

Article

Effective Principal Leadership Behaviors That Enhance Teacher Collective Efficacy

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Abstract: This qualitative case study explored teachers' perceptions regarding the impact of principal leadership behaviors that helped to enhance teacher collective efficacy (TCE). Through analysis of focus group and individual, in-depth interviews, four leadership behaviors supporting enhanced TCE emerged: (1) relationship building, (2) trust, (3) collaboration, and (4) empowerment. The findings suggest that site and district leaders should focus on these four leadership behaviors to enhance TCE.

Keywords: organizational change; principal leadership behaviors; teacher collaboration; teacher collective efficacy; teacher self-efficacy

1. Introduction

As school leaders seek high-yield leadership strategies that support teacher effectiveness, research continues to support the positive and significant relationship among school leadership, teacher self-efficacy, and teacher collective efficacy (TCE) [1,2]. Teacher beliefs about leader behaviors matter. In their analysis of instructional leadership roles, teacher collaboration, and collective efficacy beliefs for supporting student learning, Ref. [3] found that “the work of school leaders toward instructional improvement, through their support of teachers' collective work, affected teachers' reports of collective efficacy beliefs in their schools” (p. 523). Ref. [4] found that even though teachers' individual perceptions and team members' collective perceptions of principals differ within a school, there is a positive link between a team's sense of collective efficacy and a positive perception of the principal's leadership. Ref. [5] suggested that a deeper exploration of discrete leader behaviors that contribute to TCE may lead to a more robust model of principal actions that influence TCE.

This article focuses on the qualitative phase of a mixed methods study about principal behaviors that lead to teacher TCE. The quantitative phase results showed a high TCE level at the studied site, with an average mean score of 5.5 on a 6-point scale [6]. We then gathered teachers' perceptions about the connection between school leadership and teacher self- and collective efficacy. Collective efficacy reflects individuals' perceptions of an organization and the group's abilities to reach desired goals [7]. Ref. [8] identified the sources of efficacy beliefs as mastery experiences, vicarious experiences, affective states, and social persuasion. Ref. [9] contributed to Bandura's social cognitive theory regarding efficacy beliefs by adding two additional elements that play a role in perceived teacher collective efficacy: (a) analysis of teaching task and (b) assessment of teaching competence. In examining TCE beliefs, Ref. [10] developed a foundation for further research by positing a positive correlation between collective efficacy and student achievement. Thus, perceived teacher collective efficacy is founded on the social cognitive theory and refers to “a group's shared belief in its conjoint capabilities to organize and execute the courses of action required to produce given levels of attainment” [11], p. 477.

The purpose of our study was to discover specific principal behaviors in relation to their TCE beliefs and to examine how teachers perceived those behaviors. As found



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by [4], TCE positively influences professional growth for teachers and supports their efforts to improve student learning. Additionally, findings showed that empowered teachers strongly influence school improvement. Consequently, principal leaders play an integral role in developing, supporting, and sustaining high levels of TCE.

Although a globally accepted definition of TCE does not exist, Ref. [10] first suggested that teachers with strong self-efficacy beliefs exhibit positive interpersonal relationships, model instructional effectiveness, and foster the cognitive development of students. Ref. [12] later considered efficacy within the context of organizational effectiveness and found that collective efficacy beliefs are an important aspect of an organization's operative culture. Ref. [13] found that TCE is closely linked to student achievement, suggesting that greater TCE leads to greater teacher effort and persistence. Increasingly, the literature supports that teachers' individual self-efficacy beliefs impact the work of their colleagues, the students, and the educational organization, thus leading to their TCE.

Ref. [14] examined the relationship between school leaders' behaviors and TCE. Data from analysis of their survey completed by 192 teachers and 9 principals revealed that leadership behavior and TCE relationships were present in five areas: (1) student learning, (2) teacher training/experience, (3) school environment, (4) school community, and (5) resources. Ref. [15] found similar outcomes from a comprehensive review of 149 studies that focused on how leader behavior and teacher efficacy promoted student achievement. In that study, critical factors for TCE included a deep commitment to the implementation of school improvement, teacher leadership and risk-taking, high student performance expectations, a strong focus on professional growth, and receptiveness to new ideas.

2. Principal Leadership Models

To understand how principal leadership behaviors influence TCE, we examined seminal leadership models that have been shown to support a positive correlation to an increase in TCE. Thus, for this study, we specifically chose transformational and distributed leadership models as they seem to relate to teacher self- and collective efficacy. Additionally, the studied site incorporates both transformational and distributed leadership models.

2.1. Transformational Leadership

Ref. [16] first introduced the concept of transformational leadership, through which leaders and their followers experience morally uplifting change. Ref. [17] later defined transformational leadership as a management approach that inspires positive change in individual and social constructs by empowering individuals to create organizational change. We use this definition in our study. Bass noted four key characteristics of transformative leadership: (1) charismatic influence, establishing the leader as a role model; (2) inspirational motivation, empowering followers; (3) intellectual stimulation, where the leader engages followers and supports risk-taking; and (4) individualized consideration, facilitating the leader's genuine interest in followers' personal, professional goals. In 2016, Ref. [18] applied an interpretation of these four factors in their study of 120 permanent Serbian secondary schools, linking transformational school leadership, teacher self-efficacy, and perceived TCE. Results showed that transformational school leadership and teacher self-efficacy were independent predictors of TCE. Then, Ref. [19] constructed a model of transformational leadership that includes setting directions, developing people, redesigning the organization, and improving the instructional program.

Ref. [20] conducted a mixed-methods case study examining the relationship between TCE, transformational leadership, and professional learning communities (PLCs). Findings from the quantitative phase suggested a positive relationship between PLCs and TCE. Qualitative data collected from one-on-one teacher and principal interviews indicated that transformational leadership is essential in the PLC process. Findings linked transformational leadership to developing and sustaining PLCs and provided evidence that high-functioning PLC teams resulted in higher levels of perceived TCE.

2.2. Distributive Leadership

As educational demands continue to impact school leaders, the role of the principal as a leader continues to evolve. Ref. [21] claimed that individual leaders cannot meet the demands facing schools without distributing responsibility among school members. Ref. [22] identified key factors of distributive leadership, including the development of teacher leadership capacity, constructive teacher feedback, and empowering teachers to lead. Next, Ref. [23] concluded that distributive leadership impacts human capacity by increasing teacher motivation and morale. Ref. [24] further suggested that distributive leadership results in collaboration, interpersonal relations, and higher levels of self-efficacy. Ref. [25] then examined the impact of distributive leadership on teacher self-efficacy and collective efficacy and found that a distributive leadership framework can increase TCE by providing structures for continuous improvement.

3. Social Cognitive Theory

Ref. [11] suggested that social cognitive theory serves as a framework centered on motivation and human learning. Bandura explained that individual cognitive processes lead to efficacy interpretations that vary for individuals. Efficacy beliefs are not limited to an individual's perceived ability to pursue action but include how a team's collective efficacy can determine student achievement.

3.1. Self-Efficacy

Ref. [26] defined perceived self-efficacy as "people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives", arguing that "self-efficacy beliefs determine how people feel, think, motivate themselves and behave" (p. 1). The social cognitive theory espouses that efficacy beliefs are formed through mastery experiences, vicarious experiences, social persuasion, and affective states. When self-efficacy beliefs are present, Ref. [11] suggested that the individual is more likely to persist through setbacks, obtain control over life events, and achieve goals. Further, Bandura stated that efficacy is impacted by an individual's affective state as influenced by physical and emotional conditions. For example, high interest in a task will increase efficacy, while change, stress, and anxiety can result in its decrease. Bandura also identified social persuasion, or one's ability to influence others, as a source of self-efficacy that can also affect collective efficacy in teams.

3.2. Teacher Collective Efficacy

Ref. [9] later found that supported collective efficacy was a strong predictor of student achievement within the context of variables such as gender, race, and socio-economic status (SES). Ref. [13] conducted a case study looking at TCE and found that teams that reached elevated levels of trust and collaboration were able to support students in performing at higher levels of mastery. Furthermore, Ref. [4] found that "Without high levels of collaborative work, participants in less effective teams did not have the same level of collective efficacy as the more effective teams" (p. 186). Thus, the social cognitive theory provides the groundwork for understanding the ways collective groups of teachers work together to support student achievement.

A formative body of published research focused on examining the effects of TCE on student achievement across student demographics, content areas, and school operations. When controlling for socio-economic status, researchers concluded that TCE significantly predicted student achievement in mathematics and science in elementary schools [9,27]. Similarly, Ref. [28] found that the level of TCE significantly influenced kindergarten students' mathematics learning over a school year. Earlier, Ref. [29] found that perceived collective efficacy was more positively associated with increased language achievement than SES was. Notably, [3] found TCE correlated significantly with mathematics ($\beta = 0.35$) and reading ($\beta = 0.45$) achievement, regardless of school/student background and prior student achievement. Ref. [30] also found associations between TCE and student mathemat-

ics achievement that linked to a 50% reduction in the academic disadvantages experienced by Black students in elementary and middle school grades.

4. Conceptual Framework

We focus this article on the qualitative portion of the larger study, the portion that examined what teachers perceived to be the impact of principal leadership behaviors on their teacher collective efficacy. We constructed a conceptual framework guided by the works of [8,9] to tease out discrete leadership behaviors that influence what teachers believe about TCE. Using Bandura's four sources of efficacy beliefs: Mastery Experience (ME), Vicarious Experiences (VE), Social Persuasion (SP), and Affective State (AS), Goddard and colleagues added their two elements of Analysis of the Teaching Task (ATT) and Assessment of Teaching Competence (ATC) to suggest those as the six elements of TCE. We thus based our framework on that combination. The graphic below illustrates the relationship between principal leadership behaviors and perceived TCE, as considered within each of the six elements of TCE by [9] (See Figure 1).

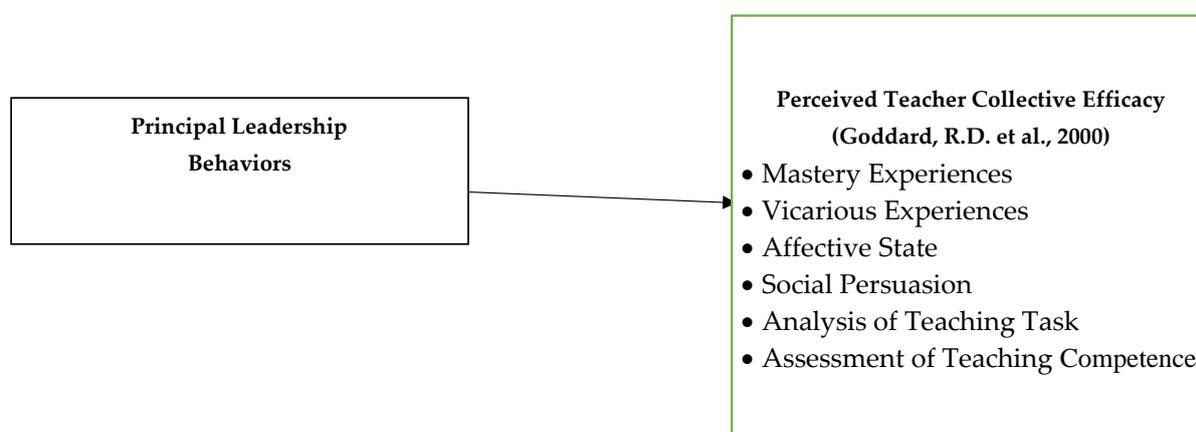


Figure 1. Conceptual Framework [9].

This conceptual framework supports our research question: What are the principal leadership behaviors that affect the dimensions of TCE and best support higher overall levels of TCE?

5. Method

Our qualitative case study was designed to hear the voices of teachers who expressed their views of how their leaders' behaviors impacted their collective efficacy. The interview questions used in both the focus group and individual interviews were designed to gain a deeper understanding of each participant's collective efficacy beliefs, including the belief that the principal's leadership behaviors influence teachers' efficacy.

6. Context of the Study

To gain an understanding of principal behaviors that teachers perceived to contribute most to TCE, the criterion for site selection was the identification of a high-achieving Title I middle school, meaning that the school was awarded at least one distinction designation on the state accountability assessment. Title I is a comprehensive program designed to provide financial assistance through state educational agencies (SEAs) to local educational agencies (LEAs) and public schools. The program is available to schools with a student base where at least 40% of students come from low-income families. In Texas, the State of Texas Assessment of Academic Readiness (STAAR) is used to measure whether students learned and can apply the state curriculum standards, the Texas Essential Knowledge and Skills (TEKS). Campuses that received an accountability rating of Met Standard were eligible to earn distinction designations based on performance relative to a group of campuses of similar type,

size, grade span, and student demographics. Schools are awarded distinction designations when student performance is in the top 25% of its comparison group of 40 campuses [31]. For 2017–2018, distinction designations were possible to be awarded in the following areas: Academic Achievement in English Language Arts/Reading, Academic Achievement in Mathematics, Academic Achievement in Science, Academic Achievement in Social Studies, Top 25 Percent: Comparative Academic Growth, Top 25 Percent: Comparative Closing the Gaps, and Post-Secondary Readiness.

The study was conducted in one Texas middle school under the pseudonym of Park Middle School (PMS), a 6th–8th-grade Title I campus in Anthony Independent School District (pseudonym). This district was a growing suburb representative of similar districts in the Dallas-Fort Worth metroplex. At the time of the study, the campus served over 700 students, 53.07% male and 46.93% female, with an average daily attendance rate of 96.18%. Students represented diverse backgrounds: White (40%), Hispanic (36%), Black/African American (15%), Asian (4%), two or more races (4%), American Indian/Alaska Native (0.60%), and Native Hawaiian/Other Pacific Islander (0.15%). Twelve percent were designated as English learners, 8.55% as gifted and talented, and 15.5% as special needs students. Additionally, almost 40% were socio-economically disadvantaged (low SES), and over 15% were identified for 504 services. PMS was known for its high priority of employing a 100% high-quality, talented staff. The school boasted an average of 12 years of teaching experience among teachers at that time. The teachers at PMS are approximately 30% male and 70% female. Teachers' degree completion ranges from bachelor's to current doctoral students.

7. Participant Selection

For gathering qualitative data, 34 teachers at PMS were recruited by an email invitation to participate in a focus group and individual interview, but only 16 responded. Of those 16, all were invited to engage in the interviews. Only six of the 16 agreed to be a part of the focus group and individual interviews. After the six participants completed the focus group interview, we then conducted 30 min individual in-depth interviews with four of those teachers. We included all six in the invitation to participate in the individual interviews, but two were not available. We chose to include the same teachers for both focus group and individual interviews to validate or expand on comments made during the focus group. We used a field-tested open-ended, semi-structured interview protocol for both types of interviews with teachers.

8. Findings

To answer our research question, “What are the principal leadership behaviors that affect the dimensions of TCE and best support higher overall levels of TCE”, data analysis included a two-step coding process to determine the categories, relationships, and assumptions. We used ATLAS.ti™ for sorting qualitative data into codes. The first round of coding involved deductively analyzing data through a priori coding using the [9] six elements of TCE beliefs. Response frequencies for the six codes (Table 1) were then used to develop a baseline of specific principal leadership behaviors that we determined best fit each of the TCE elements.

Table 1. A priori code frequency.

| A Priori Codes | Reference Frequency |
|---|---------------------|
| Affective State (AS) | 32 references |
| Analysis of Teaching Task (ATT) | 27 references |
| Vicarious Experiences (VE) | 22 references |
| Assessment of Teaching Competence (ATC) | 21 references |
| Mastery Experiences (MA) | 18 references |
| Social Persuasion (SP) | 13 references |

As suggested by [32], we conducted an inductive second-tier analysis to gain a deeper understanding of participant responses regarding leadership behaviors within the context of participants’ lived experiences. Frequencies were determined for each first-tier a priori principal leadership characteristic, resulting in four emergent principal leadership behaviors (Table 2).

Table 2. Emergent principal leadership qualities and frequencies.

| Principal Leadership Codes | Frequency |
|-----------------------------|-----------|
| Collaborative Relationships | 66 |
| Trust | 65 |
| Empowerment | 53 |
| | 47 |

Finally, we analyzed the emergent principal leadership behaviors in comparison to the a priori codes by cross-referencing each with the six elements of TCE to determine the frequency of each emergent principal leadership code in relation to all TCE elements (Table 3). The multi-tiered analysis offered a deeper understanding of how principal leadership behaviors form a symbiotic relationship with the six elements of TCE.

Table 3. Efficacy belief a priori codes with frequencies of emerged codes.

| Efficacy Belief a Priori Codes | Frequency of Emerged Codes Element |
|-----------------------------------|---|
| Mastery Experiences | Trust (10) Collaborative (7) Empowering (6) |
| Vicarious Experiences | Empowering (12) Trust (9) Collaborative (6) Relationships (4) |
| Affective State | Relationships (17) Trust (12) Collaborative (6) Empowering (2) |
| Social Persuasion | Collaborative (8) Empowering (5) Relationships (4) Trust (1) |
| Analysis of Teaching Task | Collaborative (13) Trust (8) Empowering (6) Relationships (3) |
| Assessment of Teaching Competence | Empowering (7) Trust (5) Relationships (5) Collaborative (5) |

The next step in our analysis included identifying the principal leadership behaviors that affected three or more of the elements of efficacy beliefs. The last step included determining themes based on principal leadership behaviors that impact multiple elements of teacher self- and collective efficacy beliefs as connected to each theme.

9. Emerged Leadership Themes

The leadership themes that emerged include (1) relationship building, (2) trust, (3) collaboration, and (4) empowerment, displayed in Table 4 to highlight the relation-

ships between each leadership behavior and the corresponding efficacy beliefs. Although we initially analyzed data for each efficacy belief within each leadership behavior theme, we focus here only on the most frequently noted belief per behavior. We chose to collapse outcomes that were close to some beliefs by behavior. For example, under the theme of empowerment leadership behaviors, we include mastery experiences and social persuasion since each scored nine mentions under corresponding themes.

Table 4. Leadership behavior themes and the corresponding top two efficacy beliefs.

| Leadership Behaviors | Elements of Efficacy Beliefs, Including Frequencies |
|-----------------------|--|
| Relationship Building | Affective State (17) Social Persuasion (4) |
| Trust | Affective State (12) Mastery Experiences (10) |
| Collaboration | Analysis of Teaching Task (19) Social Persuasion (8) |
| Empowerment | Vicarious Experiences (15) Mastery Experiences (9) Social Persuasion (9) |

9.1. Theme 1: Leadership for Relationship Building

The first leadership behavior theme that arose from the analysis of focus group and individual interviews centered on the principal's abilities to build relationships that impact teacher perceptions of collective efficacy. In the interviews, participants were asked how their principal builds relationships. Teachers reflected on ways the principal models authentic relationship building through conscious efforts, such as knowing students and teachers on a personal level and empowering teachers to positively impact students. The highest-scoring efficacy beliefs about relationship building included affective state (17 mentions) and social persuasion (4 mentions).

Within the theme of relationship building, teachers' perceptions of their affective state yielded the highest number of participant responses. For example, the idea that a principal genuinely cares about teachers surfaced when participants were asked how the principal builds team trust. Interview Participant 1 (I1) responded on two different occasions, stating:

You can just tell that she cares about what you're doing. She cares about [you] as a professional [and] a person. She knows your family and your family history and your career goals. And it's not just her asking for small talk, she really wants to know those things. . . that makes you feel like you [are] important to her [and more than] just an employee. (I1)

She comes to all our events. . . She always wants to know the score; she'll text if she's not there. "Hey, how are we doing?" It just makes you feel that it's important, an integral part of the campus. (I1)

Other participants explained how the principal makes them feel valued.

She makes you feel like [you are] a valuable commodity and a valuable person. The relationship was very positive. . . You could just feel [she was] really warm and just accessible. (FG2)

[She] always, always, always tells me that I need to do my best and to believe in myself, [to] do my best. . . If she fixes something for me, it's in a positive way. She tries to give me feedback and that way I don't feel like I'm doing something wrong. (I2)

When asked how the principal develops relationships, one participant discussed how the principal's approachability impacts teachers' affective state.

She's very approachable. . .not in any way intimidating. She doesn't make it feel like she's up here and we're down here. She's in the fight with us. We're all in this together. . .for the same reason. (I3)

Teachers shared that when the principal builds relationships, both teachers and students feel more connected to one another and the school mission.

Although social persuasion received only four mentions, it was the second-highest leadership behavior that related to this first theme. Participants reflected on ways the principal supports teachers' beliefs in the skills and abilities of the group. Participants talked about the various ways the principal encourages team members to work together:

You're really comfortable saying anything. . .She'll entertain even your dumbest ideas and let you try and fail [or succeed] if that's what it's going to be. . . If someone wants to try a new assignment [or] teach things differently [or] change up the order of how we're doing things, it's welcomed. (I3)

I think the key is that she's transparent. And so, with her being transparent, it helps us with that transparency with each other. And I think it boils over to the kids to where we are our true selves with them. (FG1)

9.2. Theme 2: Leadership for Trust

Trust was the second theme that emerged to represent principal leadership behaviors that affect teacher perceptions of collective efficacy beliefs. The protocol item that stated, "What does your principal do to build trust with your team?" led to responses that revealed this emergent theme. Teachers felt that trust was critical to their success. The top efficacy beliefs linked to trust were affective state (12 mentions) and mastery experiences (10 mentions).

Participants responded that their principal's trusting leadership behaviors have an impact on teachers' affective state their physical and emotional conditions. As one interview participant shared: "She's just super empowering. She really lets us take the lead on things" (I3). Other participants shared how the principal's transparency behavior builds trust and makes team members feel empowered, thus improving their affective state.

She creates a working environment where you don't feel nervous. You feel like you can do your job. . .it's a family [feeling that] starts with her and she just creates all these things. (FG4)

She has a lot of trust and a lot of faith that what we have in mind is just what our students need. That we have their interests and whatever they're going through at heart. So, I don't feel like we're micromanaged. I feel like she's got that "You've got this. I know you've got this. If you need me, I'm here" [way] of looking at things. (I4)

Related to the theme of trust, participants reflected on past experiences where the principal showed behaviors and actions that encouraged risk-taking to build personal mastery.

[For] your own professional development, you can seek out [things] that [interest] you. It's really like a think tank. . .We've thrown out some crazy ideas that have happened. . .But I've never felt like there's something here that I couldn't have an input on. (I3)

When asked what the principal does to impact teachers' beliefs about their team's abilities to make a positive impact on student achievement, one participant reflected on how quickly the principal was willing to show trust in him.

My first week here, I went to her with some minor things that were going on in the athletic program and she just said, "I trust you. It's your judgment, your program, you do it". She definitely trusts you to do your job. (FG4)

Another focus group participant commented on the principal's willingness to give teachers experiences that show she has trust in their abilities to become masterful in their work.

She lets us be creative. She doesn't really give you any limits. If you want to do something, she lets you do it and gives you kind of the full reign to do it... It makes me feel valued. (FG3)

Participant responses indicate that teacher perceptions of trust are also aligned with a feeling of empowerment for success in their professional roles. Additionally, responses support that individual teachers' perceptions also encompass their teammates' abilities to be successful, an important aspect in understanding how individual teacher efficacy beliefs impact the overall collective efficacy beliefs of individuals and teams.

9.3. Theme 3: Leadership for Collaboration

While findings indicate that teacher perceptions of the principal's willingness to engage in collaborative behaviors had an impact on all six TCE elements depicted in the conceptual framework, the strongest elements associated with leadership for collaboration were found in both analyses of teaching tasks (19 mentions) and social persuasion (8 mentions).

When asked to describe ways their principal facilitates change, teachers talked about how the principal engages with their team. Their perceptions of how the principal utilized collaborative behaviors to identify team need to analyze and achieve a given teaching task showed that the principal is willing to engage in the work while providing systematic processes to support teacher effectiveness. This was noted by one interview participant who said:

Our ESL team works primarily with ELAR... now we're branching out to other content areas. So, I don't find myself just working with one content area, which I think is a positive thing. And she's supported that endeavor... Like now, we're branching out to science... [and] last year we did social studies. They helped us with TELPAS... she's really supportive of that. (I4)

Participants' responses to the protocol item that asked about how the principal impacted teachers' beliefs about their abilities to make a positive impact on student achievement indicate that the principal supports teacher teams through their work in analyzing teaching tasks. In the focus group, participant FG1 commented:

And she talks you through things, like a coach, so where it's not like [giving] directives, "You need to do this. You need to do that", but she gives you some ideas and trusts you enough to be able to take what you have and what you know and do what you need to do.

In addition, the principal facilitates processes for teachers to do their work effectively. Principal supports include professional learning communities (PLC), collaborative team planning, and data analysis protocols. When asked about the principal's impact on teachers' beliefs about their teams' abilities to positively impact student achievement, two participants shared their thoughts.

... we have been trained in that professional learning community process, and so when teams get together and answer [those four PLC questions] of: What do we want kids to know? How are we going to do it? What do we do when they don't get it? What do we do when they do? So, teachers are given [time and knowledge] of how to do that process together... (FG5)

We've [emphasized] data more than [ever] lately... we've had individual meetings by grade-level teams... not just [a] campus-wide look at, "Here's our snapshot..." She'll break it down into, "I'm having a meeting with the sixth-grade team on Tuesday. We are going to go over data on this. I'm going

to meet with the eighth-grade team". So, there's very specific data and very targeted stuff. (FG2)

In addition, I1 commented:

You can use statistics and data and you can use that to direct your decisions but when it comes down to it, sometimes it just depends on what might work for one campus, might not work for another campus. And so, we try things that work here and constantly try to improve upon things. (I1)

Analysis of the data suggested that the principal's collaborative leadership behaviors impacted teachers' perceptions of social persuasion, which is one's ability to persuade or convince others (Bandura, 1993). When participants were asked what kinds of decisions their team has input on, one idea that emerged is that the principal collaborates in a way that makes teachers feel their opinions are valued.

Of all the principals I've worked for in my career, she asks our opinions more than anyone has, and we feel like she's taking it into account. She's not just asking because she thinks that you're able to say something. . . she took it to heart and listened to it. (FG4)

New teachers noted how they were especially grateful for their principal. One teacher commented,

I'm so happy that she's my first principal ever. She made me grow a lot. Especially as a first-year teacher, I have to say it wasn't that bad, as others said that the first year is like awful. . . If I had a question, she was there to answer. (I2)

Another emerging construct related to ways the principal uses collaborative behaviors to support the social aspects of developing teacher teams. When participants were asked what the principal does to impact teachers' beliefs about their teams' abilities to improve student achievement, numerous responses suggested that the principal's behaviors impact the social persuasion component of teacher collective efficacy. As stated by I1,

. . . she can bring people together and to listen to all sides of issues and let people voice their opinions and then just buy into the decisions that are made. It's just an art that she has. . . (I1)

In addition, FG2 commented:

She's done a really good job of putting personalities together and moving personalities when there [is collaboration] that isn't working. . . (FG2)

Likewise, I2 noted:

She doesn't make you feel like you're just a cog in a machine. Everyone has value, everyone's voice is heard, everyone's got input. (I3)

Participant comments reflect that the principal is strongly committed to encouraging collaboration among teachers, a critical factor for the PLC team's success.

9.4. Theme 4: Leadership for Empowerment

Participants in the study reflected on principal leadership behaviors that empowered them to positively change students' lives and be successful in their roles. Teachers discussed the principal's willingness to allow all voices to be heard, giving feedback, and supporting teachers through positive and negative experiences alike. They were asked to describe the ways they felt the principal empowered their team. The TCE beliefs most closely associated with leadership for empowerment were vicarious experiences (15 mentions), mastery experiences (9 mentions), and social persuasion (9 mentions).

To build on experiences that contributed to their feelings of empowerment, teachers made observations regarding the success or failure of others. For example, participants shared ways the principal responded in an empowering manner, though outcomes may or

may not have been successful. Participant I1 commented on how the principal's leadership encourages teachers to grow through learning experiences.

She trusts people to make decisions and then she helps them if they're wrong, and then she [definitely] congratulates them when they're right. She...makes them think, "Hey what you did was great, it wasn't as easy and we're proud of you". (I1)

Another offered this perspective:

She...looks at different strategies that I use in my classroom and then, again, she sits down with me and then always she says, "Okay, these are the good things that I saw" She doesn't tell me these are the things that you need to improve. She's asking me like, "What are the things that you think we need to have improvement in?". (I3)

Participants reflected on the principal's impact on teachers' beliefs about their teams' abilities to positively impact student achievement and build trust within their team. Participant I3 talked about feeling empowered.

You're really comfortable saying anything...very seldom will [she] just tell you no. She'll entertain even your dumbest ideas and let you try and fail...or try and succeed. So, she really puts it on us and lets us kind of run with what we want to run with. (I3)

Another interview participant echoed this perception:

She makes sure that I always do those things [to increase communication...and then she always tells me, "Even if there is one child that I can change [or make] a difference in [the] life of that one child that one year, that's all the counts". Yeah, that one child. (I2)

Participant responses also support the idea that empowering leadership behaviors affect teachers' perceptions of all members and their own experiences within the group. One interview participant shared this:

[She empowers] just by showing up to our team meetings, like team meetings or just positive celebrations, recognizing in front of the others, in front of the school, in front of the students. (I2)

When asked, "In what kinds of decisions does your team have input on your campus", Participant I3 explained the decisions individuals and teams have.

From week one, I'm in interviews, I'm doing admin-level stuff... And you're just really, really empowered that way. We hired a first-year teacher last year. It was one of my partners [teachers]...She did a great job. I mean, by the end of the year our principal had her in interviews with us. I couldn't even conceive in my old job getting involved in the interview, even having been there six years. Here, you've got first-year teachers that if she feels like they need to be there, they're going to be there. (I3)

Participants also described how empowerment impacts social persuasion for individual teachers and their teams. They spoke of how the principal allows teachers to have input on team decisions, which supports teachers' sense of empowerment. Focus group participants noted the principal's openness to listen to team members express their needs before making decisions. An interview participant reflected on how the principal's ability to empower teachers not only impacts teachers on a personal level but also on teachers' perceptions of their colleagues' abilities.

For our team last year, seventh grade wanted to add some new books for our library, and she found money in our Title 1 fund for these books, so we are able to bring those into our classrooms for students. But we had made that decision, came to her and talked to her about what we needed and why. (FG5)

An interview participant made this statement:

Anything we want to have input on, the opportunity's there. . . There's nothing that's not really open for discussion. We've thrown out some crazy ideas that have happened. . . But I've never felt like there's something here that I couldn't have an input on. (I3)

Evidence clearly suggests the principal recognizes the importance of empowering teachers at the individual level and within the collective group of team members.

10. Discussion

In this case study, we examined teacher perceptions of principal leadership behaviors that impact TCE, the most important factor in student achievement. A two-part deductive and inductive analysis of qualitative data led us to the identification of four discrete dimensions of leadership behaviors that impact TCE: (1) relationship building, (2) trust, (3) collaboration, and (4) empowerment. Our findings suggest that principal leadership behaviors influence how teachers perceive collective efficacy across each of the six elements of TCE measured: Mastery Experience (ME); Vicarious Experiences (VE); Social Persuasion (SP); Affective State (AS); Analysis of the Teaching Task (ATT); Assessment of Teaching Competence (ATC) [9]. Even though the sample size was a limitation of the study, participants shared recurring leadership behaviors that they perceived to positively impact TCE. Those findings directly relate to those of [4,33], whose findings revealed that both self- and collective teacher efficacy increase based on teachers' perceptions of their leaders' behaviors.

11. Leadership for Relationship Building

In each of the six TCE elements, teacher responses indicated that they perceive the principal's ability to build relationships strongly impacts their affective state—their physical and emotional conditions. Teachers shared how the principal builds relationships in a way that makes them feel their leader is genuinely engaged in the work alongside them, reflective of [34] suggestion that effective school leaders provide teachers with opportunities to have a voice in the shared mission, vision, and goals of the organization. Descriptors of specific behaviors that supported teacher perceptions of their relationship with the principal included being approachable, not intimidating, and equal. Participants also connected the principal's ability to build relationships with teachers to their overall support for students. Teachers' descriptions of their school as a family surfaced numerous times throughout the data, exemplifying characteristics that [35] claimed are foundational for a positive school culture. Further, teachers commented on how the principal considers herself a member of the school family. Teachers noted that the principal provides resources, supports team autonomy, and meets the needs of each team.

12. Leadership for Trust

As ref. [36] asserted leader behaviors that support openness, vulnerability, risk-taking, and high achievement contribute to a culture of trust. Teachers indicated that when they feel trusted, they feel empowered. They shared how the principal allows them to think and work creatively, offering authentic feedback. Such behaviors reflect [37] findings that effective leaders model the continuous improvement cycle through openness, trust, and honesty while facilitating teacher input.

Regarding mastery experiences, participants reflected on the principal's trust in their decision making and how it affected their beliefs about their team's abilities to positively impact students. The principal allows teachers to accept responsibilities such as leading new campus initiatives or participating on interview teams. Our findings align with [38] assertions that trust benefits staff collaboration and productivity in ways that result in positive student outcomes. Principal trust enables teachers to feel supported in meeting goals with high expectations. Further, teachers feel empowered to safely assume risks

with principal support that recognizes success as well as learning opportunities from unexpected outcomes.

Lastly, teacher responses indicate that trust impacts social persuasion. Teachers trust their principal to build teams based on the principal's knowledge of the teachers, leveraging the best mix of personalities and abilities. When the principal demonstrates trust in teachers, teachers trust each other.

13. Leadership for Collaboration

The findings of this study, as related to collaboration, align with [39] exploration of collaboration and cooperative relationships in relation to TCE; those findings revealed that leadership behaviors that provide structures for collaboration promote TCE. Teacher perceptions of collaboration include the principal's willingness to engage in the work while providing systematic processes to support teacher effectiveness. Supports include team planning and data analysis protocols, both of which are collaborative teaching tasks for PLCs. Our findings align with [13] study that suggested a positive relationship between PLCs and TCE, such that when high levels of collaborative work were lacking, participants in less effective PLC teams did not have the same level of TCE as the more effective teams. Participants also noted the principal's ability to coach teachers through their analysis of teaching tasks. As ref. [40] suggested, supportive, and encouraging coaching from a supervisor can convince others that they can achieve tasks, which, in turn, increases one's efficacy beliefs. Participants noted how the principal was engaged in the work with them as they reflected on their leader's collaborative leadership and support of their ability to complete a task.

Principal collaborative leadership behaviors also impacted teachers' perceptions of social persuasion. Participants shared how much they value the principal's willingness and availability to support them by engaging in the work. Teachers reflected on how the principal collaborates with individuals and teams, valuing their thinking and offering feedback that impacts their ability to persuade or convince others. Additionally, the principal constantly reminds teachers of their impact on even one student's life, thus encouraging social proficiency that supports TCE, as suggested by [41].

14. Leadership for Empowerment

Leadership behaviors associated with empowering teachers are also connected to all six elements of TCE. As ref. [42] suggested effective leaders inspire transformation by empowering individuals to create positive change. Study findings also align with those from [39], suggesting that principals who promote teacher leadership empower teachers and strengthen TCE.

Teachers shared how the principal empowers all teachers, including new and veteran, with the freedom to make decisions and mistakes by communicating confidence that the leader will support mastery through experiences, regardless of the outcome. Such leader behaviors align with research from [22], which found that giving teachers constructive feedback positively impacts individual development and the school organization. Findings revealed that teachers feel empowered to gain mastery when their principal encourages their participation in setting goals and action steps for achieving them. These findings add to those of [43], calling for principals to view teachers as colleagues who contribute to the school organization and a collaborative school culture. Their study participants voiced evidence of the principal's trust in their team's ability through empowerment for autonomous decision making that they believe will positively impact student achievement. These beliefs further support our findings that stronger beliefs in teacher competence rise from teachers' perceptions of autonomy and freedom from leader micromanagement.

Regarding social persuasion, teachers noted that the principal's ability to empower teachers impacts both teachers' self-perception and their perception of others. They emphasized their appreciation for the principal's support while acknowledging that their leader pushes them to reach their highest individual and team potential. As one participant

noted, the principal plants a seed to grow teachers by empowering them to believe they can achieve, echoing conclusions by [23] that collaborative leadership behaviors can support human capacity through teacher empowerment.

15. Conclusions

Deductive and inductive analyses of the qualitative phase of the case study data collection revealed four leadership behaviors as related to TCE: (1) relationship building, (2) trust, (3) collaboration, and (4) empowerment. Teachers perceived high levels of TCE across each of the six TCE elements considered when principals operated within the four emerged themes identified in this study.

Our study serves to inform principal leaders about best practices that support the development and sustainment of high levels of TCE. Accepting that TCE continues to be the top factor related to student achievement serves to broaden the importance of understanding the role of principal leadership behaviors in building TCE. The unique perspectives of teachers interviewed in this study provide principal leaders insight into how their behaviors impact teacher performance, leading to improving student achievement. Furthermore, this study gives principal leaders highly effective strategies for continuing to support TCE. Study outcomes indicate that principal leaders can best support TCE by facilitating relationship-building, trust, collaboration, and empowerment. Principals operating within these four domains can support teachers by leveraging effective practices that lead to improving their schools.

Although the findings of this study revealed important themes related to principal leadership behaviors that impact TCE, there are other topics that were not fully explored. A future examination of principals' perceptions of leadership behaviors regarding TCE would strengthen the findings of our study. Conducting a comparison of teacher perceptions and principal perceptions would allow for a more thorough analysis of behaviors that impact TCE as well. Another suggestion for future studies is to replicate this study with additional cases, adding to the validity of the findings and providing continuing evidence for ways that principal leaders can make a positive impact on TCE. An important limitation of this study is the limited sample size ($n=6$) of focus group and individual interviews. Replicating this study using elementary or high schools as the sites also would be informative.

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