom within defined parameters of the school's vision and expectations for outcomes. One teacher's reflections captured this notion well, stating, "For decisions, if we can justify what we want, with a focus on results rather than input, then we have autonomy in how we do things."

Colere Academy teachers described a much more unbounded autonomy where teachers' individual autonomy and choice was not directed toward any broader goals or expectations for outcomes. One teacher described curriculum and instruction as a "free for all." Another teacher commented, "He could come into my classroom, and I think no matter what I was doing or how crazy it was, I could convince him that there was a good reason to do it." Teachers' autonomy over curricular and instructional decisions was not circumscribed by an expectation that their decisions could be defended with evidence of their impact. With new leadership at Colere, teachers explained that the environment related to teacher autonomy shifted away from unbounded autonomy, with more direction and structures for collaboration and leadership provided by the school leader. On the surface, the implementation of direction and structures for collaboration at Colere seems similar in kind to the bounded autonomy described by Courage Prep teachers. The teachers at Colere, however, described the new boundaries on their agency as quite different from Courage Prep in degree.

Some teachers felt the earlier approach at Colere honored their expertise while the constraints of the new regime were stifling. "We were seen as professionals back then. Now we are seen as, in my words, kind of puppets." They described feeling micromanaged, even reduced to executing mandates under administrative surveillance. As one teacher put it: "I don't get to work on a lesson…[now] there's a data coach that's sitting there and we're being told what's to

happen." Another described curricular decisions: "Now we're forced to use it." The transition from unbounded autonomy to more strictly defined autonomy was challenging for teachers at Colere. "I almost quit teaching because it was so terrible. I know there are a lot of people around here...that were ready to hang it up." The unbounded autonomy Colere teachers had enjoyed in 2015 made them feel valued and respected as professionals, but they described how the severe shift to a more narrowly defined regime of bounded autonomy made them feel less trusted and valued as professionals. The autonomy at Courage Prep, by contrast, seems to lie between the two extremes described by Colere Academy—directed and bounded by structures and leadership priorities focused on student learning, but not at the expense of teacher agency.

Finally, in comparing the experiences of Courage Prep and Colere Academy teachers, how teachers are selected for shared leadership positions, and how their voice is solicited, emerged as an important consideration. Teachers at both schools described a highly democratic process in which they felt empowered and invited to volunteer their insights or self-nominate for leadership roles. At Colere, teachers contrasted that inclusive approach with recent shifts under the new leader. While the focus of this study was retrospective, focusing on the year of the survey and those immediately preceding and following, several teachers noted the recent change in leadership and its effects on teacher leadership and influence. These contrasts helped illuminate the ways in which teacher leadership, when appointed or hand-selected by the principal, seemed to actually undermine teacher leadership that bolsters CTE.

6. Collaboration

Interview and survey data analyzed for this study suggest that teacher collaboration was operant as an antecedent to CTE at both schools. Collaboration was the second most coded parent code for antecedents at Courage Prep and the fourth most coded at Colere Academy.

Teachers at both schools described the cultures as highly collaborative and characterized by frequent collegial interactions and teacher-to-teacher support.

There were important differences, however, in how teacher influence was experienced, and in how teacher influence informed efficacy beliefs between the two schools. While elements of teacher-driven, informal and spontaneous collaboration were present at both schools, these experiences of collaboration were complementary to more formal work related to teaching and learning at Courage, while the majority of examples offered at Colere were informal and not associated with instructional practice or student learning.

Teachers' descriptions of collaboration at Courage Prep, the high-performing site, suggested structures and defined parameters that kept collaborative activities tied to specific teaching practice expectations and student outcomes. Teachers provided examples of several formal systems for collaboration around student learning, including a Student Assistance Team that meets monthly, Learning Log and data meetings every two to three weeks, daily Universal Access time for planning and implementation (which they call "Success Time"), grade-level teams for planning, and teacher-led professional learning at monthly faculty meetings. Every teacher pointed to class and student-level data and goal-setting as a critical component of their collaborative work and nearly every teacher referenced planning content with grade-level partners.

One teacher described the routine of collaboration around teaching and learning:

> We have monthly staff meetings and those are usually multiple Thursdays a month. It's not just one. We meet several times on Thursdays during the month to talk about operational things or like academic progress. We discussed a lot of data. We do learning log meetings with our grade level and at learning log meetings we meet with our administrator and we talk about the progress of our children, and we discussed the data from progress monitoring. And if we have concerns of children who aren't moving much in growth. We will talk about

> ways that we can introduce some new strategies or some accommodations to try to help move them to the next level.

Courage Prep teachers also described teacher-initiated, informal, and loosely structured collaboration that was also oriented around improving instruction and student learning. One teacher shared that groups of teachers in grade bands gather informally in their shared hallways on a regular but informal basis. She explained, "We talk a lot and see what else people on our team are doing and we benefit from constantly having informal team meetings. I know the [grades] 3-4 hallway, because we're all in one hallway, we meet as a group and then the K-1-2 hallway meets as a group…It's just a constant conversation."

In contrast, the collaborative culture described at Colere Academy was characterized by informal exchange of ideas and an opt-in approach across disconnected initiatives like book clubs and gallery walks. One teacher explained that teachers had shared planning time built into the schedule, and teachers were free to gather during that time if they chose. "It wasn't a specific time that we had to meet, but it was like – it was kind of like just like known that, 'This is your time if you guys want to meet as a group.'" Several teachers noted that their grade level rarely utilized the time for collaboration. One described using the time as an opportunity "to catch up on work and sometimes just decompress together." Another teacher described this voluntary approach to collaboration, and its tenuous relationship to authentic professional development, providing an example of a book club initiative that several teachers mentioned:

> There was some [professional development] offered at the district level, and some went, and some didn't. If you didn't go, I think [the principal] let you out of it easier than some administrators. He bought all these books. They gave you all five books, but then you had to choose one. Now, you kept all five, so we've all got this library, and it was on differentiated instruction of these books. And then based on the book you chose, you had a group of other people who chose that same book, and most of us chose the thinnest one with tennis

> shoes on the front because it looked kind of manageable. And then we had groups, and we were kind of on our own to meet in these groups. Some groups met at Chili's.

The teacher concluded, "Anyway, it never really went anywhere. Some groups became more invested than others. The particular group I was in hardly met. I mean, I think they were probably okay books." Another teacher shared, when asked about the impact of the book club effort on instruction or outcomes, that some groups did not really talk about their books, and there was no follow-up with the faculty, nor any commitment to action based on the activity. "I mean, the book is still on my shelf. It was a fine book, but no, I can't say something specific we implemented from it."

Colere teachers did not connect the collaborative activities they recounted to any expectations for uptake or student outcomes. One teacher described the approach to collaboration as "everyone was allowed to do their own thing." Data analysis and shard planning were not referenced in any interview at Colere.

While teachers at both schools reported collaboration that appeared operant as an antecedent to CTE, there were important differences in what collaboration looked like and how it was connected to instruction and learning. Teachers in the high-performing setting experienced collaboration that they described as tightly aligned to structures implemented by the school leader that were focused on improving instruction and student learning. In the low-performing setting, teachers experienced a collaborative atmosphere that contributed to their sense of efficacy, but their collaborative work was not directed by school leadership and teachers did not report any connection between collaboration and learning.

7. Leadership

Interview and survey data indicate that leadership was a relevant antecedent to teachers' collective efficacy beliefs. According to the 2015 survey, teachers held positive perceptions of leadership at both schools. Perceptions of principal leadership were significantly higher at Courage Prep (*M = 5.68, SD = .33)* than at Colere *(M = 4.68, SD = .82)*, t(23) = 3.268, *p* = .004. The survey included items related to both inclusive (e.g. works to create a sense of community in the school) and instructional (e.g. actively monitors the quality of teaching in this school), and Courage Prep exhibited higher perceptions on both dimensions. Means and standard deviations across the two schools are included in Table XLVII.

Table XLVII

XLVII. LEADERSHIP 2015 SURVEY RESULTS FOR COURAGE PREP AND COLERE ACADEMY

	Overall	Inclusive	Instructional
Courage Prep	M = 5.68, SD = .33	M = 5.92, SD = .14	M = 5.57, SD = .14
Colere Academy	M = 4.68, SD .34	M = 4.82, SD = .54	M = 4.62, SD = .26

While the survey indicated that Courage Prep teachers held more positive perceptions of principal's inclusive leadership, interviews suggest that supportive and inclusive leadership behaviors were highly salient, and relevant to CTE, at both schools and that instructional

leadership was less salient at Colere. Teachers at Courage Prep described a leader who was "a constant presence" in the school community and who intentionally fostered community. Teachers described the impact this reliable support had on their practice. One teacher noted, "There is a lot of support and we would have a lot harder job if we didn't know we had that support." Another teacher commented that "You know she'll do whatever she can to help you." She continued, "It's very important to her that everybody succeeds," and that her supportive stance "makes you feel like you can take on challenging situations." Courage Prep teachers identified ways in which the support of the leader both lessened the perceived challenge of their job and emboldened them to face difficulties when they arose, both of which are likely to enhance efficacious beliefs.

Similarly, teachers at Colere described their leader as a "consistent and welcoming presence" in the community. Teachers noted the ways in which his identity as a pastor infused his leadership at the school - cooking food for the team, actively listening to needs and concerns, and offering affirmation and appreciation. Teacher interviews suggest that teachers saw him as mostly "hands-off," but willing to help whenever teachers sought him out. Several teachers emphasized that "his door was always open for us" and many perceived his presence and the "open-door" culture to be facilitative of their work and collective efficacy. However, several felt his support was too passive and "almost a little too lenient." Some teachers problematized his open-door stance, noting that he was not proactive in identifying needs and providing support. One teacher remarked, "Sometimes people who need help don't know they need help. So, you can't expect to fix all of the problems just waiting for them to walk in your door." These teachers' reflections seem to suggest that while the leader's approach made teachers feel supported in their work, the laissez-faire approach in which support required an opt-in might

have enabled an inflated sense of shared efficacy. Teachers who opted in and requested support may feel efficacious and may assume others share their sense, while other teachers who needed support may not have been aware of their own needs, or perhaps they were not comfortable requesting support despite their need for it.

Interview data surfaced a nuanced consideration of leadership between the high- and low-performing settings in terms of the importance of instructional leadership, and leaders' approaches to discipline. At Courage Prep, teachers noted that the leader consistently situated their work in a culture of high academic expectations and provided systems, structures, and routines that enabled intentional collaboration to improve instructional practice and increase student learning. Colere teachers described a starkly different principal, one who endlessly affirmed teachers' instruction while downplaying achievement indicators. The leader at Colere superficially invited teachers to pursue collaboration and professional learning, but did not actively shape the nature or form of those interactions or set any expectations for the ways in which those opportunities would impact or improve instructional practice. His support in disciplinary issues was commonly drawn on as an enabling structure for teachers at Colere Academy. When asked to specify how they feel supported by the leader in ways that contribute to their efficacy, Colere Academy teachers focused on student behavior and discipline. The principal was "on top of issues" and always "backed [teachers] up to kids and to parents," and teacher's felt they could better do their jobs thanks to this approach to discipline. Teachers' reflections of the leader's active support in discipline issues were often offered in contrast to the current leader's approach. For example, a Colere teacher noted that, under prior leadership, "teachers felt more at ease to send students to the office." She describes teachers' frustration with the current administration who embraced a different philosophy which she described saying,

"Now it's solely on the teacher. You don't have backup." Another teacher remarked that previously she didn't feel as though she would "get in trouble if [she] sent somebody to the office," suggesting that sending students to the office is now a discouraged practice. She went on:

> If a child would get up while I'm reading and just draw on stuff he shouldn't be drawing on and I'm still having to teach a class. Back then I could call and they would come and either they would make him sit or they would do something. The principal would come and he would sit with the child or he would take them out and talk to them and then they would come back. But now, it's none of that.

Other interviews underscored a shift in approach to discipline, but suggested that the changes coincided with a great instructional focus and therefore were not entirely negative. One teacher felt that the new leader's approach was motivated by a desire to protect instructional minutes. She described the approach as, "Let's not waste any learning time that we don't have to, and if it's not a big deal, handle it in your classroom." Here, the contrast further highlights the lack of instructional emphasis under the prior principal. This was affirmed by the new school leader who shared, "Discipline is a big issue right now because teachers want me to handle everything." She noted that the former leader "had kids in the office, called parents – all of this time with kids out of the classroom." She concluded, "I am trying to restore responsibility with the classroom teacher so that kids are there for the learning."

Teacher's at Courage Prep, however, made no mention of a similar emphasis on disciplinary climate when identifying how they were supported by leadership in ways that enhanced their efficacy. The different experiences of teachers in the two contexts may be a function of the role behavior management plays in the life of the school. As interviews with

Courage Prep teachers suggested, behavior was a relative non-issue at the school and was not described as an obstacle to success.

While teachers attributed their high levels of CTE to leadership at both schools, descriptions of that leadership across contexts suggest that teacher perceptions of strong instructional leadership may not be necessary for robust collective teacher efficacy. Both schools enjoyed high levels of CTE under leadership that emphasized supportive leadership. However, at Courage Prep, supportive leadership was complementary to instructional leadership that emphasized high academic expectations and created systems and routines for instructional improvement and monitoring of student learning. The experiences of Colere teachers suggest that accessible and supportive pastoral support may enable collective teacher efficacy as much as instructional leadership, but perhaps with less consequence to future collective action.

C. Consequences of Collective Efficacy Beliefs at Courage Prep and Colere Academy

In the prior two chapters, I used the conceptual framework to organize and present data to consider the extent to which normative consequences and organizational factors associated with CTE were manifest at each case school in detail to address the second research question: how, and to what extent, do higher levels of collective teacher efficacy in a low-performing school work through effort, persistence, resilience, and goal setting to foster positive organizational outcomes identified in the literature? Here, I compare and contrast teachers' experiences of these consequences and outcomes to further illuminate the nuanced influence of collective efficacy beliefs in a high- versus low-performing setting. My decision rules for inclusion of factors were:

- Not included: Factors that were not in evidence at either school.
- Included: Factors that lacked evidence at one school, but were in evidence at the other. I explored potential reasons for this difference across contexts.

- Included: Factors that were in evidence at both schools. I examined the similarities and differences in how those factors manifested in each context.

Of the four normative consequences of efficacy, two appeared relevant to cross-case analysis: goals and effort. The other two normative consequences included in theoretical models of CTE, persistence and resilience, were not salient themes in the data at either school. All three organizational outcomes were included in the cross-case analysis. A summary of the decisions for inclusion is provided in Table XLVIII.

Table XLVIII

XLVIII. RESEARCH QUESTION 1: DECISIONS FOR INCLUDING CONSTRUCTS IN CROSS-CASE ANALYSIS

Construct	**Courage Prep**	**Colere Academy**	**Discuss?**
Goals	Evidenced	Not evidenced	Yes.
Effort	Evidenced	Limited	Yes.
Persistence	Not evidenced	Not evidenced	No.
Resilience	Not evidenced	Not evidenced	No.
Student Achievement	Evidenced	Not evidenced	Yes.
Teacher Commitment	Evidenced	Limited	Yes.
Collective Responsibility	Evidenced	Not evidenced	Yes.

In the following sections, I provide a brief comparison of each of these constructs across the two schools, presenting relevant survey, interview, and performance data to illustrate how the factors were operative in similar and different ways in each school context. Because the goal of the inquiry of this research question is to understand the variance in student achievement as a consequence of CTE, I begin with a comparison of the public performance data for each school, which suggests that the mutually reinforcing association between robust CTE and high achievement was manifest at Courage Prep, but not at Colere Academy. I then return to presenting each construct in the same order as in the previous chapters.

1. Student Achievement

While both schools reported high levels of collective teacher efficacy, only Courage Prep evidenced the strong relationship between CTE and student achievement documented in the literature. Post-survey report grade performance shows that Courage Prep maintained their high-level of achievement and Colere remained an underperforming school and in fact lost ground comparatively within the district.

Table XLIX

XLIX. STATE ACCOUNTABILITY RESULTS, COURAGE PREP AND COLERE ACADEMY 2014-2015

	2014			2015		
	Grade	Percent Passing	District Rank	Grade	Percent Passing	District Rank
Courage Prep	A	90	2nd	A	66	2md
Colere Academy	F	46	22nd	F	14	27th
Hope District	C	59	N/A	C	33	N/A

2. Goals and Effort

While formalized schoolwide goals were not articulated by Courage Prep teachers, interviews revealed a consistent culture of high expectations for student learning. Goal-setting and progress monitoring was a common practice at the class and individual student level, and one that fostered excitement and motivation among students and teachers. While no teacher was able to identify any specific school-wide goals for student learning beyond maintaining their "A" on the state report card, teachers did reference the existence of a school improvement plan and communicated a shared expectation that the school would maintain its performance accountability rating. One teacher captured this dynamic stating, "We don't have a goal posted or named outright, but we just all have really high expectations."

Furthermore, Courage Prep teachers spoke to fairly robust systems for setting and working toward goals at the class and individual student levels. rigorous classroom and individual student goals for learning guided their daily work. One teacher described the process, saying that by "breaking down the goals into smaller chunks, and attaining the goals along the way," teachers and students are able to maintain "motivation and love of learning all the way to the end." Teachers noted that high expectations animated goal setting and attainment. One teacher shared the mantra, "We start strong and we want to finish strong. Strong all the way."

At Colere, teachers were unable to name specific goals for their work and, in contrast to Courage Prep, did not communicate high expectations for student learning. Some teachers referenced the existence of an improvement plan, but were unable to specify the exact goals of that plan. One teacher explained, "I guess [goals] were in there but I don't know how well-defined it was for teachers." Some teachers were more direct in identifying the absence of shared, ambitious goals, noting that the leader did not "set clear goals for us" and that they

“weren’t ever told specific goals for our work.” At Colere, the lack of specific and ambitious goals coincided with an absence of shared high expectations. Colere teachers qualified their expectations by foregrounding student demographics and family life as the primary contributors to academic success. Teachers spoke of aiming to “be the best we can be” and “do that best that we could,” underscoring the ways in which expectations were limited on account of the students they were serving. One teacher’s reflections captured this dynamic, which resonates strongly with the findings related to school composition, saying, “We were led to believe that we were doing the best we could. And so, when you think this is the best I can do, that’s the best I can do.” Colere teachers’ collective efficacy did not seem to translate to robust organizational goal-setting; instead, qualified goals seemed to have potentially enabled CTE.

Teachers at both schools felt as though they exerted a great deal of effort toward the work. At Courage Prep teachers directly attributed feeling efficacious for the work as part of what fueled their effort. Colere teachers did not directly attribute exerted effort levels to an efficacious culture; instead, a theme of feeling “beaten down” and “worn out” emerged in the data as teachers discussed long hours and burdensome mandates that characterized their work. Furthermore, Colere teachers’ effort, perceived or actual, was not oriented toward any specified, ambitious goals for student learning. Courage Prep teachers spoke of systems and processes for articulating and monitoring data-informed student and classroom goals, indicating that their effort was strongly bound to ambitious goals for learning. At Colere Academy, however, no teachers referenced working with class- or individual-student-level data to drive their efforts.

3. Teacher Commitment

According to survey and interview data, Courage Prep teachers had stronger commitment, both to the profession and to the organization, than did teachers at Colere. Courage Prep teachers were significantly more committed to their organization (M= 5.81, SD = .35) than were Colere teachers ((M= 4.63, SD = 1.17), t(23) = 2.755, p = .012. A Shapiro-Wilk test revealed that the data from Courage Prep violated the assumption of normality, W = .628, p =.000. Therefore, I also ran a non-parametric Mann-Whitney U-test. Distributions for Courage Prep and Colere Academy were not similar, as assessed by visual inspection. Organizational commitment scores for Courage Prep (mean rank = 17.31) were statistically significantly higher than for Colere Academy (mean rank = 9.27), U = 17.5, z = -2.79, p = .004). Teachers professional commitment was also significantly stronger at Courage Prep (M = 4.83, SD - 1.21) than at Colere Academy (M = 3.58, SD = 1.57), t(23) = 2.135, p = .047.

Interviews support the survey results, affirming that Courage Prep teachers demonstrated a greater organizational commitment than did Colere Academy teachers. Teachers at Courage Prep signaled that placement at their school was a coveted position in the district, and one teacher described it as "a Disneyland." Across interviews, Courage Prep teachers emphasized their commitment to the school and emphasized that staff only turned over when "somebody moves or retires". One teacher remarked that, "Once you work here, you don't want to work anywhere else," and another said, "I can't imagine teaching anywhere else now." Other Courage Prep teachers noted that "once you get here, it's just a different world. You can't go back."

Organizational commitment was present at Colere Academy but not as salient. Colere teachers described what they perceived to be a good deal of commitment to the school at the time of the survey. One teacher noted that Colere was a relatively desirable placement for Hope

district teachers, stating, “Colere is kind of known. It’s a beautiful building with an atrium. To move here, it was - building wise - a big step up. And it was a big step up to come to a little smaller education family.” Often teachers communicated their commitment to the school at time of the survey by contrasting it with how they felt under the newly hired principal. Teachers shared that their commitment to the school had declined significantly, partly due to “an underlying tone of ‘them and us.’” Several Colere teachers stated that they knew of several teachers, all of whom had been content at Colere for years, that were actively looking to leave. One teacher’s reflections captured this eroding commitment to the school when she recalled that in the past, “I always felt happy. I was happy to come to work. I wasn’t dreading coming to work.”

The overall levels of commitment were higher at Courage Prep than at Colere, but the schools evidenced a similar trend in which teachers' commitment to the school was greater than to the profession broadly. Teachers at both schools shared that their schools were desirable, even coveted, positions within Hope District. At Courage Prep, it appeared as though the intense commitment to Courage Prep even salvaged some teachers’ commitment to the profession. Three of the eight interviewed Courage Prep teachers reported that they were close to quitting teaching before arriving at Courage Prep. One of them explained, “I seriously was gonna quit teaching if I stayed at the other building, and that was two years at that building. I’ve been here for four years.” Another underscored the intense attachment to a position at Courage Prep, stating, “I was ready to quit teaching before I came here….You’d have to drag me out of here to move me into a different building.” One teacher’s claim that she “wouldn’t work anywhere else” further punctuates that commitment to teaching at Courage Prep was stronger than a commitment to teaching generally or “anywhere else.”

At Colere Academy, it appeared as though eroding commitment to the profession was at least partially buffered by a commitment to the school. While some Courage teachers indicated that they might leave teaching if not at Courage Prep, far more teachers at Colere described feeling overburdened by the demands of the profession, especially the state's high-stakes accountability system, than did Courage Prep teachers. Teachers at Colere identified as feeling "beaten down," "under attack," and "drowning" as a result of mounting pressure and mandates. One teacher expressed feeling like "there is more and more thrown at us" and that the amount of time needed to complete the work was more "than we get paid for." She viewed the demands as external, and detrimental, to her core responsibility of teaching students, noting how hard it was to "keep up with all the demands" and that there was "always one more thing they are giving us to add our day with the kids."

At both schools, data suggest that teachers' commitment to the school was greater than to the profession broadly, but Courage Prep teachers exhibited higher levels of both organizational and professional commitment. Courage Prep teachers seemed to have found renewed zeal for the teaching profession after securing a position at the school. Findings suggest that the commitment teachers felt to Courage Prep was strongly anchored in the emphasis that teachers place on students, family life, and school leadership in enabling their success and efficacy for the work. Colere Academy teachers also signaled that their robust efficacy beliefs did not foster commitment to the profession broadly as much as it seemed to engender commitment to the school itself. Colere teachers' commitment appeared to be rooted in the positive and fun emotional tone of the school at the time of the survey.

4. Collective Responsibility

Survey responses indicated that Courage Prep and Colere teachers had comparable perceptions of collective responsibility (M1 = 4.25; M2 = 4.23) and teacher interviews at both schools suggest that both faculties felt a sense of "being a team" or a "whole team approach" at their schools. Courage Prep teachers described an environment in which teachers "all did our part" and "really came together to make it happen for a kiddo." At Colere, teachers described a similarly team-oriented dynamic with descriptors such as "all for one and one for all."

However, interviews illuminated critical differences across the two settings and data suggest that, while Colere teachers claimed to take up collective responsibility, evidence did not support these assertions. What teachers articulated when asked to describe the form and extent of collective responsibility at Colere is better described as informal collegial support than collective responsibility for student learning. Teachers noted that they "could go to any teacher and get support" and "knew who we could go to" for various issues or problems. One teacher remarked that if teachers experienced difficulty, "people jumped right in and helped them." These reflections suggest a superficial understanding of collective responsibility, one that stalls at vague notions of collegial support, and fails to attribute students' successes and failures to teachers and their practice.

Furthermore, when probed, Colere teachers often abdicated responsibility for student learning outcomes. For example, one teacher shared, "We are working together and doing our best, but if students come in so behind, or don't retain the information, or if home doesn't reinforce the learning, then we can't be held accountable for that." This teacher deflects responsibility for student learning by foregrounding factors that are beyond teachers' immediate sphere of influence. While teachers are "working together and doing [their] best," in their

practice, they “can’t be held accountable” for the ultimate results. Another teacher expressed a similar sentiment, suggesting that ultimately, student learning outcomes were primarily a reflection of students’ ability to retain information, rather than of teachers’ instructional competence or skill. She acknowledged that proficiency scores in later grades are “ideally” a result of cumulative teaching and learning experiences, but quickly qualified that claim by placing responsibility back on to students. She stated that “a lot of things are forgotten” and that “we don’t have time to keep [reteaching], concluding, “It’s all being taught. It’s just how much is actually being remembered.” This interview data evidences a significant circumscription of responsibility for student success and shared belief that student outcomes are mostly a function of the students’ capacity for information recall rather than indicative of teachers' effectiveness. By shifting the responsibility to students, teachers preserve their sense of efficacy for teaching despite chronic school-wide underperformance.

In contrast, when asked to describe the form and extent of collective responsibility at the school, teachers at Courage Prep articulated a shared belief in students’ potential and that the onus of responsibility for student learning was on teachers within and across classrooms. Teachers explicitly stated that “we all believe that all kids can learn,” and “we don’t stop until they’ve figured out what works” for students. One teacher asserted, “There is not one teacher in this building that wouldn’t do anything they needed to do to get a kid to learn.” She went on, “If a kid needed to learn, we’d figure out a way to get it done.”

Teachers at Courage Prep also specified systems such as daily Success Time, learning log meetings, and a Student Assistance Team that embedded collective responsibility for all students’ learning into the daily work of teachers. Daily Success Time coordinated the efforts of classroom and auxiliary teaching staff to meet the differentiated needs of learners in data-

informed small groups for “half an hour, every day.” During this block teachers worked with small groups of students, based on students’ benchmark assessments, “to target students where they are at.” Teachers indicated that groups were highly dynamic. As one teacher described, “After three weeks, we come back and we reassess to see what the growth is, and then we redo the groups.” Learning log meetings created an additional space for teachers to “discuss student progress” and “progress monitoring data.” As one teacher noted, these meetings afforded teachers an opportunity to “talk together about the ways we can introduce new strategies or some accommodations to move [struggling students] to the next level.” The Student Assistance Team focused on students who did not respond to those initial interventions. This team facilitated collaborative meetings in which “teachers come prepared with information” and then “collectively [teachers] sit and come up with new strategies or how we might help that student or help that teacher in helping that student.” Across these examples, teachers make evident that teachers at Courage Prep took their collective responsibility for student achievement seriously, and that the school leadership had implemented structures and processes that signaled the importance of that responsibility. Teachers worked to differentiate the instructional and curricular support offered to students, and did not lower their expectations for students that struggled.

While Courage teachers offered examples of collegial support that were oriented toward differentiating student supports to ensure all students could meet the high expectations for academics, Colere teachers spoke primarily of informal teacher support for one another. “How’s it going? What do you need from me? How can I help?” They circumscribed their responsibility for student success, placing the burden of learning on the students themselves.

D. Summary: Propositions

In this section, I broaden analyses to expand the factor breakdown and consider the schools more holistically in order to tell the story of what I believe is happening at each school with regard to the formation and influence of CTE. This discussion takes up the propositions I posited at the outset of the study to explain how Colere Academy could diverge from the model so sharply by scoring so highly on CTE as a chronically low performing school.

I initially proposed that the formation of CTE beliefs in the lower performing school may have been based on nuanced sources of information, or inferential weighting of sources of information, such that the efficacy beliefs may be less immediately consequential to collective action. That is, teacher perceptions of efficacy may have been overly influenced by sources of information that are less credible than, for example, enactive mastery experiences. By weighting sources of information that are less credible, the school may experience a "delusional upward spiral" of efficacy that is not reliably tied to performance outcomes (Ross & Gray, 2006). The cross-case analysis presented in this chapter, which contrasts how different factors were related to the formation of collective efficacy beliefs, helps to identify the sources of information teachers drew upon when forming CTE beliefs and the degree to which teachers weighted each source. This comparative analysis highlighted the complex ways in which antecedents interact with each other in enabling efficacious teacher teams. For example, supportive leadership, teacher influence, and collaboration were present and relevant to CTE at both schools. Yet the nuanced ways in which those contextual factors were bound up with one another at each school illuminates potentially critical differences in how CTE was formed among each group of teachers, which will inform our understanding of the variance in achievement outcomes.

I also proposed that in a low-performing school with relatively high levels of collective teacher efficacy, the explanatory model of CTE may not be fully operative because the

normative consequences have not been fully realized, or have not been harnessed in ways that result in positive organizational outcomes of student achievement, teacher commitment, and collective responsibility. So, while these beliefs exist, they have not yet been directed at the right things to influence achievement. As described in chapter three, to formulate this proposition, I drew on studies of individual self-efficacy that suggest high efficacy, especially if developed absent credible performance feedback, can actually undermine effort and work against improvement (e.g. Beattie et al., 2011; Vancouver & Kendall, 2006). Limited research suggests that the source of efficacy beliefs holds consequence for its influence over achievement. For example, Yurt (2014) found that efficacy beliefs based on mastery experience are the strongest predictors of 7th grade math achievement, while those based on vicarious experience were not significantly predictive. The cross-case analysis of how, and to what extent, high levels of CTE worked through goals, effort, persistence, and resilience to foster positive organizational outcomes identified in the literature at Courage Prep and Colere Academy helps to illuminate the ways in which the impact of similar levels of CTE diverged across the two settings.

Three themes emerge in response to the first proposition in light of the factor-by-factor comparison of the schools. First, school composition inflected how teachers made sense of mastery experiences. Second, school leaders played a significant role in the formation of CTE and its relationship to achievement. Finally, the culture of teacher autonomy in each school influenced how teachers perceived the role of leadership and collaboration in forming their efficacy beliefs. In considering the second proposition, factor-by-factor comparison of the schools indicated that despite espousing equally robust collective efficacy beliefs, Colere Academy did not realize the normative consequences, or subsequent organizational outcomes, attributed to CTE in the theoretical model and present at Courage Prep. Findings suggest that the

differences in how CTE beliefs were formulated held consequence for their ultimate impact within the schools.

Courage Prep and Colere Academy served different demographic populations, and teachers at both schools noted the influence of school composition on student achievement and their collective efficacy. At both schools, teachers primarily identified their own moments of success with students in terms of success with individual students and classrooms. As a result, I found that mastery experience was related to CTE at both schools, but the cross-case analysis reveals that the way success was defined varied across contexts, and the definition of success was directly tied to school composition. At the high-performing school, success was framed in terms of student achievement of proximate benchmarks. At the low-performing site, however, success was defined as student growth rather than achievement of benchmarks. Teachers expressed low confidence in student capacity to achieve the same benchmarks as students in other schools, and they linked their lowered expectations to the backgrounds of the student and their parents.

In each school, the policies, structures, words, and actions of the school leaders played a formative role in building CTE. Principals inflected teacher efficacy beliefs through the ways they helped teachers make sense of their effort and the structures and processes they enacted. The variance in the degree to which principals emphasized student learning had implications for student achievement. Factors that contribute to CTE related to leadership sensegiving—social persuasion and emotional state—require credible feedback on teacher performance, via words or structures. When CTE is formed on the basis of information that lacks credibility, or it is not directed toward student learning, teachers may share positive perceptions about their work, but the work itself may not be what is needed to achieve desired outcomes.

At the high-performing school, teachers described data meetings, faculty gatherings, planning time, and other structures implemented by the leader that connected their sense of accomplishment to student learning in a systematic way. Courage Prep teachers focused on structures and leadership that supported professional collaboration and influence in describing the formation of their sense of collective efficacy. At the low-performing site, no such structures, processes, and routines were utilized to maintain a teacher orientation toward student learning. Collaboration was informal and relatively undirected, and teacher influence over what happened in their classrooms was similarly unbounded by direction or structure from the leader. While teachers received encouragement at the school, they did not receive specific or directed feedback tied to student learning. As a result, their confidence in their collective capacity may have been built up without offering them a clear sense of how to direct that capacity to achieve student success.

The culture of teacher autonomy in each school had implications for the formation of CTE across sites as well. The cross-case analyses of teacher influence, collaboration, and leadership suggest a spectrum of teacher autonomy. Teachers at Colere Academy described the opposite ends of the spectrum within the same school, as they moved from an unbounded autonomy that respected teachers to be professional decision-makers in 2015 to a micromanaged, heavily constrained, tightly supervised, and limited autonomy by 2017. Between the two poles, Courage Prep teachers described a bounded autonomy that they seemed to suggest appropriately emphasized student learning as a shared outcome. The culture of 2015 Courage Prep provided direction and support that allowed teachers to have influence and make decisions, while ensuring their efforts were oriented toward the shared goal of student achievement.

Cross-case analysis also provided evidence that the collective efficacy in these schools, similarly robust but formulated in disparate ways, held differential power over teachers' normative behaviors and organizational outcomes. Colere Academy did not realize the normative consequences attributed to CTE in the theoretical model or the subsequent positive organizational outcomes. The comparative analyses highlighted the complex ways in which the constellation and contours of antecedents of CTE seems to be of consequence to its ultimate impact. For example, while Colere and Courage Prep teacher interviewed evidenced supportive leadership and the leaders' affirmation and verbal encouragement as relevant to their efficacy beliefs, the credibility of performance feedback from Colere's principal was called into question. It appears as though collective efficacy beliefs at Colere were formulated largely on social persuasion and in the absence of credible performance weighting, and that such a weighting of antecedent led to an inflated, even delusional, sense of efficacy. These CTE beliefs, in turn, seem to be of less consequence to teachers' collective action and normative behaviors. While teachers at both schools reported similar and high levels of collective teacher efficacy, Colere failed to realize the types of collective action and normative behaviors that are thought to lead to positive organizational outcomes and improved student achievement. Colere teachers' efficacy beliefs, forged in the interaction between an entrenched deficit mindset about students and qualified expectations on the one hand, and effusive praise and positive emotional tone of the school on the other, appear to have undermined ambitious goal setting and effort.

VII. DISCUSSION AND IMPLICATIONS FOR FUTURE RESEARCH

This dissertation explored robust collective teacher efficacy at two public elementary schools, one high-performing and one low-performing. In the past three chapters, I reported survey data, interview data, and public school report card data to answer the research questions:

- How and to what extent factors identified in the literature as relevant to collective teacher efficacy seemed to have contributed to the formation of strong efficacy beliefs in the high- versus low-performing settings?
- How and to what extent the higher level of collective teacher efficacy in these schools worked through teacher effort, persistence, resilience, and goal setting to foster the positive organizational outcomes identified in the literature?

In the cross-case analysis, I also explored two initial propositions articulated at the onset of the study. I reported evidence that supported my first proposition: that the formation of CTE beliefs in the lower performing school may have been based on nuanced sources of information, or inferential weighting of sources of information, such that the efficacy beliefs were of less consequence to collective action. I also reported evidence that supported my second proposition, illustrating that, at Colere Academy, the model of CTE in the existing literature may not have been fully operative because the normative consequences of CTE had not been fully realized.

In this chapter, I discuss the findings of this dissertation study in relation to the conceptual framework and existing literature on the formation and influence of collective efficacy within schools. In the first section, I discuss the major findings of the first research question and associated implications for practice and research. Then, I turn to the major findings and implications related to the second research question. Next, I synthesize findings across the

two research questions to draw broader conclusions and implications for this study, relating the significant findings to the two propositions explored in the cross-case analysis. Finally, I conclude with a summary of future directions suggested by my study.

A. The Formation of Collective Teacher Efficacy Beliefs

The first research question addressed the formation of collective efficacy beliefs within a high- and low-performing school. This study, through the analysis of qualitative teacher and school level interview and performance data alongside quantitative district level survey data, deepens our understanding of the theoretical antecedents that have been described and studied in the existing literature. In-depth inquiry into how robust collective teacher efficacy beliefs were fostered in both high- and low-performing schools contributes to our understanding of the complex ways such beliefs are formed across unique contexts and substantiate the ways in which different sources of efficacy beliefs are of consequence to organizational outcomes associated with CTE. Findings and implications for remote sources and contextual antecedents are detailed in turn.

1. Remote Sources

This study contributes to an underdeveloped area in the collective teacher efficacy literature. By examining teachers' perceptions of mastery experience, social persuasion, and emotional state, and their influence on shared efficacy beliefs, this study elaborates on the empirical evidence on these remote sources.

a. Mastery Experience

This study found that teachers at the high-performing school, in contrast to those at the low-performing school, drew on mastery experience defined as broad measures of prior school achievement. Teacher interviews revealed unanimity in teachers' perceptions of the

school as one of the highest performing in the district, and a shared pride in the school's ratings on the state's report card. This aligns to prior studies that have evidenced a consistent predictive relationship between prior school achievement, measured by performance on statewide assessments, and perceived collective teacher efficacy (e.g. Adams & Forsyth, 2006; Bandura, 1993; Goddard, 2001; Ross et al., 2004). At the low-performing school, teachers' CTE did not directly draw on global prior achievement. Instead, Colere teachers framed the accountability measures as inherently unfair, claiming that, given the students they serve, they cannot fairly be held to the accountability standards. This delegitimizing of the metrics enabled their sense of collective efficacy despite low-performance. These findings lend support to Ross and colleagues' (2004) finding that prior school achievement is likely to more strongly influence CTE when the assessment measures are perceived as credible among teachers.

Teachers' sensemaking regarding the validity of the external performance rating seemed to be strongly influenced by the school leader. At Courage Prep, the principal harnessed the performance management system as a motivational tool, hosting pep rallies leading up to the state assessment window and planning celebrations, including promises to kiss a pig, if the school met its targets. At Colere, there was no such positive excitement regarding the assessment. Teachers felt defeated and they indicated that the principal helped construct a narrative that, given changing student demographics, the school could not be expected to achieve targets. The leader praised teachers for "doing our very best," and excused low-performance on the assessment as an unavoidable byproduct of student and family factors. These findings affirm prior studies that suggest school principals play a particularly pivotal role in shaping teachers' sensemaking of external performance systems and ratings (Coburn, 2005; Diamond, 2012; Spillane & Anderson, 2019; Spillane et al., 2002). Future research should clarify the extent to

which teachers' perceptions of prior achievement measures, and their perceptions of those measures, moderate the relationship between prior achievement and CTE in high- and low-performing schools. Furthermore, research exploring the ways in which leaders' sensegiving around performance systems and associated ratings shape such perceptions would be instructive for scholars and practitioners interested in cultivating authentic CTE for improvement in contexts facing standards-based reforms.

Interview data also suggested that teachers in both settings drew on more proximate enactive experiences of success when formulating collective efficacy beliefs. While social cognitive theory postulates enactive experience is a key influence on collective efficacy (Goddard et al. 2015), empirical studies of teachers' actual enactive experiences, rather than schools' prior achievement, are scant (Donohoo et al., 2020). This study suggested the importance of enactive experience, that is, lived experiences that signal individual and collective mastery, in enabling shared efficacy beliefs. Donohoo and colleagues (2020) define mastery experience as "instances in which teachers evidence impact on student outcomes (p. 148)." At both schools, teachers referenced concrete examples of student progress, often observed in improved performance on class assessments, when describing factors that enabled their sense of collective efficacy. At Courage Prep, teachers spoke with a great deal of specificity regarding systems for monitoring and measuring incremental progress. Colere teachers tended to provide more general anecdotes of individual students when describing their moments of success. Given that a similar level of CTE led to distinctly different outcomes at the high- and low-performing schools, it seems possible that the systems and data embedded within the enactive experiences at Courage Prep contributed to shared efficacy beliefs that were more consequential to improvement than those at Colere.

The marked difference in the nature of teachers' examples of enactive experience between the schools was at least partially shaped by the school leaders. At Courage Prep, the leader situated teachers' work within systems and routines for ongoing progress monitoring. Structures, such as regular learning log meetings and interim data team meetings, provided Courage Prep teachers with frequent opportunities to evidence the measurable impact of their work on student learning. Alternatively, at Colere, the leader did not build systems or routines for patterns of teacher interaction that were anchored in data. In the absence of such parameters, Colere teachers were left to draw on examples of mastery experience with students that were decoupled from benchmarks and measures of success. These trends affirm Spillane and Miele's (2007) claim that organizational routines can shape what information teachers pay attention to and how they interpret that information. Because an "organizational routine and its accompanying tools" focuses and certain information in certain ways, it also generates "qualitatively different information" (p. 65). At Colere, the leader did not build organizational routines for assessing progress, and collegial dialogue about teaching and learning was haphazard at best. This in turn seems to have influenced what teachers noticed in terms of evidence of success when constructing beliefs about their collective efficacy. This elaborates findings from earlier studies suggesting that school leaders, by shaping the parameters and setting directions for the social and cultural conditions of teachers' work, influence teachers' sensemaking in important ways (Coburn, 2005; 2006). Absent clear parameters and organizational routines embedded in data analysis and interpretation, teachers may more easily attend selectively to examples of success and develop increasingly biased perceptions. Future research on collective teacher efficacy should apply sensemaking theory to more deeply probe what teachers notice in terms of enactive experiences and how they interpret what they notice

(Spillane & Miele, 2007). Additionally, future research should explore the ways in which teachers' sensemaking of enactive experiences is bounded by the ways in which school leaders influence the direction, nature, and form of such experiences.

While the conceptual model and CTE scholars (e.g. Adams & Forsyth, 2006; Goddard, 2001; Tschannen-Moran & Barr, 2004) suggest that the four remote sources of efficacy (mastery experience, emotional state, social persuasion, and vicarious experience) all hold at the collective level, they have not yet been fully explored at that level (Goddard, Hoy, & Hoy, 2004). Researchers have established connections between mastery experience and CTE formation in numerous studies (e.g. Adams & Forsyth, 2006; Bandura, 1993; Goddard, 2001; Goddard et al., 2000; Goddard, LoGerfo, & Hoy, 2004), but there are only limited empirical investigations into how the other remote sources contribute to CTE within schools.

This study responds to scholars who have called for research to substantiate how other sources of efficacy could contribute to robust CTE levels, especially in schools lacking prior achievement (Goddard, LoGerfo, & Hoy, 2004; Mosoge et al., 2018). By analyzing interview responses alongside survey results of teachers in a low-performing school, this study explores these other sources that contribute to CTE. The findings offer insight into whether and how emotional state, social persuasion, and vicarious experience play a role in teachers' construction of CTE. In particular, this study provides evidence that emotional state and social persuasion can be relevant to the construction of CTE beliefs at both high- and low-performing schools. Vicarious experience, however, was not a salient theme at either school.

b. Emotional State

The limited research on emotional state and collective efficacy suggests that emotional and personal support among colleagues, and school processes that promote such peer support, can enable efficacy beliefs by minimizing experiences of stress (Brown et al., 2018). Findings from this study expand this limited empirical base, affirming the importance of emotional state in teachers' construction of collective efficacy beliefs and evidencing the relevance of trust and psychological safety in supporting the formation of CTE. Teachers at Courage Prep and Colere Academy indicated that the positive emotional tone of their school bolstered CTE, in part by promoting collegial support and conversation. This affirms Brown and colleagues' (2018) findings that mutual support and informal exchanges that helped mitigate stress were sources of CTE in schools. Furthermore, survey and interview responses from teachers in both the high- and low-performing schools elaborate two specific characteristics of a positive emotional state that contributed to collective efficacy: trust and psychological safety. Courage Prep teachers described the ways in which trust and psychological safety facilitated honest professional discourse and productive disagreement in their work and spurred deprivatization of practice among teachers. Similarly, Colere teachers connected their experiences of trust and psychological safety with increased collegial support. These findings provide initial empirical support to CTE scholars' theorizing that an organizational state characterized by anxiety, stress, or mistrust would undermine CTE, while one characterized by emotional support, safety, and trust would enable CTE (Hoogsteen, 2020; Gray et al., 2017; Pierce, 2014).

While teachers at both schools connected emotional state to the formation of their efficacy beliefs, the consistent low performance and minimal evidence of the normative

consequences of CTE at Colere suggests that CTE informed by emotional state is not necessarily consequential for instructional improvement and student learning. These findings further punctuate the need for further research that probes the ways in which the dynamics within individual schools relegates certain sources of efficacy as more or less critical to authentic CTE and future collective action for improvement.

c. Social Persuasion

This study also furthers our understanding of the ways in which social persuasion contributes to teachers' collective efficacy beliefs and highlights the need for further elaboration and clarity on what constitutes social persuasion. Social persuasion, or verbal encouragement, is thought to take the form of specific performance feedback (Goddard et al., 2004a) or expressed confidence in the group's ability to meet expectations (Skrla & Goddard, 2002). While theorized to be a remote source of collective teacher efficacy, only one empirical study exploring its role in the formation of CTE beliefs could be identified (Beauchamp et al., 2014). In their study, Beauchamp and colleagues found that teachers considered feedback, especially when coming from a perceived expert, was a powerful influence on collective efficacy. Other scholars have suggested that coaching (Eells, 2011), peer discussions in the "teachers' lounge" (Goddard, Hoy, & Hoy, 2004, p. 6), and even professional workshops (Berebitsky & Salloum, 2017) can constitute social persuasion, but these conceptualizations of social persuasion have not been examined empirically. In the current study, teachers' descriptions of social persuasion took the form of vague teacher appreciation in both the high- and low-performing school. In this study, I suggest that social persuasion was therefore operant in only limited ways because teachers' experiences did not fully align with prior articulations of what constitutes social persuasion. However, given the lack of clarity and consensus in the scholarly literature on the specific forms

social persuasion takes at the collective level, and limited empirical base, more research is warranted to explore the extent to which more general affirmation and appreciation may constitute social persuasion.

Scholars also assert that the potency of social persuasion's influence on efficacy beliefs depends in part on the credibility and expertise of the persuader (Bandura, 1986; Goddard et al, 2004a). Colere teachers' appraisals of performance feedback suggest that the relationship between the credibility and expertise of the persuader and the potency of verbal encouragement on efficacy beliefs is complex. While most Colere teachers believed it to be an accurate appraisal of teacher practice, several questioned the credibility of the principals' effusive praise of their performance and suggested that it led to a delusional sense of positive performance. As one teacher stated, "Most people felt good about themselves, but our scores were going the wrong direction." This finding aligns to prior research on individual efficacy beliefs that suggests efficacy beliefs, if formulated in the absence of authentic and unambiguous feedback on performance, are of less consequence to future action (Halper & Vancouver, 2016; Schmidt & DeShon, 2010). At Colere, social persuasion enabled teachers to feel collectively efficacious about their work, but this encouragement was nonspecific and untethered to reliable indicators of performance. Those CTE beliefs did not, in turn, lead to consequential action for improvement. These findings provide empirical support to Ross and Gray's (2006) scholarly assertion that collective teacher efficacy beliefs must be calibrated against credible indicators of performance to avoid a "delusional upward spiral" of efficacy that is not reliably tied to performance outcomes (p. 21). At Colere, social persuasion enabled CTE in ways that ultimately undermined efforts to improve. The school leader offered teachers' effusive praise as "the best faculty," but did not intentionally shape teachers' interpretations of achievement data or explicitly connect

their practice to outcomes. These findings lend support to scholarly assertions that when leaders fail to create a "self-correcting environment" in which perceptions of ability are calibrated against credible indicators of progress and achievement, the resulting efficacy beliefs are likely to be superficial, or even delusional (Ross & Gray, 2006, p.21).

At Colere, teachers were able to receive the leaders' vague and somewhat unwarranted praise uncritically because they were not asked to take a critical look at, or responsibility for, student outcomes. This led them to construct efficacy beliefs that were not rooted in efforts that would lead to improvement; efficacy grew but improvement did not. Instead of being confounded by the lack of improvement, teachers protected their sense of efficacy by attributing low performance to students and parents. Future research should investigate the ways in which leaders can leverage social persuasion and reliable performance feedback to influence the formation of CTE beliefs that lead to productive future action.

2. Contextual Factors

In this study, school composition, leadership, teacher influence, and teacher collaboration were all relevant contextual factors that promoted collective efficacy beliefs at both schools. Research suggests that contextual factors embedded within a school's milieu can also contribute to, or undermine, the formation of collective efficacy beliefs (Adams & Forsyth, 2006;). Prior studies have examined the ways in which school processes and conditions, such as student body composition, leadership, teacher influence, and teacher collaboration contribute to CTE over and above the influence of remote sources (Angelle & Teague, 2014; Leithwood et al., 2010; Olivier & Hipp, 2006; Ross et al., 2004; Ross & Gray, 2006).

a. School Composition

Prior research on school composition and collective teacher efficacy suggest that high-poverty school neighborhoods and low-SES student populations are strongly, but inversely, related to collective efficacy (Adams & Forsyth, 2006; Goddard, LoGerfo, & Hoy, 2004). Courage Prep, the high-performing school in this study, affirms the connections that the research base makes between school composition and the formation of CTE, though interview responses at the school provide nuance to suggest how the relationship works for the teachers. Colere Academy, however, stands as a counterpoint, with high levels of CTE in a high-poverty, low-SES population. This study describes teachers who drew on school composition in unexpected ways that reified efficacy beliefs and suggest a relationship among school composition, high CTE, and low achievement. The result is a more complex understanding of the role school composition can play in teachers' formation of CTE beliefs.

Collective teacher efficacy has been defined in the literature as the collective perception that teachers as a whole make an educational difference over and above the impact of their homes and communities (Donohoo, 2017; Tschannen-Moran & Barr, 2004). At Courage Prep, teacher perceptions of the challenge of achievement was influenced by school composition. The school's composition of higher-SES students and families lowered teachers' perceived challenge of the task in ways that contributed to robust CTE. The collective efficacy of Courage Prep's teachers appears to have been enabled by who they were teaching. This relationship resonates with the description of CTE in the literature as a function of teachers' perception of the challenge of their task. While the survey and interviews indicate that teachers felt efficacious, they did not attribute the success of the school to their own effort or collaboration. Instead, teachers consistently attributed the school's success to parents. We do not have a clear sense, as a result,

of the degree to which teachers felt a collective sense that they have the capacity to make a difference in student success beyond family background.

The relationship between school composition and the formation of CTE was quite different at Colere Academy, the low-performing school. While the preponderance of research suggests that the low-SES population of the school might impede the formation of CTE, Colere Academy teachers reported high levels of CTE. Goddard and Skrla (2006) identified one district in which "teachers' collective efficacy beliefs were not systematically related to the socioeconomic or ethnic composition of the student body (p. 231)." They explained this dynamic as a result of the district's focus on working to close achievement gaps and diminishing deficit thinking in schools. The situation at Colere Academy was different, however, as teachers' CTE beliefs were related to school composition. The low-SES population at Colere did not constrain CTE; rather, the school composition offered a rationale that permitted teachers to lower their expectations and focus on student growth rather than achievement.

The principal at Colere seemed to have enabled this dynamic by failing to articulate or enforce clear expectations for teaching and learning, and accepting teachers' excuses for low performance that focused on factors outside of the classroom. Teachers felt good about their practice despite poor performance on the annual state assessment, in part, because the leader assured them they were doing their best. As one teacher shared, "We were led to believe we were doing the best we could with what we got."

At Colere, school composition was framed as a liability rather than an asset. While we might expect this liability to undermine efficacy beliefs among the team of teachers, Colere teachers leveraged student demographics and home life as a qualifying consideration in lowering their expectations for what their possible impact on student learning could be. Colere teachers

expressed a shared sense that they were doing all they could, and they felt efficacious in their practice. Their outcomes, however, could never be exemplary because of, as one teacher shared, "the students that walk in the door." The case of Colere Academy indicates that schools exhibiting the unlikely distinction of low-SES but high-CTE (Bandura, 1993; Goddard, LoGerfo, & Hoy, 2004), have not necessarily achieved this through leadership and a normative culture that have successfully countered institutionalized deficit thinking (Goddard & Skrla, 2006). Instead, continued deficit thinking, unchallenged and at times promoted by the leader himself, enabled teachers to remain efficacious despite external indicators of regression in their student achievement. Future inquiry into the dynamic among school composition and teachers' collective efficacy beliefs, and the influence of leadership within that dynamic, are necessary to clarify the means by which low-SES schools can achieve robust CTE that prompts, rather than undermines, instructional improvement.

These findings complicate the understanding of how school composition and CTE are associated in the literature, and suggest surveys alone do not capture fully the complex and diverse ways that school composition can inflect efficacy beliefs among teachers. High scores on a CTE survey may not fully reflect collective teacher efficacy, if we define CTE as a belief in teachers' ability not just to influence student outcomes, but to make an educational difference over and above the impact of their homes and communities. At Courage Prep, teachers scored highly on CTE, but they attributed the school's success to the impact of students' homes and communities more than to any educational difference they may have made. Teachers may have felt that they made a collective difference over and above the impact of students' background, but they rejected the idea that they would experience the same or similar success with different students. Serving a lower-SES population need not hinder the formation of CTE. Teachers at

Colere Academy shared a perception that they can make a difference beyond the impact of student background, but the degree of difference they felt they could make was influenced by student SES and family background. Students' low-SES backgrounds provided teachers with a rationale for lowering their expectations of the difference they might make.

Further definitional clarity regarding CTE as a measure of belief in ability to influence, or to influence above and beyond the impact of home and communities, is critical to our understanding of the role CTE plays in educational improvement. Future research should further explore the relationship between school composition and collective teacher efficacy in high- and low-performing settings.

b. Leadership

While the strong influence of leadership within school improvement and capacity-building efforts (e.g. Chapman, 2003; Leithwood et al., 2004; Leithwood & Riehl, 2003) suggests that leaders' actions and approaches likely play a pivotal role in the cultivation of organizational properties like collective teacher efficacy, research on the specific school leadership practices most likely to engender CTE beliefs among a staff remains underdeveloped (Demir, 2008; Donohoo, 2017; Goddard et al., 2015; Ross & Gray, 2006). By analyzing survey and interview responses of teachers in a high- and low-performing school, this study explored the facets of leadership that teachers perceived to be most relevant to their practice and to their collective efficacy beliefs.

Survey responses indicated that teachers held positive perceptions of leadership at both schools, and that perceptions of principal leadership were significantly higher at the high-performing school. The survey included items related to both inclusive leadership (e.g. works to create a sense of community in the school) and instructional leadership (e.g. actively monitors

the quality of teaching in this school), and Courage Prep exhibited higher perceptions on both dimensions. Interviews affirmed the relevance of principal instructional leadership at Courage Prep, but not at Colere Academy. Therefore, the high-performing case affirms the limited empirical evidence that strong instructional leadership helps produce collective efficacy beliefs in schools (Goddard et. al, 2015; Qadach et al., 2020). Leaders' frequent monitoring and support of instruction (Goddard et al., 2015) and consistent promotion of high academic expectations and press (Qadach et al., 2020) promotes the development of CTE. The data suggest that this was the case at Courage Prep, where the principal established shared high expectations for teaching and learning as well as systems to support teaching and learning throughout the school.

Survey and interview data suggest that inclusive, and more generally supportive, leadership behaviors were highly salient, and relevant to CTE, at both schools. Courage Prep and Colere Academy teachers identified ways in which their school leader lessened the perceived challenge of their job through constant presence and a supportive stance. The ways in which teachers at both schools referenced their respective principal's accessibility, attentive listening to needs and concerns, and willingness to help as sources of CTE resonate with Brown and colleagues' (2018) findings that approachable leaders were perceived as more supportive and were more likely to enhance a staff's collective efficacy beliefs. Similarly, Donohoo's (2017) observed link between leaders "who are responsive and show concern and respect for their staff" and a robust sense of CTE among teachers (p. 33) was evidenced in both the high- and low-performing setting.

At Courage Prep, where both strong instructional and inclusive leadership were reported by teachers, CTE appears to be associated with positive normative consequences and outcomes. By contrast, at Colere Academy, teachers noted substantial evidence of inclusive leadership but

described little related to instructional leadership. Despite similar levels of CTE as at Courage Prep, the presence of leadership at Colere did not appear to translate to the same productive consequences. While this study affirms research that connects strong instructional leadership to high CTE, the experience of teachers at Colere stands as evidence that instructional leadership is not necessary for teachers to develop strong CTE beliefs. Inclusive leadership can also foster CTE, though the outcomes associated with high efficacy may differ depending on whether leadership is inclusive, instructional, or both. Furthermore, leadership was a salient influence on teachers' experiences of mastery experience, social persuasion, and verbal encouragement, as well as their sensemaking of school composition and its relationship to achievement expectations and their own efficacy. Taken together, these findings indicate that leadership matters for collective efficacy in myriad ways, above and beyond the limits of particular leadership styles (inclusive or instructional). This affirms and elaborates prior studies that suggest leadership behaviors influence CTE beliefs directly, and also indirectly through a collaborative culture (Demir, 2008) and school processes such as goal setting and decision making (Ross et al., 2004). Leadership it seems is more than just one of several antecedents of CTE beliefs, but a potential driver of other contextual factors that can enable or undermine CTE. Future studies should consider the unique ways that different styles and behaviors of leadership contribute to teachers' construction of CTE, and the ways that those differences might ultimately inform how collective efficacy beliefs motivate productive collective action for improvement.

c. Teacher Influence and Collaboration

Teacher influence and teacher collaboration have been linked to greater levels of CTE in schools (Derrington & Angelle, 2013; Goddard, 2002; Goddard et al., 2015; Ross & Gray, 2006; Ross et al., 2004). In particular, Ross and colleagues (2004) found that principals

who empower teachers through shared decision making contribute to higher teacher efficacy. Similarly, when teachers collaborate with each other they are more likely to develop a robust sense of CTE (Demir, 2008; Ross et al., 2004).

Teacher influence and collaboration were salient themes at Courage Prep and Colere Academy, and teachers at both schools indicated that their involvement and influence in decision-making and collaborative practices enhanced their CTE. However, there were important differences in how teachers experienced influence and collaboration. Courage Prep teachers described what has been characterized as directed or defined autonomy (DuFour & Fullan, 2013), while Colere teachers described a much more unbounded autonomy where influence and collaboration were not anchored in clear expectations for teaching and learning.

Informal collaboration was present at both schools, but these more organic experiences of collaboration were complementary to more formal work related to teaching and learning at Courage. While increased social interaction, even informal in nature, could enhance collective efficacy because "heightened interaction among teachers provides opportunities to observe the contribution of the collective to individual success" (Ross et al., 2004), collaborative practices that intentionally support professional learning and enable meaningful exchange of knowledge and expertise, is more likely to engender robust CTE (Demir, 2008; Goddard et al., 2015). At Colere, teachers' descriptions of collaboration stalled at less structured interactions and were not associated with expectations to take up new learning in practice. These examples do not align to conceptualizations of collaborative practice that matter for CTE. At Courage Prep, the collaborative culture took a much different form. Teachers enjoyed significant flexibility and freedom, but within defined parameters of the school's vision and expectations for outcomes.

While teachers in both schools drew on experiences of collaboration and influence over decisions in explaining the formation of collective efficacy beliefs, Colere Academy's experiences of CTE did not seem to catalyze improvement. The case of Courage Prep supports prior research findings that teachers' influence, when oriented toward instructional decisions (Goddard, 2002), and collaboration, when frequent, formal, and explicitly focused on instructional improvement (Goddard et al., 2015), are most effective in forging CTE beliefs among teachers. Data from this study suggest that, while informal collaboration untethered to outcomes may contribute to teachers sense of collective efficacy, those beliefs are less likely to be of consequence to instructional improvement than those engendered through purposeful, structured collaboration focused on student outcomes. Future research should investigate the ways in which bounded and unbounded autonomy contribute to efficacy beliefs that are of consequence to future collective action and instructional improvement.

B. The Influence of Robust Collective Teacher Efficacy

The second research question addressed how, and to what extent, high levels of collective teacher efficacy in a low- and high-performing school worked through effort, persistence, resilience, and goal setting to foster positive organizational outcomes identified in the literature. The study found that the high-performing school, Courage Prep, mapped fairly consistently onto the model of CTE derived from the theoretical and empirical literature, while the lower-performing Colere Academy did not. Courage Prep and Colere Academy experienced similar levels of reported collective teacher efficacy, but only Courage Prep evidenced the strong, mutually reinforcing relationship between CTE and student achievement documented in the literature. The collective efficacy in these schools, similarly robust but formulated in disparate ways, held differential power over teachers' normative behaviors and organizational outcomes.

There was evidence of goal-setting and effort as normative consequences at Courage Prep, but not at Colere Academy. Teachers at Courage Prep evinced shared high expectations for student academics among teachers as well as robust systems for student and class goal-setting. Teachers also indicated that putting forth significant effort, individually and collectively, was a norm among the faculty. Furthermore, there were concrete structures, such as coordinate intervention blocks and a Student Assistance Team, that oriented their effort toward high expectations and goals for learning. At Colere Academy, the lack of specific and ambitious goals for student outcomes was underscored by the absence of shared high expectations. Colere teachers' effort, perceived or actual, was not oriented toward any specified, ambitious goals for student learning.

Here again, the role of the leader exerted a significant influence on teachers' goal setting and enactment. At Colere Academy, the leader's effusive praise led teachers "to believe that we were doing the best we could" with tempered any urgency or motivation to set more ambitious goals and strive for improvement. As one teacher remarked, "When you think this is the best I can do, that's the best I can do." This mindset was reinforced by the leaders' approach to professional learning and development, for which he actively minimized expectations to take up new learning in practice. He encouraged teachers to read a book of their choosing together, but set no expectations for the content or form for discussions, and as many teachers reported, there was no follow-up on implementation of the learning. When a new instructional coach was placed within the school, the leader actively discouraged the coach from pushing teachers to improve, telling him to "ease up" because teachers "needed a break." The laissez-faire approach to professional learning and absence of expectations for instructional improvement, coupled with affirmative praise suggesting teachers were performing at their best, actively undermined

urgency and ambition in teachers' goals and improvement efforts. Future studies should attend to the ways in which leaders harness robust efficacy by actively constructing, or undermining, ambitious goals and by motivating, or limiting, collective effort to meet those goals.

The organizational outcomes of teacher commitment and collective responsibility followed a similar pattern. According to the survey, Courage Prep teachers had significantly stronger commitment, both to the profession and to the organization, than did teachers at Colere. Interviews underscored these results, affirming that Courage Prep teachers demonstrated a greater organizational commitment than did Colere Academy teachers. While prior research has demonstrated that enhanced collective efficacy increases teacher commitment to the profession (Ware & Kitsantas, 2007), the current study suggests that this is not always the case. At the low-performing school in this study, teacher commitment to teaching as a profession was not particularly strong despite high CTE. At both schools, commitment to the profession seemed to be bound up in commitment to the organization, lending support to Jex & Bliese's (1999) finding that collective efficacy cultivated organizational commitment, even in the face of work and pressure overload. At Colere Academy, eroding commitment to the profession was at least partially buffered by a commitment to the school. Teachers at Colere identified as feeling "beaten down," "under attack," and "drowning" as a result of mounting pressure and mandates, but described what they perceived to be a good deal of commitment to the school. At Courage Prep, it appeared as though the intense commitment to Courage Prep even salvaged some teachers' commitment to the profession. Three of the eight interviewed Courage Prep teachers reported that they were close to quitting teaching before arriving at Courage Prep. Further research is warranted to explore the relationship among collective efficacy, organizational

commitment, and professional commitment, especially in contexts of performance accountability.

Collective responsibility, a type of collegial accountability in which teachers take up responsibility for student learning (Wahlstrom & Louis, 2008), is an identified outcome of robust CTE (Derrington & Angelle, 2013; Olivier & Hipp, 2006). While survey responses indicated similar levels of collective responsibility among both sets of teachers, interviews illuminated critical differences across the two settings. Colere teachers claimed to take up collective responsibility in their survey responses, but interview evidence did not support these assertions. When asked to describe the form and extent of collective responsibility at the school, teachers at Courage Prep articulated a shared belief in students' potential and that the onus of responsibility for student learning was on teachers within and across the classroom. Furthermore, they offered examples of collegial support that were oriented toward differentiating student supports to ensure all students could meet the high expectations for academics. At Colere, teachers' descriptions of collective responsibility stalled at informal collegial support and did not fully encompass a collective responsibility for student learning. Moreover, they abdicated full responsibility for student success, placing the burden of learning on the students themselves. While the limited research on collective efficacy and collective responsibility (e.g. Olivier & Hipp, 2006) suggests that schools with healthy levels of collective teacher efficacy are more likely to experience collective responsibility, that was not the case in the low-performing school in this study.

C. Synthesis

The findings from this study suggest that the source of collective efficacy beliefs matters for their ultimate influence over outcomes. Comparative analysis of these two schools with similarly high levels of collective teacher efficacy suggest that the relationship between CTE and

positive organizational outcomes, and ultimately student achievement, is more complex than a quantitative measure can capture. In these two case schools, it was not the amount of reported collective teacher efficacy that mattered for positive organizational behaviors and student achievement; instead, the specific form the CTE at the school took made a difference. The same reported quantitative measure of CTE seemed to be of different forms depending on how it was cultivated. The high-performing Courage Prep aligned fairly consistently to the explanatory framework of CTE and seems to embody what we might consider "consequential efficacy," that is efficacy that promotes positive normative behaviors that in turn lead to greater teacher commitment, collective responsibility, and ultimately, student achievement. Colere Academy, on the other hand, evidenced a more "superficial efficacy," based on a constellation of antecedents that enabled a delusional spiral of performance perceptions that does not result in increased achievement, professional commitment, or collective responsibility.

Teacher perceptions of collective efficacy at Colere were overly influenced by less credible sources of information, namely the school leader's effusive, but inaccurate, appraisals of teacher practice and student achievement. This superficial sense of efficacy was enabled by an overall school culture that situated external factors such as parental involvement and student socio-economic status as the strongest influence over student learning and leveraged it as an excuse to lower the bar for student learning expectations. It was further reinforced by a high degree of professional autonomy that was not bound by any clear expectations for teaching or learning.

The ways in which CTE was cultivated and sustained appears relevant for the extent to which the positive organizational outcomes were manifest at each school. Specifically, the extent and nature of teacher commitment, collective responsibility, and student achievement outcomes,

appeared to relate to the constellation of sources, and weight placed on each, that informed the formation of CTE beliefs among teachers. This observation suggests that we might best understand the power of collective teacher efficacy by exploring the relationships among antecedents and consequences. By identifying the constellation of factors that form collective teacher efficacy and describing how they interact to yield differential consequences, we can better understand what sources of CTE are most likely to lead to consequential efficacy, and ultimately to the promise of increased student achievement in schools.

This study also problematizes efforts to position CTE as the primary influence on student outcomes (e.g. Donohoo et al., 2018) and reductionist claims that "when teachers believe, students achieve" (Donohoo & Katz, 2017). The findings reinforce Hoogsteen's (2020) claim that treating CTE as a main catalyst for enacting school improvement, without further exploring the complex and reciprocal relationships among antecedents and consequences is misguided. While the power and promise of collective efficacy stems from its malleability and demonstrated predictive power over other variables in explaining school achievement (Donohoo et al., 2018; Goddard, Hoy, & Hoy, 2004), this study illustrates that cultivating high CTE does not always relate to other variables that help explain school achievement and in fact, may undermine urgency for improvement efforts. How collective teacher efficacy beliefs were formed and sustained in a low-performing school mattered for their ultimate influence in the schools. The popularity of CTE as an uncomplicated good has spurred the proliferation of for-profit professional learning consultancies (Hoogsteen, 2020; Loughland & Ryan, 2020). This uninterrogated call to treat CTE as a straightforward intervention is complicated by this study, because CTE may actually undermine success, as it seems to have at Colere. This study found that, in the low-performing school, some sources of CTE were not as valuable in spurring, and in

some cases actively undermined, urgent forward progress. Leaders would be wise to pay particular attention to the sources of efficacy that are most likely to enable consequential collective efficacy, ensuring beliefs in collective ability are consistently calibrated against reliable performance indicators and tethered to high, and clearly communicated, expectations for teaching and learning.

Findings from this study also have implications for future methodological approaches to studying CTE. Survey measures of collective teacher efficacy indicated statistically similar levels at Courage Prep and Colere. However, the quantitative self-perception data masked the important nuance and the unique contours that each took on in these two settings, punctuating earlier calls for continued qualitative inquiry into what CTE is, how it is formed, and how it functions within specific schools (Henson, 2002; Labone, 2004; Tschannen-Moran & Barr, 2004).

How those equivalent levels of CTE were formed and how they motivated collective action was divergent across the two schools in ways that mattered for teacher commitment, collective responsibility, and ultimately, student achievement outcomes. It would seem that not all CTE is equal in its power to motivate productive organizational responses. Similarly, Courage Prep and Colere Academy reported equivalent perceptions of collective responsibility on the survey, but interviews revealed stark differences in the extent to which teachers truly exhibited it in their practice. Colere did not evidence attitudes or systems resonant with collective responsibility, suggesting limits to what survey responses can tell us about complex phenomena that exist within the social milieu of a school.

D. Conclusion and Future Directions

This study illuminates several considerations for future research. The findings from this study indicate that high levels of collective teacher efficacy may not always be advantageous to school reform within low-performing schools, offering an empirical counter narrative to the positioning of collective teacher efficacy as a key intervention in struggling schools. While the leader of the low-performing school successfully engendered CTE beliefs among the faculty, the ways in which he did so seemed to undermine the extent to which those efficacy beliefs translated to collective action and improvement. Future research is needed to further delineate the contours of collective efficacy formation that is likely to lead to better outcomes for students. Because this narrative is bound by one school within one district, future study of collective teacher efficacy is needed to proactively identify and study additional schools with relatively high levels of collective efficacy and a history of underperformance to further understand the ways in which robust efficacy may in fact work against urgent improvement.

Secondly, this study took up the call to explore collective teacher efficacy through qualitative inquiry in order to better explore the complex relationship among potential sources of efficacy and between those sources and their ultimate influence on organizational outcomes. While semi-structured teacher interviews provided a window into teachers' experiences and perceptions of their collective efficacy beliefs, future research would be enhanced by including focus groups and collective interviews. This would provide a unique opportunity to observe, and responsively probe, for areas of convergence and divergence among teacher perceptions. While collective teacher efficacy is an aggregate perceptual phenomenon, windows into collective sensemaking may further illuminate the complex ways in which teachers, individually and collectively, draw on sources of information in formulating their collective efficacy beliefs.

In summary, the data collected, analyzed, and presented in this dissertation study elaborate and complicate our understanding of collective efficacy, its formation, and its influence, especially in chronically underperforming schools. It is not sufficient or advisable to treat CTE as an uncomplicated catalyst for improvement, or to seek the litany of antecedents that can help engender collective efficacy beliefs among teachers. We must attend to the constellation and interaction of sources, as well as the emphasis placed on each, that cultivate consequential, rather than superficial, CTE if we are to understand the ways in which those perceptions of collective efficacy are of consequence to future action and translate to improvement of student outcomes. In particular, because leadership appears to uniquely cut across this study as a factor that influences the dynamics of other factors, we should attend to the ways that school leaders both shape the nature and extent of the antecedents of CTE and orient teachers' interactions and work to enable and direct goals, effort, commitment, and collective responsibility toward improvement. Leadership at both schools emerged not only as a relevant factor to CTE formation, but as a driver of other antecedents. Furthermore, leadership was a critical point of differentiation across the two contexts for the extent, and ways in which, CTE was harnessed to move improvement forward with urgency.

While this study presents a counter narrative to the reductionist mantra, "When teachers believe, students achieve," it does so anchored in hope, suggesting that uncovering more specifically how and why teachers believe will ultimately position us to make good on the promise of all students achieving.

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APPENDIX

2015 Survey Items Used in this Study

Collective Teacher Efficacy
Please indicate your level of agreement with each of the following statements about your school: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree;6-strongly agree

- Teachers in the school are able to get through to the most difficult students.
- Teachers here are confident they will be able to motivate their students.
- If a child doesn't want to learn, teachers here give up.
- Teachers here don't have the skills needed to produce meaningful student learning.
- Teachers in this school believe that every child can learn.
- Teachers in this school do not have the skills to deal with disciplinary problems

Perceptions of Performance
Please indicate your level of agreement with each of the following statements about your school: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

- This school meets or exceeds parent expectations
- This school does superb work
- Critical quality errors occur frequently in this school
- This school keeps getting better and better

Collective Responsibility
How many teachers in this school: 1-none; 2-some; 3-about half; 4- most; 5-agree;6-nearly all

- Help maintain discipline in the entire school, not just their classroom
- Take responsibility for improving the school
- Feel responsible to help each other do their best
- Feel responsible that all students learn
- Feel responsible when students in this school fail
- Are really trying to improve their teaching
- Are willing to take risks to make this school better
- Are eager to try new ideas

Trust
Please indicate your level of agreement with each of the following statements about your school: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

- Teachers in this school trust one another
- Teachers in this school typically look out for each other

- Teachers have faith in the integrity of their colleagues
- Teachers are honest with each other

Psychological Safety
Please indicate your level of agreement with each of the following statements about your school: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

- If you make a mistake in this school, it is often held against you
- Members of this school are able to bring up tough problems and issues
- People in this school sometimes reject others for being different
- It is safe to take a risk in this school
- No one in this school would act in a way that deliberately undermines my efforts
- Working with members of this school, my unique skills and talents are valued and utilized

Principal Leadership
Please indicate your level of agreement with each of the following statements about your school: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

The Principal at this school:

- Makes clear to staff his or her expectations for meeting instructional goals
- Communicates a clear vision for our school
- Sets high standards for teaching
- Understands how children learn
- Presses teachers to implement what they have learned in professional development
- Actively monitors the quality of teaching in this school
- Knows what's going on in my classroom
- Is strongly committed to shared decision-making
- Works to create a sense of community in the school
- Promotes parent and community involvement in the school

Knowledge Sharing
Please mark the extent to which you disagree or agree with each of the following: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

- My colleagues tell me what they know when I ask them about it
- My colleagues tell me what their skills are, when I ask them about it
- When I've learned something new, I see to it that my colleagues can learn it as well
- I share my skills will colleagues

Organizational Commitment
Please mark the extent to which you disagree or agree with each of the following: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

- I put in a great deal of effort beyond what is normally expected in order to help this school be successful
- I usually look forward to each working day at this school
- I wouldn't want to work in any other school

Professional Commitment
Please mark the extent to which you disagree or agree with each of the following: 1-strongly disagree; 2-disagree; 3-somewhat disagree; 4- somewhat agree; 5-agree; 6-strongly agree

- I do not seem to have as much enthusiasm now as I did when I began teaching
- If I could get a higher paying job, I would leave the teaching profession
- I think that the stress and disappointments involved in teaching aren't really worth it

Teacher Recruitment Email[1]

Hello XXXXX,

I recently spoke to your principal, XXXXX, about a research study I will be undertaking that involves your school. This is a mixed-method research study that is examining a small number of Hope District elementary schools that reported higher than district average levels of an important school property, collective teacher efficacy, in a district-wide survey administered last year. Collective teacher efficacy refers to a faculty's shared belief that they can successfully influence student learning. Your school has been selected for this study because the survey results indicate your faculty has a strong sense of efficacy for your work. I believe much can be learned from your school and by talking to you and your fellow teachers about your beliefs and your work.

I hope to speak to as many teachers as possible at your school to gain insight into your work practices and beliefs as a faculty. Your name, role at your school, and email contact information were provided to me by your school principal, XXXX, for the purpose of this contact with you today. If you decline participation in the study, I will not retain this contact information.

This letter is a formal request for your participation in this study. Your participation would involve one 60-90 minute interview to gain your understandings about the school's sense of collective efficacy for influencing student learning as well as work practices and school structures that might have shaped the formation and/or influence of these beliefs. This interview would be conducted at a location and time of your choice. All interviews are audiotaped and transcribed and then securely stored. You and your school remain completely anonymous.

My hope is to schedule your interview in the next 2-3 weeks. At that time, you would receive and sign a study consent form that would provide further details on the study and study process.

Could you please respond to this email (and the details below) to indicate whether you would be interested in participating in this study, and if so, when/where you would prefer your first interview. Please do not hesitate to let me know if you have questions.

Name:

Yes, I would be willing to participate in this study: _____

No I would not be willing to participate in this study: _____

My preference for interview would be (please supply a range of dates/times/location):

_____

[1] This email is identical to the one distributed to Hope District teachers, except the district identity has been concealed

Your contributions are important and appreciated. Many thanks for your consideration!

Teacher Interview Protocol

Introduction: Thank you for sharing your time with me today for this interview. This interview is likely to take between 60-90 minutes. You have reviewed the consent form and have signed the consent form to participate in this study and to have this interview recorded, correct?

As you are responding to questions, I am asking that you try to avoid sharing your school or district name and try to avoid sharing personal names. Instead you might say" "at our school", "in our district", or "one of our teacher leaders". If you do say a personal or identifying name, don't worry, I will be able to scrub it from the interview transcript at a later date.

For this interview, I am trying to understand your school and the ways in which your sense of collective efficacy for teaching has been formed and the ways in which it has influenced your collective work. Your school reported above average levels of collective teacher efficacy in a survey that was administered last spring. Because I want to understand the ways in which that sense of efficacy was formed and has influenced your work moving forward, I am asking questions that focus on the timeframe from last school year (2014-2015) as well as this past school year (2015-2016).

Do you have any questions for me before we begin?

Section 1: Collective Teacher Efficacy Beliefs

I want to start by getting a sense of how you perceive your school and your school's performance, and the extent to which you experience a sense of collective efficacy for improving student learning in your school.

1. What do you see as the biggest contributors to student achievement among your students? What do you see to be the strongest influencers of student learning?
    a. PROBE: student, community/home, school, teacher
2. To what extent do you feel as though students come to school ready to learn?
    a. What informs this perception?
3. What do you perceive to be the biggest obstacles to student learning in this school?
    a. PROBE: student, community/home, school, teacher
4. How much influence do you feel you and the other teachers had/have over student performance? Can you elaborate?
5. How would you characterize or assess your school's performance, specifically as it relates to student achievement, over the past two years?
    a. PROBE: What informs your characterization/assessment?
6. How would you characterize/assess the performance of teachers in this school over the past two years, especially as it relates to student achievement?
    a. What informs your assessment? What do you most base these perceptions on?
        i. PROBE: collaborative space and structures; teacher knowledge, skill, and expertise; leaders' messaging; data and information sources
7. How confident did you feel in your own ability and the ability of other teachers in the school to positively influence student performance?

8. To what extent to you feel that teachers in the school have the motivation and skills needed to get through to even the most difficult students and produce meaningful student learning?
    a. Can you share with me a specific example when such motivation and skills were used to effectively reach a challenging student?
9. How capable and motivated are teachers in this school when it comes to managing student disciplinary problems?
    a. Can you share with me a specific example when teachers effectively managed student discipline?
10. To what extent to you think teachers in this school believe that every child can learn?
    a. What informs this belief? Can you think of instances where this belief was demonstrated clearly through teacher actions?
11. Do you feel as though teachers in this school motivate students effectively to bring about student learning?
    a. Can you share some examples?

Section 2: Contributing Factors to CTE

Thank you. Next I'd like to ask you a set of questions to try and understand what has most contributed to your sense of collective efficacy in this school.

12. To what extent do you feel as though the teachers in this school had experiences of success in terms of student learning?
    a. Can you describe some of the more memorable moments of success?
    b. How and to what extent do you think these experiences contributed to the sense of CTE?
13. How often do you have access to models of effective teaching and school-wide success?
    a. Can you describe some of those encounters/experiences?
    b. How and to what extent do you think these models contributed to the sense of CTE?
14. Can you describe your school's approach to professional learning and growth? What opportunities for professional development are there?
    a. PROBE: How effective do you feel they are for building teachers' skills to meet the needs of your students?
    b. How and to what extent do you think this professional development contributed to the sense of CTE?
15. To what extent and how often do you receive verbal encouragement in your work?
    a. Who tends to provide such encouragement?
    b. When has it been most meaningful? Can you elaborate on an example?
    c. How and to what extent do you think this encouragement contributed to the sense of CTE?
16. How would you describe the climate and culture of your school? How does it feel to be a member of the faculty here?
    a. How and to what extent do you think the climate contributed to the sense of CTE?
17. Do you feel as though you and the other teachers have the resources needed to influence student achievement? Can you explain?

    a. How would you describe the student population at your school? What are some of the key factors that come to mind?
    b. How and to what extent did these characteristics and factors influence the shared belief that your team together can improve student learning?
18. How would you describe the leadership at your school? What are some of the key descriptors that come to mind when asked to describe your leader?
    a. PROBE: modeling, support, respect, active listening, clear work goals, student-driven
    b. Of the many roles your leader has within the school, what have you found to be most beneficial to teachers' beliefs that collectively you can have a strong influence on student learning?
19. Can you describe how and to what extent teachers are involved in leadership roles, both formal and informal?
    a. What prompts teacher involvement in leadership?
    b. PROBE: formal roles and appointments; informal expertise sharing, etc.
    c. How and to what extent do you think these roles contributed to the sense of CTE?
20. Do you feel as though you and other teachers in this school have adequate influence over decisions in the school, especially those that relate directly to instruction?
    a. Can you provide an example of when you've experienced such influence?
    b. How and to what extent do you think this influence contributed to the sense of CTE?
21. Overall, would you consider your school to support teacher collaboration? Why or why not?
    a. PROBE: collaborative structures, systems, space, and time
    b. PROBE: How often do teachers discuss student work, student progress, instructional decisions, together? How often do teachers see on another engage in instructional practice?
22. How and to what extent do you think the level of collaboration contributed to the sense of CTE?
    a. To what extent do you and teachers at this school feel enabled by policies, structures, and leadership support? That is, to what extent do you feel as though the administration and school rules/policies help you to do your work in a creative, professional, and cooperative way?
    b. Do you feel as though this school holds high expectations for student learning and, if so, do teachers feel adequately supported in meeting those expectations?
23. When you think about your perceptions of collective efficacy in this school, that is a shared belief that your team together can improve student learning, are there any particularly influential factors that shape those beliefs?
    a. PROBE: particular people, processes, cultural norms, events, experiences, structures

Section 3: Outcomes/Influence of CTE

Finally, I'd like to spend some time trying to better understand the ways in which your collective sense of efficacy has influenced your work.

24. To what extent do you feel that the school and teachers set ambitious goal for student learning?
    a. How are those goals determined? How are they shared?
25. Do you feel as though teachers in this school exert a great deal of effort in meeting the needs of their students? Why or why not?
    a. Can you think of 1-2 examples where teachers exerted a great deal of effort on behalf of students' learning?
26. Do you feel as through teachers in this school are persistent in working to meet goals for student learning? Why or why not?
    a. Can you think of 1-2 examples where teachers in this school were particularly persistent in their work to influence student learning?
27. To what extent do you feel as though teachers in this school display resiliency when unexpected challenges or obstacles arise?
    a. Can you think of 1-2 examples where teachers tackled such a challenge and displayed resiliency for their work to improve student learning?
28. Do you feel as though you and other teachers at this school believe that all teachers are responsible for making sure every student learns?
    a. Can you think a specific time or way that this sense of collective responsibility was evident to you?
29. How committed are teachers to this school? How do you know?
30. Do you feel a strong sense of motivation and competence when it comes to helping students learn? Do you think other teachers in this school feel that?
31. To what extent do you think that being a part of this school's faculty has enabled you to do your job better or take on new work streams?
    a. Can you elaborate on how you've been empowered and what you've felt empowered to do?
32. When you think about your perceptions of collective efficacy in this school, that is a shared belief that your team together can improve student learning, are there any particularly potent ways those beliefs have shaped your work at this school and the work of teachers collectively in this school?
    a. PROBE: particular processes, cultural norms, events, structures, outcomes

33. Is there anything else that you would like to share?

Thank you for your time and participation in this interview.

Principal Interview Protocol

Introduction: Thank you for sharing your time with me today for this interview. This interview is likely to take between 60-90 minutes. You have reviewed the consent form and have signed the consent form to participate in this study and to have this interview recorded, correct?

As you are responding to questions, I am asking that you try to avoid sharing your school or district name and try to avoid sharing personal names. Instead you might say" "at our school", "in our district", or "one of our teacher leaders". If you do say a personal or identifying name, don't worry, I will be able to scrub it from the interview transcript at a later date.

For this interview, I am trying to understand your school and the ways in which your sense of collective efficacy for teaching has been formed and the ways in which it has influenced your collective work. Your school reported above average levels of collective teacher efficacy in a survey that was administered last spring. Because I want to understand the ways in which that sense of efficacy was formed and has influenced your work moving forward, I am asking questions that focus on the timeframe from last school year (2014-2015) as well as this past school year (2015-2016).

Do you have any questions for me before we begin?

Section 1: Collective Teacher Efficacy Beliefs
I want to start by getting a sense of how you perceive your school and your school's performance, and the extent to which you experience a sense of collective efficacy for improving student learning in your school.

1. What do you see as the biggest contributors to student achievement among your students? What do you see to be the strongest influencers of student learning?
    a. PROBE: student, community/home, school, teacher
2. To what extent do you feel as though students come to school ready to learn?
    a. What informs this perception?
3. What do you perceive to be the biggest obstacles to student learning in this school?
    a. PROBE: student, community/home, school, teacher
4. How much influence do you feel you and the other teachers had/have over student performance? Can you elaborate?
5. How would you characterize or assess your school's performance, specifically as it relates to student achievement, over the past two years?
    a. PROBE: What informs your characterization/assessment?
6. How would you characterize/assess the performance of teachers in this school over the past two years, especially as it relates to student achievement?
    a. What informs your assessment? What do you most base these perceptions on?
        i. PROBE: collaborative space and structures; teacher knowledge, skill, and expertise; leaders' messaging; data and information sources
7. How confident did you feel in your own ability and the ability of other teachers in the school to positively influence student performance?

8. To what extent to you feel that teachers in the school have the motivation and skills needed to get through to even the most difficult students and produce meaningful student learning?
9. How have you, as a school leader, worked to increase teachers' motivation to reach students?
10. How have you, as a school leader, worked to increase teachers' capacity or skills to meet student-learning needs?
11. How capable and motivated are teachers in this school when it comes to managing student disciplinary problems?
    a. Can you share examples of how you as a leader have helped teacher successfully manage student behavior?
12. To what extent to you think teachers in this school believe that every child can learn?
    a. How, and in what ways specifically, do you feel that you have helped to shape and reinforce a belief that every child can learn in your teachers?

Section 2: Contributing Factors to CTE

Thank you. Next I'd like to ask you a set of questions to try and understand what has most contributed to your sense of collective efficacy in this school.

13. To what extent do you feel as though the teachers in this school have had experiences of success in terms of student learning?
    a. How, and in what specific ways, have you provided scaffolded experiences of success with student learning for teachers?
14. How often do you share models of effective teaching and school-wide success with your teachers? Can you describe some of those encounters/experiences?
15. As a leader how do you orchestrate and support professional learning and growth?
    a. What specific opportunities for professional development are there?
16. How and in what ways have you provided verbal encouragement to your teachers?
    a. When has it been most meaningful? Can you elaborate on an example?
17. How would you describe the climate and culture of your school? How does it feel to be a member of the team here?
    a. What have you done as a leader to create this culture? Can you elaborate on a few key actions/practices?
18. How and in what ways have you ensured that teachers in your school have the resources they need to influence student achievement?
19. How would you describe your leadership style? What are some of the key descriptors that come to mind when asked to describe yourself leader?
    a. PROBE: modeling, support, respect, active listening, clear work goals, student-driven
20. Can you describe how and to what extent teachers are involved in leadership roles, both formal and informal?
    a. How have you enabled and invited teachers to take on these roles?
21. How and in what ways do teachers in this school influence decisions in the school, especially those that relate directly to instruction?
    a. Can you describe some of the specific practices or structures in place that support such involvement in decision-making?

22. Would you say that collaboration is a priority in this school and can you briefly describe the content and frequency of teacher collaboration in your school – how has teacher collaboration tended to occur and for what purposes?
    a. PROBE: collaborative structures, systems, space, and time
23. How and in what ways do you communicate high expectations for student learning among your staff?
24. How and in what ways do you ensure that teachers are adequately prepared to meet those expectations?

Section 3: Outcomes/Influence of CTE

Finally, I'd like to spend some time trying to better understand the ways in which your collective sense of efficacy has influenced teachers'/staff's work at this school.

25. How are goals for student learning set and shared?
    a. What are some of your school's key goals for student learning?
    b. PROBE: who, when, how goals are articulated
26. Do you feel as though teachers in this school exert a great deal of effort in meeting the needs of their students? Why or why not?
    a. As a leader in the school, have you worked to build and sustain teacher effort toward school goals for student learning?
27. Do you feel as through teachers in this school are persistent in working to meet goals for student learning? Why or why not?
    a. As a leader in the school, have you worked to build and sustain teacher persistence toward school goals for student learning?
28. To what extent do you feel as though teachers in this school display resiliency when unexpected challenges or obstacles arise?
    a. Can you think of 1-2 examples where teachers tackled such a challenge and displayed resiliency for their work to improve student learning?
    b. As a leader how did you help build such resiliency in your staff?
29. Do teachers at this school believe that all teachers are responsible for making sure every student learns?
    a. As a leader in the school, how have you worked to build a sense of collective responsibility for student learning?
        i. PROBE: systems, policies, structures
30. How committed are teachers to this school? How do you know?
    a. As a leader how have you worked to build and sustain teachers' commitment to the school and their job?
31. Is there anything else that you would like to share?

Thank you for your time and participation in this interview.

Initial Provisional Coding Frame

CTE	Belief in influence over student achievement		
	Beliefs in collective ability		
	Sense of team collective identity		
Antecedents		**Consequences/Outcomes**	
Remote	Mastery Experience	Normative	Goals
	Vicarious Experience		Effort
	Verbal Encouragement		Persistence
	Emotional State		Resilience
Contextual	Leadership	Outcomes	Student Achievement
	Teacher influence		Teacher Commitment
	Collaboration		Collective Responsibility
	School Composition		

Courage Prep 8 Step Process for Success Time

IRB

UNIVERSITY OF ILLINOIS
AT CHICAGO

Office for the Protection of Research Subjects (OPRS)
Office of the Vice Chancellor for Research (MC 672)
203 Administrative Office Building
1737 West Polk Street
Chicago, Illinois 60612-7227

Approval Notice
Initial Review (Response To Modifications)

March 22, 2017

Mary Beecroft (Jones), MEd., BA
Policy Studies
16981 Hampton Drive
Granger, IN 46530
Phone: (610) 608-1358

RE: Protocol # 2017-0115
"Collective Efficacy and School Performance"

Please note that stamped and approved .pdfs of all recruitment and consent documents will be forwarded as an attachment to a separate email. OPRS/IRB no longer issues paper letters and stamped/approved documents, so it will be necessary to retain the emailed documents for your files for auditing purposes.

Dear Ms. Beecroft (Jones):

Your Initial Review (Response To Modifications) was reviewed and approved by the Expedited review process on March 16, 2017. You may now begin your research

Please note the following information about your approved research protocol:

Protocol Approval Period: March 16, 2017 - March 16, 2018
Approved Subject Enrollment #: 782
Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.
Performance Sites: UIC, South Bend Community School Corporation
Sponsor: None
PAF#: Not Applicable
Grant/Contract No: Not Applicable
Grant/Contract Title: Not Applicable
Research Protocol:

a) Exploring Collective Teacher Efficacy in High and Low Performing Schools (no version number or date on document; however, file name indicates v1, 1-26-17)

Recruitment Materials:

a) Teacher Email Recruitment and Consent, Version 2, 02/23/2017
b) Principal Email Recruitment and Consent, Version 2, 02/23/2017

Phone: 312-996-1711 http://www.uic.edu/depts/ovcr/oprs/ FAX: 312-413-2929

Informed Consents:

a) Collective Efficacy Informed Consent Form, Version 2, 03/22/2017
b) Waiver of Informed Consent for the Screening of Teacher Rosters granted as per 46 CFR 46.116(d) (recruitment purposes only, minimal risk, subjects will provide written consent prior to participation)

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific categories:

(5) Research involving materials (data, documents, records, or specimens) that have been collected, or will be collected solely for nonresearch purposes (such as medical treatment or diagnosis).,

(6) Collection of data from voice, video, digital, or image recordings made for research purposes.,

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
02/01/2017	Initial Review	Expedited	02/21/2017	Modifications Required
02/24/2017	Response To Modifications	Expedited	03/16/2017	Approved

Please remember to:

→ Use your **research protocol number** (2017-0115) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the guidance **"UIC Investigator Responsibilities, Protection of Human Research Subjects"** *(http://research.uic.edu/irb/investigators-research-staff/investigator-responsibilities)*

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process. Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 413-8457. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Barbara Corpus
Associate Director, IRB # 2
Office for the Protection of Research Subjects

Please note that stamped and approved .pdfs of the documents listed below will be forwarded as an attachment to a separate email. OPRS/IRB no longer issues paper letters and stamped/approved documents, so it will be necessary to retain the emailed documents for your files for auditing purposes.

1. **Informed Consent Document:**
   a) Collective Efficacy Informed Consent Form, Version 2, 03/22/2017
2. **Recruiting Materials:**
   a) Teacher Email Recruitment and Consent, Version 2, 02/23/2017
   b) Principal Email Recruitment and Consent, Version 2, 02/23/2017

cc: Benjamin M. Superfine, Policy Studies, M/C 147
Shelby Cosner, Policy Studies, M/C 147

APPROVAL
STARTS 03/16/2017 — EXPIRES 03/16/2018
UIC UNIVERSITY OF ILLINOIS AT CHICAGO INSTITUTIONAL REVIEW BOARD

University of Illinois at Chicago
Research Information and Consent for Participation in Social Behavioral Research

Exploring Collective Teacher Efficacy in High and Low Performing Schools

You are being asked to participate in a research project studying your school. You have been asked to participate in the research because your school has demonstrated higher than district average levels of an important school property, collective teacher efficacy, in a recent district-wide survey.

Researchers are required to provide a consent form such as this one to tell you about the research, to explain that taking part is voluntary, to describe the risks and benefits of participation, and to help you to make an informed decision. You should feel free to ask the researcher any questions you may have. We ask that you read this form carefully before deciding on whether or not to participate in this research interview. The interview will be tape recorded.

Principal Investigator Name and Title: Frankie (Mary Frances) Jones, PhD Candidate
Department and Institution: Educational Policy Studies, University of Illinois at Chicago
Address and Contact Information: 1040 W. Harrison Street, Chicago, IL 60607
(610) 608-1358, mbeecr2@uic.edu
Faculty Sponsor: Dr. Shelby Cosner, Associate Professor, Educational Policy Studies, University of Illinois at Chicago

Why am I being asked?

You are being asked to be a subject in a research study about how collective teacher efficacy is formed in schools and how it influences organizational outcomes.

You have been asked to participate in this research because your school has a reported higher than average level of collective efficacy in the district according to results from a previously administered survey.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future dealings with the University of Illinois at Chicago and it will not affect your relationship or employment at your school. **If you decide to participate, you are free to withdraw at any time.**

What is the purpose of this research?

The purpose of this research is to examine collective teacher efficacy, its formation, and its influence in a set of district schools. The study will explore the extent to which these schools' experiences of CTE support the model of CTE formation and influence suggested by the literature.

What procedures are involved?

The study procedure is one interview. During the interview, you will be asked about your overall perceptions of collective efficacy, school factors that may contribute to it, and potential consequences or outcomes associated with it. You will be asked about your experiences with and your work within your school.

This visit will take about between 60 and 90 minutes. If you consent, this interview will be audio recorded.

What are the potential risks and discomforts?

To the best of our knowledge, the things you will be doing have no more risk of harm than you would experience in everyday life.

A risk of this research is a loss of privacy (revealing to others that you are taking part in this study) or confidentiality (revealing information about you to others to whom you have not given permission to see this information). You may also skip any questions that you do not wish to answer.

Are there benefits to taking part in the research?

You will not directly benefit from participation in the research. This study is designed to learn more about how schools cultivate an important school property and the ways in which that property influences organizational functioning and outcomes. Indirect benefits include participants' opportunity to participate in an in-depth discussion of their school community, as well as the benefit of having their school recognized as a school with higher-than-average levels of collective efficacy in the district.

What other options are there?

You have the option to not participate in this study.

What about privacy and confidentiality?

If you agree to participate in an interview, no information about you, or provided by you during the research, will be disclosed to others without your written permission, or if necessary to protect your rights or welfare (for example, when the UIC Institutional Review Board monitors the research or consent process), or if required by law. Please note that State of Illinois auditors

may also monitor the research. Study information which identifies you and the consent form signed by you will be looked at and/or copied for checking up on the research by: UIC Office for the Protection of Research Subjects (OPRS).

When the results of the research are published or discussed in conferences, no information will be included that would reveal your identity. All identifying information, such as school site or name, will be given a pseudonym. All reports using this data will use only the pseudonym and will not include any other identifying information. A password-protected file accessible only to the Principal Investigator will be the only link between the coded data and your identity. Identifiable data and the master list linking the data to identifiers will be destroyed at the conclusion of the study. All anonymized data will be kept for three years following the submission of the research study's Final Report and then will be destroyed.

All audio-recordings of your interview will only be accessible to the Principal Investigator. You do not need to state your name during the interview and all interview transcripts will use pseudonyms. All recordings will be destroyed three years after the conclusion of the study.

What are the costs for participating in this research?

There are no costs to you for participating in this research.

Will I be reimbursed for any of my expenses or paid for my participation in this research?

You will not be offered payment for being in this study.

Can I withdraw or be removed from the study?

If you decide to participate, you are free to withdraw your consent and discontinue participation at any time. Simply notify the Researcher if you wish to withdraw from the study.

Who should I contact if I have questions?

Contact the researchers Frankie (Mary Frances) Jones, PhD Candidate at 610-608-1358 or email address: mbeecr2@uic.edu or Dr. Shelby Cosner at 312-731-0860 or email address: sacosner@uic.edu

- if you have any questions about this study or your part in it,
- if you have questions, concerns or complaints about the research

What are my rights as a research subject?

If you feel you have not been treated according to the descriptions in this form, or if you have any questions about your rights as a research subject, including questions, concerns, complaints, or to offer input, you may call the Office for the Protection of Research Subjects (OPRS) at 312-996-1711 or 1-866-789-6215 (toll-free) or e-mail OPRS at uicirb@uic.edu.

Remember:

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University. If you decide to participate, you are free to withdraw at any time without affecting that relationship.

Summary

A researcher from the University of Illinois at Chicago (UIC) is asking you to participate in a research study that will involve a 60-90 minute individual interview. The interview will be scheduled to avoid interfering with class time or professional duties. The interview will be audio recorded. The researchers will contact you via email to arrange the day, time, and location of the interview. Please print and sign your name below and provide the requested information on page 5. You keep pages 1 through 4 for your records. The UIC researchers will keep page 5 for their records.

Signature of Subject

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I have been given a copy of this signed and dated form.

_____ _____
Signature Date

_____
Printed Name

_____ _____
Signature of Person Obtaining Consent Date (must be same as subject's)

_____
Printed Name of Person Obtaining Consent

Summary

A researcher from the University of Illinois at Chicago (UIC) is asking you to participate in a research study that will involve a 60-90 minute individual interview. The interview will be audio recorded. Please print and sign your name below and provide the requested information on page 5. You keep pages 1 through 4 for your records. The UIC researchers will keep page 5 for their records.

Signature of Subject

I have read (or someone has read to me) the above information. I have been given an opportunity to ask questions and my questions have been answered to my satisfaction. I agree to participate in this research. I have been given a copy of this signed and dated form.

_____ _____

Signature Date

_____

Printed Name

_____ _____

Signature of Person Obtaining Consent Date (must be same as subject's)

_____

Printed Name of Person Obtaining Consent

VITA

NAME:	Mary Frances (Frankie) Jones
EDUCATION:	B.A., Psychology and History, University of Notre Dame, Notre Dame, Indiana, 2004
	M.Ed., Elementary Education, University of Notre Dame, Notre Dame, Indiana, 2006
	Ph.D., Policy Studies in Urban Education, University of Illinois at Chicago, Chicago, Illinois, 2021
TEACHING EXPERIENCE:	Institute for Educational Initiatives, University of Notre Dame: Curriculum, Instruction, and Assessment, 2015 – present; Data-Informed Professional Learning Communities, 2015 – present; Inquiry and Intervention, 2015 – 2018
	Department of Educational Policy Studies, University of Illinois at Chicago: Child and Youth Policy in Urban America, 2012 – 2013; Social Foundations of Education, 2013; Contemporary Controversies in U.S. Schools, 2014
HONORS:	David L. Clark Seminar Participant, University Council for Educational Administration, Chicago, IL 2015
PUBLICATIONS:	Cosner, S. & Jones, M.F. (under review). *Leading school-wide improvement in low-performing schools facing conditions of accountability: Key actions and considerations.* Journal of Educational Administration
	Boyle, M., Donahue, G., Donoghue, M., Faber, D. A., Jones, F., Ray-Timoney, J., Tesche, B., & Uhl, T. D. (2020). Witness to Hope: Catholic Schools Respond to COVID-19. *Journal of Catholic Education, 23* (1)
PRESENTATIONS:	Jones, M.F. (2019, November). Exploring High Collective Efficacy in a Low-Performing Setting. Paper presented at the annual meeting of the University Council for Educational Administration, New Orleans, LA.
	O'Donnell, G. & Jones, M.F. (2019, April). Building capacity for equity-oriented leadership through immersion trips. Paper

presented at the annual conference of the American Educational Research Association, Toronto, Canada.

Jones, M.F., Okello, B., & Edelman, R. (2019). Read Aloud as a form of explicit instruction. Presentation at the annual meeting of the Indiana Council of Teachers of English, Indianapolis, IN.

O'Donnell, G. & Jones, M.F. (2018, November). Building capacity for equity-oriented leadership through immersion trips. Paper presented at the annual meeting of the University Council for Educational Administration, Houston, TX.

Jones, M.F. (2018, October). Building collective capacity in our schools. Presentation at the Indiana Non-Public Educators' Conference, Indianapolis, IN.

Dallavis, C. & Jones, M.F. (2017, November). Taking up culturally-responsive leadership. Paper presented at the annual meeting of the University Council for Educational Administration, Denver, CO.

Jones, M.F. & Anthony, L. (2017, October). Closing the Opportunity Gap: Core Instructional Practice in Blended Learning Classrooms. Paper presented at the annual meeting of the Mid-Western Educational Research Association, Evanston, IL.

Jones, M.F. (2017, September). Leading learning: Building instructional excellence in our schools. Presentation at the Indiana Non-Public Administrators' Conference, Indianapolis, IN.

Jones, M.F. (2017, April). Leading Catholic Professional Learning Communities. Presentation at the annual conference of the National Catholic Educational Association, St. Lois, MO.

Jones, M.F. (2015, April). Cultivating collective efficacy in schools facing accountability-driven sanctions. Paper presented at the annual conference of the American Educational Research Association, Chicago, IL.

Cosner, S., Beecroft, M.F., & Trueheart, M. (2013, November). *Leading schools under accountability sanctions: Key actions and considerations.* Paper presented at the annual meeting of the University Council for Educational Administration, Indianapolis, IN.