EXPLORING THE CONNECTION BETWEEN PRINCIPALS' GROWTH MINDSETS AND LEADERSHIP PRACTICES: A THEORY OF PLANNED BEHAVIOR APPROACH

By

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ABSTRACT

This dissertation aimed to bridge the theoretical gap between beliefs and behaviors in educational leadership, using two theories from social psychology: growth mindsets and the Theory of Planned Behavior (TPB). Using growth mindsets as a case, I explored various reasons why school principals who firmly believe that every human can develop may or may not engage in leadership practices aligned with this belief—such as supporting teacher learning or implementing feedback from others into own practice.

One body of research suggests that when leaders believe intelligence is malleable, or when they have a growth mindset, they tend to engage in behaviors that are often more effective than those of leaders with a fixed mindset. These behaviors include providing more frequent support to teachers and offering regular feedback. However, other research indicates that this is not always the case with school principals.

Using a Q-sort activity for in-depth interviews with 13 school principals in a Midwestern state, this dissertation findings suggest that, despite possessing a growth mindset, school principals may not consistently engage in the expected leadership practices. To explore the reasons for these inconsistencies, I applied the Theory of Planned Behavior (TPB), a widely used framework in social psychology. TPB helped explain many factors influencing principals' decision-making but did not account for all observed behaviors.

I employed deductive and inductive approaches in my analysis. The deductive findings supported the utility of TPB in analyzing principals' decision-making processes. However, the inductive findings reveal that other factors—such as personal values and intrinsic motivation—also play significant roles. Additionally, past experiences emerged as a crucial influence. This study indicates that a growth mindset alone is insufficient to ensure principals engage in practices that enhance student learning. Principals also need positive attitudes, strong and supportive subjective norms, and facilitating perceived behavioral controls to implement these practices. Notably, past successes can significantly influence decision-making, accounting for more than half of the reasoning when principals consider engaging in growth mindset-aligned leadership practices.

The implications of this study are significant for growth mindset interventions, professional development for school principals, and policies that guide principals' leadership practices.

To my Dad, who always believed in every human's limitless potential to learn…

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CHAPTER 1: INTRODUCTION

Background

Principals are critical for improving student outcomes (Davis et al., 2005; Leithwood et al., 2010; Liebowitz & Porter, 2019). However, the work of school principals is extremely challenging (Bush, 2018; Leithwood & Prestine, 2002; Tintoré et al. 2022; Wise, 2015). School principals often need to tap into internal resources, such as cognitive, emotional, and psychological resources, to deal with challenging work demands (e.g., Leithwood, 2023). A growth mindset, belief that intelligence is malleable (Dweck, 2006), can be a cognitive resource that school principals can use to frame, make meaning, and act in response to challenging leadership tasks (Gottfredson & Reina, 2021). By engaging in leadership practices associated with a growth mindset, such as creating opportunities for teachers to learn, school principals can be more effective leaders for their school communities.

Research has demonstrated positive effects of a growth mindset on outcomes at various levels of human development. For K-12 students, embracing a growth mindset increased academic achievement during challenging times (e.g., Blackwell et al., 2007; Dweck & Leggett, 1988). At the college level, a growth mindset reduced the achievement gaps between African American and White students (Aronson et al., 2002). The growth mindset decreased the psychological stress associated with being a member of a minority group (Steele & Aronson, 1995) and increased the sense of belonging and GPA among Latinx students (Broda et al., 2018). For business leaders, growth mindsets have been associated with better leadership outcomes, such being in a learning mode (Heslin & Keating, 2017), unbiased employee performance appraisals (Heslin et al., 2005), and better employee engagement (Caniëls et al., 2018). Although there is some evidence that a growth mindset results in positive leadership outcomes, there is no solid evidence that it can positively impact K-12 school principals' leadership practices (D'Anca, 2017; Korolczuk, 2020; Loftin, 2016).

Contextual differences in school principals' work may be a reason for the lack of a positive impact of a growth mindset on principals' practices. Many factors can affect what leadership practices principals decide to prioritize. Walton and Yeager (2020) suggest that contexts function as a "soil" to the idea of the growth mindset. In other words, beliefs alone are not sufficient to produce behaviors associated with growth mindsets. According to Walton and Yeager (2020), individuals with a growth mindset must have supportive contexts so that they can act in accordance with their mindsets. In their early theorization of growth mindsets, Dweck and Leggett (1988) suggested that mindsets do not directly manifest in expected behaviors (e.g., for individuals with a growth mindset to maintain enthusiasm in the face of challenges; focus on the process rather than the result). Dweck

and Leggett (1988) suggested that mindsets interact with situational cues to produce specific behaviors (Dweck & Leggett, 1988, p. 270). For example, in an environment that encourages a fixed mindset orientation, where experimentation is discouraged, an individual would most likely act in alignment with a fixed mindset, despite having a growth mindset. Consequently, individuals with a growth mindset would prefer not to experiment with new ideas. Similarly, individuals are likely to prefer growth mindset-associated behaviors (e.g., trying new pedagogical approaches) in a growth-mindset environment, even if they have a fixed mindset.

According to Dweck and Leggett (1988), for individuals' mindsets to manifest in alignment with associated behaviors, situational pressure toward certain types of behaviors must be absent. With this caveat, Dweck and Leggett (1988) suggested that mindsets do not directly impact behavior. Similarly, Ajzen (2020), using the Theory of Planned Behavior, argues that individuals' beliefs do not always lead to associated behaviors. Ajzen (2020) suggests that the Theory of Planned Behavior (TPB) can explain reasons for human behavior by introducing several psychological components and complex relationships between them. The TPB can be a helpful framework for understanding why school principals with growth mindsets engage or do not engage in growth-mindset-associated leadership practices. Furthermore, TPB has the potential to explain the factors mediating the relationship between school principals' growth mindsets and their leadership practices.

Problem Statement and Purpose

The purpose of this study is to explore the extent to which the Theory of Planned Behavior can explain the reasons why school principals engage or do not engage in leadership practices associated with growth mindsets. Although we expect school principals with growth mindsets to perform growth mindset-associated practices, research has found that school principals do not engage in these practices (D'Anca, 2017; Korolczuk, 2020; Loftin, 2016). The impact of school principals on teachers, the school climate, and students occurs when leadership intentions manifest in observable leadership practices. However, school principals' growth mindset intentions often do not translate into the associated growth-mindset practices. Meta-analyses of intention-behavior correlations have found that intentions explain only approximately 25% of the variance in behaviors (e.g., Sheeran, 2002. Despite previous research findings that growth mindsets allow individuals to be more effective, this link may not be strong in the context of school principals' everyday work because of their limited autonomy over their behaviors (D'Anca, 2017; Korolczuk, 2020; Loftin, 2016). Previous literature has not explored why school principals with growth mindsets fail to

engage in associated practices. The TPB has the potential to serve as a framework for analyzing various factors that impact school principals' behaviors (Ajzen, 2020) and thus explain why growth mindsets do not manifest in growth-mindset-associated behaviors.

Theoretical Framework

Educational leadership researchers, to my best knowledge, have not applied the Theory of Planned Behavior to explain the belief-practice gap among school principals. There is a need to first explore the applicability of this theory in educational leadership. Therefore, I aimed to explore the extent to which the Theory of Planned Behavior (TPB) (Ajzen, 2020) explains why school principals with growth mindsets engage or do not engage in growth-mindset-associated (GMA) leadership practices. TPB is a psychological model that attempts to explain human behavior (Ajzen, 2020). The TPB model accounts for multiple predictors of human intentions, such as attitude toward the behavior, defined as the favorability or unfavorability of a specific behavior; subjective norm, which represents the perceived social pressure on an individual; and perceived behavioral control, which refers to barriers or facilitators when performing a behavior (Ajzen, 2020). The TPB can help explain why previous studies did not observe a relationship between growth mindset and principals' leadership practices. The TPB provides a comprehensive outlook on leadership practices. It offers a nuanced picture of the complex interactions between beliefs, intentions, contexts, and leadership practices. Below, I briefly summarize the mechanisms that impact human behavior according to the TPB.

First, the TPB distinguishes between behavioral intentions and observed behaviors (Ajzen, 2019). According to the model, intentions are the strongest and most proximal predictors of observed behaviors; however, the link between the two is moderated by perceived behavioral control and actual controls (internal controls, such as knowledge and skills, and external controls, such as policies and rules). For example, contextual factors in school leadership may impact the manifestation of intentions in practices, such as accountability measures, laws, and community pressure. Fishbein and Ajzen (2010) term these factors as "actual control" over the visible manifestation of the behavior, which refers to personal skills or contextual barriers or facilitators (p. 21).

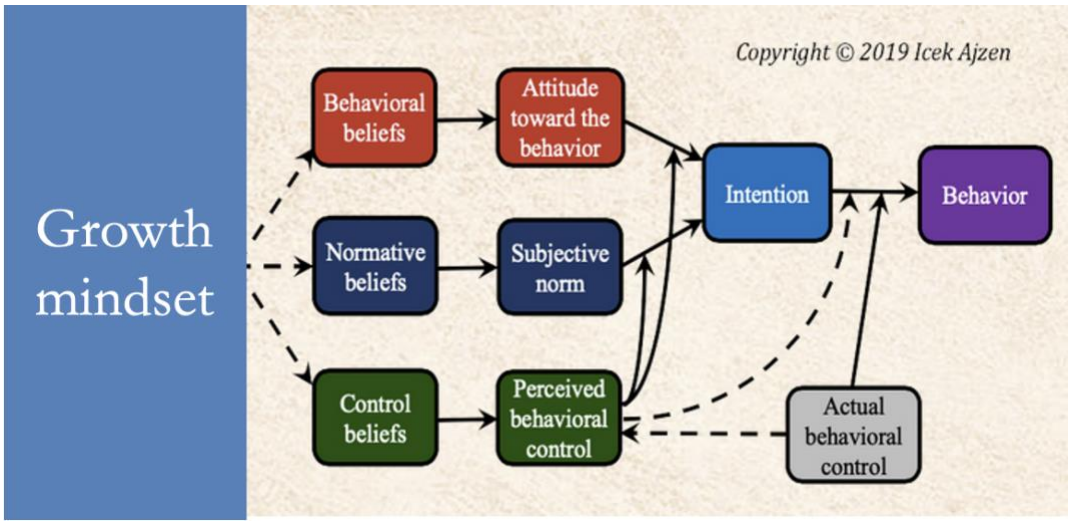
Second, the TPB suggests that three groups of psychological factors–attitude toward a behavior, subjective norm, and perceived behavioral control–influence individuals' behavioral intentions. Attitudes refer to the perceived favorableness or unfavorableness of a behavior. Subjective norm refers to the expectations of significant others (e.g., culture and supervisors).

Perceived behavioral control refers to the belief that one has the personal capacity to perform a behavior. This factor is similar to Bandura's (1982) self-efficacy construct. Attitudes and subjective norms affect behavioral intentions, while perceived behavioral control moderates the impact of attitudes and subjective norms on behavioral intentions. Finally, actual controls, defined as observed barriers and facilitators, moderate the relationship between behavioral intentions and actual behavior.

In addition, Ajzen (2019) argues that attitudes, subjective norms, and controls mediate the impact of background factors such as intelligence, life values, and personality traits on behavioral intentions (p. 318). I conceptualized a personal mindset about intelligence as falling into the category of background factors (Fig. 1).

Figure 1

Conceptual Framework connecting Theory of Planned Behavior to Growth Mindset



School principals might have a growth mindset toward themselves and others. However, when it comes to engaging in leadership practices, their attitudes toward specific behaviors, subjective norms, and subjective controls may mediate their initial beliefs. As a result, principals with a growth mindset may or may not engage in behaviors associated with growth mindsets. I will provide a more detailed description of the TPB components at the end of the literature review. In addition, I will illustrate how TPB components can impact school principals' leadership practices using prototypical scenarios.

Research Questions

The overarching research question in this dissertation study is: To what extent does the Theory of Planned Behavior explain why school principals with growth mindsets engage or do not

engage in growth mindset-associated practices? This research question consists of three theoretical areas: the Theory of Planned Behavior, education leadership practices, and growth mindsets.

To study whether TPB can explain the reasons for engagement or non-engagement in GMA leadership practices, I examine school principals' rationales related to practices in detail. A more detailed explanation of the research questions is provided in Chapter 4 (Findings). I pursue specific research questions aligned with the TPB components:

1. What are the most and least frequently engaged GMA practices of school principals with a growth mindset?
2. What are principals' attitudes, subjective norms, perceived behavioral controls toward GMA practices?
3. What are the other factors that influence principals' intentions toward GMA practices?

Significance

The Theory of Planned Behavior has been a popular framework for explaining human behavior in medicine, voters', and consumer behavior (Glanz et al., 2015). Despite the potential of TPB to explain school principals' practices, educational leadership scholars have not used this framework extensively. The TPB allows for a more comprehensive view of the complex decision-making processes of school principals.

The use of TPB is worthwhile for educational leadership in three ways. First, it can unveil the complex psychological factors that school principals consider when engaging in leadership practices. Explaining the nuances of principals' decision-making processes can refine the theory of educational leadership. For example, equity-focused leadership scholars have found that an equity mindset is an essential precursor to the equity-focused practices of school principals (e.g., Gooden et al., 2018; Ishimaru & Galloway, 2021). However, we do not yet know *how* principals with equity mindsets engage in equity-focused practice. Understanding the psychological factors (attitudes, subjective norms, and perceived behavioral controls) that play a vital role in principals' decision making can inform professional development programs that address principals' mindsets, including equity and asset-based mindsets.

Second, the TPB can highlight external constraints that inhibit school principals from acting in alignment with their mindset. The findings of this dissertation can inform district leaders on how to create and sustain organizational cultures that support school principals' practices conducive to student learning.

Finally, the application of TPB contributes to the refinement of growth mindset theory by explaining the inconsistencies in the effects of growth mindsets on individuals' actions. Growth mindset interventions have been difficult to replicate (Sisk et al., 2018). The literature suggests that growth mindset effects are context dependent. There is growing discussion about the specific contextual factors that can explain the success of growth mindset interventions (Walton & Yeager, 2020). A recent framework by Hecht et al. (2021) addressed four categories of contexts in which mindset interventions sustain their effects: being at risk, peers' attitudes, structural support, and teacher support. In their review, Hecht et al. (2021) highlighted the "visible" factors. However, they did not address the psychological determinants of behavioral intentions. The TPB suggests that for a growth mindset belief to manifest in an associated behavior, there needs to be a positive attitude toward the behavior, positive perceptions about what others think, and sufficient levels of perceived personal control over the behavior. A student with a growth mindset might not take risks if they have negative attitudes toward risk taking, if their teachers discourage experimentation, or if grading policies do not allow for minor failures. The findings of effective TPB application in the school leadership field can be transferred to other domains that deal with individual behaviors, such as K-12 or college students.

CHAPTER 2: LITERATURE REVIEW

My purpose was to explain the inconsistencies in the impact of a growth mindset on school principals' leadership practices using the Theory of Planned Behavior. Specifically, this study aimed to investigate the extent to which the Theory of Planned Behavior (TPB) can explain how school principals with growth mindsets engage in growth-mindset-associated leadership practices. Some growth-mindset-associated leadership practices include believing that every child can learn, modeling the school vision through personal actions, and providing teachers with professional development opportunities. This literature review explores the connections between principals' mindsets and leadership practices. Below, I outline the topics covered in this review, explain how I searched for relevant literature, and the structure of the literature review chapter.

To this end, I explored four bodies of literature: (a) growth mindset literature, (b) the impact of growth mindsets on business leaders, (c) the impact of growth mindsets on school principals, (d) school leadership practices associated with growth mindsets. At the end of this chapter, I provide a detailed description of the Theory of Planned Behavior and provide prototypical examples.

An overview of the mindset literature provides the background for growth mindset theories. A review of the impact of the growth mindset on business leaders provides initial evidence of the impact of mindset on leaders. The school principals' literature was reviewed to provide evidence of how mindset impacts school principals' practices. A review of this body of literature will provide an overview of the inconsistencies between principals' mindsets and leadership practices. Grounded in business and educational leadership literature, the fourth section provides evidence to suggest that a growth mindset impacts school principals' practices. Finally, I provide a summary of TPB, which informs the research questions of this study.

I used multiple sources to conduct the literature review for this study, including empirical articles, books, and internet sources. These sources were accessed using the Google Scholar, ERIC, ProQuest, JSTOR, EBSCO, and MSU libraries. Because this research topic is new, I did not limit my search to a specific timeframe.

In the first three sections of the literature review, I provide a summary of relevant literature. I provide an analysis and attempt to point to gaps in the literature in the fourth section, where I review the empirical and conceptual support for growth-mindset-associated practices. The concluding section of this chapter describes how the literature review informed the study's purpose, questions, and methods.

Growth Mindset Theories

According to Dweck (2006), a growth mindset is a belief that intelligence is malleable, and a fixed mindset is a belief that intelligence is static. Mindset theories (Dweck, 2006), also known as implicit theories (Dweck & Leggett, 1988), argue that individuals have various beliefs about the nature of human attributes, such as intelligence, talents, traits, and personalities. Research has found that the way individuals perceive the nature of human characteristics impacts their actions (Chiu et al., 1997; Hong et al.,1999). Dweck (2006) argued that people with growth mindsets embrace challenging situations, accept feedback from others, do not observe threats when others achieve goal value, and exert effort in the face of setbacks. By contrast, people with fixed mindsets tend to avoid challenges, are defensive in the face of feedback, feel threatened when others become successful, and apply less effort in the face of challenges compared to people with growth mindsets (Dweck, 2006). Dweck and Leggett (1988) suggest that people hold implicit theories about both the self and external things, such as human personalities, institutions, and organizations. They further argue that individuals categorize external things and label them controllable or fixed. Dweck and Leggett (1988) further argue that people with different mindsets treat objects differently. Individuals with fixed mindsets tend to measure, evaluate, and judge external objects. In contrast, people with a growth mindset are more likely to perceive the external world as something that can be developed. Consequently, individuals with growth mindsets are more likely to apply developmental lenses to others (Dweck & Leggett, 1988).

Interventions targeting student mindsets have been popular tools for boosting academic achievement and reducing achievement gaps. However, despite their popularity, the impact of growth mindset interventions has been inconsistent (Burnette et al. 2023; Macnamara & Burgoyne 2023; Sisk et al., 2018). The impact of mindset interventions has been the highest among primary students, less among middle school students, and has no statistically significant impact on high school students' academic achievement (Burnette et al., 2013). To address the issue of inconsistent intervention results, Yeager and Dweck (2020) suggest that additional support should be provided in school settings for growth-mindset interventions to be successful. They developed a *"Mindset x Context"* framework to help address the contextual factors contributing to the success of mindset intervention. In support of the *"Mindset x Context"* framework, a recent study found that teachers' support was a significant contextual factor for students to sustain the mindset intervention in the long run (Yeager et al., 2021). Another study found that peer effect was a crucial factor in sustaining

the impact of a growth mindset intervention on students (Yeager et al., 2019). This stream of literature suggests that mindset impacts are context dependent.

Growth Mindset and Business Leaders

Leadership is critical for an organization's success. Leaders who embrace a growth-mindset orientation towards themselves, staff, and organizations can be more effective in dealing with challenges and creating positive organizational cultures (Han & Stieha, 2020). However, before intervention designers can develop programs for adults, researchers need to understand whether and how growth mindsets impact adult leaders' behaviors. Leadership researchers have explored whether mindset affects leaders' behaviors, including attitudes towards self, interactions with employees, and the organizational behavior of employees. In the following sections, I summarize the literature suggesting a positive impact of a growth mindset on leadership outcomes.

Self and Leadership Practices

There is some evidence that leaders' growth mindsets might alleviate the stress associated with stereotype threats. In their experimental study, Hoyt et al. (2012) found that leaders with incremental theories of leadership ("leaders are made") were more confident and less anxious when presented with a leadership role model. Leaders who believed that leaders were made were also more confident when performing a leadership task than leaders who believed that leaders were born (Study 1). Mindsets can also predict how leaders would engage in leadership tasks. In Study 2, Hoyt et al., (2012) found that leaders with growth mindsets were more successful in performing a leadership task after being presented with a leadership role model than their peers with entity theories of leadership. In a similar study, Burnette et al. (2010) explored whether mindsets about leadership ability influence leadership self-efficacy after being presented with a stereotype threat. The authors conducted an experiment with 51 female undergraduate students, and the participants were offered fabricated information about the poor leadership performance of female leaders. After this manipulation, participants took part in a survey to indicate their leadership self-efficacy. The researchers found that participants with growth mindsets about leadership ability were less affected by stereotype threats than those with fixed mindsets. These findings suggest that a growth mindset can allow leaders to be more resilient in the face of stereotype threats.

Mindsets can also be associated with leaders' engagement in leadership activities. Kouzes and Posner (2019) studied the relationship between managers' mindsets and their level of engagement in leadership activities, such as inspiring a shared vision and encouraging others to act. The authors collected responses about mindset and frequency of engagement in leadership activities from 2,280

managers. Kouzes and Posner (2019) found that managers with growth mindsets were more frequently engaged in effective leadership activities than were those with fixed mindsets.

Interaction with Employees

Several studies have investigated the effects of leaders' mindsets on their interactions with their employees. Gairo (2021) explored the language leaders used when talking about organizational goals, management, relationship building. Gairo (2021) administered a screening questionnaire among 14 leaders in various levels and fields and conducted an in-depth interview asking about their employees' behaviors. They found that leaders with growth and fixed mindsets used different types of language in categories such as performance management, strategic processes, relationship building, psychological safety, learning, adapting to change, and leader self-management. While leaders with growth mindsets focused more on learning and valuing mistakes as opportunities to learn, leaders with fixed mindsets used language-stressing expertise, rules, and boundaries. The author argued that the language associated with a growth mindset was more conducive to employee work engagement (Gairo, 2021). Another study (Heslin et al., 2005) explored whether managers' implicit theories about personality predicted their recognition of changes in employees' behaviors. The authors presented video recordings of poor and good employee performance and then asked them to rate employees' changed performances. The authors found that managers with growth mindsets were less biased towards appraising employee performance. Managers with fixed mindsets were more affected by previous ratings of employee behavior (Heslin et al., 2005, Study 3). Heslin et al. (2006) conducted three studies to explore the relationship between managers' implicit theories about personality and managers' coaching behaviors. In their first and second studies, Heslin et al. (2006) found that managers with growth mindsets were more engaged in coaching. In their third experimental study, Heslin et al. (2006) found that implicit theory intervention positively affected managers' eagerness to coach employees. Overall, research in the field of business leadership suggests that a growth mindset allows organizational leaders to use more developmental language, expect them to grow, and engage in more coaching.

Organizational Behavior

Mindsets can also mediate the effects of leadership style in organizations. Bligh et al. (2018), in a cross-national study with 554 employees from Europe, China, and the USA, explored the associations between leadership styles and employees' attitudes towards error learning. The authors were interested in the mediating role of the mindset in this relationship. The authors found that employees with fixed mindsets undervalued error learning regardless of their employers' leadership

type. However, employees with growth mindsets were positive about error learning regardless of their employers' leadership styles. In a similar study, Caniëls et al. (2018) surveyed 259 employees to explore the role of transformational leadership in the relationship between proactive personalities and work engagement. The authors found positive effects of transformational leadership only when employees had a growth mindset.

Overall, studies have shown that leaders' mindsets can impact their attitudes and leadership activities. However, current research is limited to the business domain. Although mindset effects have been studied in the K-12 educational leadership area, there is little evidence of positive associations with leadership practices.

Growth Mindset and School Principals

Two studies found positive associations between growth-mindset leadership practices. Abernethy et al. (2021) studied the relationship between school leaders' growth mind-sets and their use of financial resources. They interviewed 12 school principals and analyzed the survey responses from 238 school principals. Abernethy et al. (2021) found that school principals with growth mindsets were more active in fundraising activities than their colleagues with fixed mindsets were. In addition, principals with growth mindsets used non-financial rewards for their teachers more often than did principals with fixed mindsets. In their dissertation, Zins (2020) explored the relationship between school principals' mindsets and authentic leadership. The authors surveyed 112 public school principals and found a positive correlation between a principal growth mindset and authentic leadership style. Both studies were correlational; therefore, causal relationships could not be drawn from these studies.

Three studies found no significant relationship between school leaders' mindsets and their practices. D'Anca (2017) studied the relationship between the mindset and resilience of school principals. Forty-nine school principals responded to the survey. The authors did not observe a significant relationship between the school principal types of mindset and resilience levels. In another dissertation study, Korolczuk (2020) surveyed 170 school principals in New York State to explore correlations between school principals' mindsets and their burnout levels. He found no statistically significant relationship between school principal mindsets and burnout levels. Loftin (2016) was interested in whether school principals' mindset towards their students predicted their instructional leadership behaviors among 465 public school principals in Chicago. Loftin (2016) found that school principals' leadership behaviors (defining school missions, managing instructional programs, and supporting school learning climate) were unrelated to their principals' mindsets. In

other words, principals with growth and fixed mindsets have similar instructional leadership practices. The author suggested that there might be a divide between what the principals believed and what they did.

Connecting Growth Mindset and School Leadership Practices

In the following section, I summarize the research findings that provide evidence of a link between growth mindsets and leadership practices. Literature connecting school principals' mindsets and their practices is scarce (Abernethy et al., 2021; D'Anca, 2017; Korolczuk, 2020; Loftin, 2016). Therefore, I draw from business, industry, general leadership, teacher instruction, college instruction, sports, and concepts. I organized the discussion of the literature supporting these practices as follows. First, I list the effective leadership practices most likely associated with growth mindset orientation (for the full list of growth-mindset-associated practices, see Table 1). Second, I provide empirical evidence from other studies that show the connection between leaders' mindsets and practices. If I am unable to provide evidence from the empirical literature, I indicate a supporting argument from the conceptual literature. Finally, I explain the theoretical link between mindsets and leadership practices.

Table 1

Leadership practices associated with growth mindsets

№	Leadership for learning practice (Murphy et al., 2007)	Rigor	Authors	Literature domain
1	Facilitate the school vision that every child can succeed.	Weak	Gutshall et al. (2013); Leggett and Dweck (1988)	Teachers, conceptual
2	Model school vision through personal actions	Moderate	Kouzes and Posner (2019)	General leaders
3	Maintain enthusiasm, even in the face of waning energy	Weak	Dweck (2006); Hong et al., (1999); Taberno and Wood (1999)	College students
4	Provide teachers with professional development and other opportunities (coaching) to learn	Moderate	Heslin et al. (2006); Rogers et al., (2023)	Business leaders
5	Give consistent (process-oriented) feedback to teachers	Weak	Rattan et al., (2012); Shapcott and Carr (2019)	Sports coaches, college instructors
6	Recognize and reward quality teaching	Strong	Abernethy et al., (2021); Dweck (1999); Heslin et al., (2005)	School principals, Industry

Table 1 (Cont'd)

Leadership practices associated with growth mindsets

7	Participate in professional development (including reading professional literature)	Weak	Dweck and Leggett (1988); Heslin and Keating (2016)	Conceptual
8	Secure extra funds for the school	Moderate	Abernethy et al., (2021)	School principals
9	Set high expectations for teachers	Weak	Dweck and Leggett (1988); Gutshall et al. (2013)	Conceptual, Teachers
10	Model risk-taking to achieve school goals	Weak	Kouzes and Posner (2019); Dweck (2006)	General leaders, conceptual
11	Make sure the school is not complacent with the status quo – continue improving	Moderate	Dweck and Leggett (1988); Kouzes and Posner (2019)	Conceptual, general leaders
12	Understand the environmental contexts that hinder student learning	Weak	Plaks et al., (2009); Rissanen et al., (2018)	Teachers

Researchers have identified several leadership practices associated with better student outcomes (Waters et al. 2003; Murphy et al. 2007). Although the causal link has been difficult to establish (Waters et al., 2003), these practices have been found to be common among school principals where student learning has been improving. Furthermore, the growth mindset literature suggests that several practices are associated with a growth mindset disposition. There is a theoretical overlap between the leadership practices of successful principals and the behaviors of individuals with growth mindsets. For example, many exemplary leadership practices for school principals require them to be comfortable with minor errors, be willing to change the status quo, and believe that tackling challenging situations can improve their leadership skills (Murphy et al., 2007; Waters et al., 2003). These practices are closely aligned with the characteristics of individuals with growth mindsets, a belief that intelligence, skills, and personality are malleable and can improve with effort (Dweck 2006).

For this review, I used Murphy et al. 's (2007) *Leadership for Learning* framework. This leadership framework was helpful because it integrated leadership practices from the most widely known leadership styles (e.g., instructional, transformational, and distributed leadership styles). The *Leadership for Learning* framework comprises nearly 65 practices categorized into eight domains:

vision for learning, instructional programs, curricular programs, assessment programs, communities of learning, resource acquisition and use, organizational culture, and social advocacy.

First, I created a list of approximately 65 leadership practices included in a comprehensive review of effective leadership practices associated with students' learning (Murphy et al., 2007). Then, I reviewed behaviors associated with having a growth mindset from other literature domains, such as business, industry leadership, teacher instruction, and conceptual literature. When I read every school leadership practice, I matched it with similar behaviors in other literature domains. As a result of this cross-domain matching, I identified 12 leadership practices that are likely to be associated with growth mindset orientations.

The section below is a list of leadership practices and their theoretical connections to growth mindset research. There was evidence of leadership practices in five of the eight categories. I did not find sufficient evidence to suggest that a growth mindset is associated with leadership practices in the curriculum and assessment domains. However, there may be an indirect impact of mindsets on principals' level of engagement on instructional issues. For every practice, I assessed the rigor of the evidence. I assessed a study as rigorous if the theoretical link between a growth mindset and a behavior was established empirically in both business and educational leadership literature. The practice was moderate if it had only one source of evidence (either business literature or educational leadership). Practice was weakly related to growth mindset if there was no empirical study to substantiate this relationship.

School Vision

School vision was the first category of leadership practices associated with growth mindsets. According to the leadership for learning framework, school principals in effective schools engage in developing, articulating, implementing, and stewarding the school's vision and mission with an orientation that every child can achieve the highest educational standards (Murphy et al. 2007).

The first practice in this category is *to facilitate the creation of the school vision that every child can succeed*. This practice focused on the belief that every child can learn and develop. The leadership for learning framework explicitly states that school leaders in effective schools believe in the educability of every child.

Two relevant articles provided evidence about the link between growth mindsets and the belief that students can learn. The first was the study by Gutshall et al. (2013). They conducted an experimental study involving 238 teachers. Gutshall et al., (2013) found that teachers' mindsets about personal intelligence had a significant correlation with the belief towards the malleability of

skills of students in the hypothetical scenarios ($r=.471$, $n=238$, $p < .01$). Although this study found a significant relationship, it did not explain the theoretical link between mindset and belief in the educability of students. Dweck and Leggett (1988) explain this theoretical link in the early theorization of growth mindsets. They argued that people with growth mindsets towards external attributes (and belief that there is a need to improve) would be more likely to hold "developmental goals" about those external characteristics. Consequently, people with growth mindsets toward others would act upon and approach them with a focus on the process and in a mastery-oriented manner (Dweck & Leggett, 1988). Overall, there was one empirical evidence from the teachers' literature and one conceptual evidence. Therefore, evidence to support a growth mindset is associated with school leaders' belief that every child can learn is weak because there was no empirical study to assess this link among school principals and business leaders.

The second practice in the *School vision* category is *to articulate the school vision through personal modeling and communication with others.* Personal modeling is a critical component of this practice. Additionally, the framework emphasizes the vision for learning, which provides a direction for modeling. Consequently, modeling practice entails becoming a learner because school leaders are expected to learn with their own examples. Empirical evidence highlights the connection between mindset and the practice of modeling the way.

This practice has moderate evidence since one empirical study exists in the general leadership domain. Kouzes and Posner (2019) conducted a correlational study among 2,280 managers, including junior, senior, and CEO-level leaders across the business and education sectors. They found that managers with growth mindsets were more likely to model vision, irrespective of organizational and demographic factors. Kouzes and Posner (2019) describe modeling as a practice when leaders demonstrate the expected behaviors through their actions: 'They act in accordance with their stated goals and values and serve as role models' (Kouzes and Posner, 2019, p.835). The authors did not provide a theoretical explanation for why the growth mindset would be associated with modeling vision through personal behaviors. Therefore, below, I provide an explanation based on Dweck's (2006) work. Vision is often directed towards the future and intentionally crafted in a way that encourages development and progress (Pekarsky, 2007). Modeling the vision means that the leader aspires to the behaviors outlined in the vision and puts effort into acting towards the vision. Future work often involves challenges, uncertainties, and mistakes. A growth mindset allows individuals to view challenges as opportunities for growth. Acting in accordance with one's vision is often uncomfortable. Putting effort in might seem to be an indication of the lack of ability for

individuals with a fixed mindset (Dweck, 2006). Therefore, leaders with growth mindsets are expected to be more likely to engage in modeling vision practice than their counterparts with fixed mindsets.

The last practice in the *School vision* category is *to maintain enthusiasm, even in the face of waning energy*. Several pieces of evidence support that growth mindsets are associated with this practice. Taberno and Wood (1999) conducted an experimental study of 68 undergraduate students enrolled in a psychology course. The study found that participants with a growth mindset were better at managing setbacks and were more resilient in the face of challenges. In an experimental study (Study 3), Hong et al. (1999) found that growth mindsets predict effort attribution after facing setbacks. The participants were 60 university students from Hong Kong. Although these studies did not directly address enthusiasm, they found robust associations between mindsets, managing setbacks, and maintaining effort attribution. In other words, individuals with growth mindsets attributed their low performance to exercising low effort, rather than attributing the failure to their intellectual ability. Maintaining enthusiasm may be an example of effort attribution. The two experimental studies suggest a causal link between mindset and maintaining enthusiasm in the face of waning energy. However, the limitations of both studies are that they were not conducted with practicing leaders. In addition, this effect was observed under the experimental conditions. The effects of mindset on enthusiasm in natural settings remain unknown. Overall, the rigor of evidence to support this link is weak, because no empirical research has been conducted using business leaders or school leaders' experiences.

Instructional Program

The next category of practice was grouped according to the *Instructional Program*. These practices are characterized by principals' involvement in teaching as instructional leaders, that is, frequent classroom visits and constant feedback to teachers. Three practices had some evidence from the literature: (a) providing teachers with PD and other opportunities to learn, (b) providing consistent feedback to teachers, and (c) reward-quality teaching.

The first practice in the *Instructional Program* category is *to provide teachers with professional development and other learning opportunities (i.e., coaching)*. School principals who engage in this practice create conditions under which teachers can learn continuously through high-quality in-service training. They also provided intellectual stimulation with other avenues (i.e., coaching) to help teachers develop their instructional skills. Below, I summarize studies related to coaching.

Heslin et al. (2006) found that managers with growth mindsets engaged in employee coaching more often than managers with fixed mindsets. Three studies were conducted to investigate the impact of mindset on employee coaching. Two studies were observational and the third was an intervention study. In the first study, based on employee feedback about managers' coaching, the authors found that managers' growth mindsets were associated with more frequent employee-perceived coaching ($\beta = .38$, 95%CI). Employee-perceived coaching was measured by distributing surveys to employees through managers of MBA students. The constraints to the generalizability of these findings include small sample size, learning-oriented MBA environment, participants' selectivity of employees (managers might have chosen like-minded employees to give feedback), and observational nature of the studies.

In the third study, Heslin et al. (2006) conducted a growth-mindset intervention. The intervention group underwent a scenario in which human characteristics were taught to be malleable. After the intervention, managers with fixed mindsets reported their mindsets to be leaning more toward the growth mindset, they became more willing to coach, gave more frequent feedback, and increased the quality of coaching feedback to poorly performing employees. The study participants were managers enrolled in an MBA course at a private southwestern US higher institution (Study 1 and Study 2) and Canada (Study 3). Heslin et al. (2006) did not explicitly explain the link between growth mindsets and coaching behaviors; however, the authors referenced Heyman and Dweck (1988) study in which individuals with growth mindsets were more willing to give helpful advice to hypothetically struggling individuals.

Although this practice did not specifically use coaching practice, the findings of Rogers et al. (2023) are relevant to teachers' support through willingness to support. Rogers et al. (2023) found that individuals' work growth mindsets predict helping others in the workplace. The authors defined work growth mindset as the belief that personal and professional abilities can be developed at work. Rogers et al. (2023) measured work growth mindset using 5-item measure originally developed by Erdley and Dweck (1993). Sample item: 'I can do things to perform better at work, but I cannot change my real ability' (reverse coded). They suggested that a work mindset may impact the intent to help others because they believe in the potential to change others' lives (p.77). Additionally, they may help others because they will make helpers better people (Rogers et al., 2023, p.78). Five experiments were performed to investigate this relationship. The authors found that work growth mindsets encouraged employees' orientation towards others and their intention to help others. However, this relationship was not universal. The magnitude of the intention to help depended on

the likelihood of growth for helpers and those being helped. Rogers et al. (2023) argued that the potential benefit of helping moderates the willingness to help. In other words, a growth mindset alone is insufficient for a person to engage in helping activities. There need to be developmental benefits from helping behaviors (Rogers et al., 2023, p.84). Rogers et al. (2023) based their study on Dweck and Leggett's (1988) argument that people with a growth mindset were more willing to help others. Because people with growth mindsets view their attributes as malleable, they are more likely to adopt learning goals and "act upon" those characteristics. This suggests that people with a growth mindset may be more likely to engage in employee coaching because they believe in their potential to learn and develop. The rigor of evidence for this practice is moderate, because this link is supported by at least one empirical study conducted with leaders.

The second practice in this category is to *give consistent (process-oriented) feedback to teachers.* In growth mindset literature, researchers distinguish between two types of feedback: performance feedback and process-oriented feedback (Rattan et al., 2012; Shapcott & Carr, 2020). The focus of performance feedback is on static and born traits. Because people with fixed mindsets think abilities are innate, they emphasize natural abilities or skills. For example, managers might use phrases in their feedback to subordinates such as, 'You must be smart at this; you are talented in this task'. Performance feedback is usually associated with a fixed mindset orientation (Shapcott & Carr, 2020). Performance-oriented feedback is usually associated with less motivation and less work engagement than process-oriented feedback (Mueller & Dweck, 1988; Rattan et al., 2012). In contrast, the emphasis of process-oriented feedback is on the formative components of the task, such as effort and energy. During process-oriented feedback, leaders emphasize the efforts of their followers. They would use phrases like 'You must have put so much effort into this, good job. I like how much effort you put into this task'. The K-12 student literature suggests that process-oriented feedback produces positive gains for students' achievement through an increase in motivation and self-efficacy (e.g., Hattie & Timperley, 2007).

In business literature, process orientation, including the establishment of continuous improvement measurement mechanisms, has been associated with better organizational outcomes (Kohlbacher, 2010). Process-oriented coaching among school principals has been found to be effective for principals' learning (Celoria & Hemphill, 2014). It may also be worthwhile for school principals to maintain process-oriented feedback for teachers. The leadership of the learning framework does not specify that feedback should be process oriented. Regardless, I decided to

modify and include this practice as *giving consistent process-oriented feedback to teachers* as a growth-mindset associated practice.

Growth mindset researchers have been interested in whether growth mindsets can predict process-oriented feedback from leaders, coaches, and managers. Below is the relevant literature and theory explaining the link between mindsets and process-oriented feedback. Although these studies did not investigate the impact of mindset on the type of feedback among leaders, I include them as they explored these relationships in a similar hierarchy: teachers and students.

Shapcott and Carr (2020) found that golf coaches' growth mindsets predicted their adaptiveness to feedback from female golfers. The authors described adaptive feedback as information focusing on the controllable aspects of performance and measured it with items such as 'Inform her that she can improve her golf game with the right plan.' A contrasting type of feedback to adaptive feedback is comforting feedback. An example of comforting feedback is: 'Do not to worry, not everyone can be good at golf.' The authors found that coaches with growth mindsets gave adaptive feedback more often to female golfers than their counterparts with fixed mindsets did. In addition, the authors experimentally showed that the growth mindset intervention increased the adaptive component of feedback towards female golfers.

Rattan et al. (2012) found that college instructors' mindsets predicted the type of feedback they gave to students in math related courses when students face challenges in learning (strategy-oriented vs. comforting feedback). Instructors with growth mindsets gave more process-oriented feedback (specific information on how to improve) rather than comforting feedback ('it is ok to be bad at math'). The authors did not provide a solid explanation of the theoretical link between mindsets and the type of feedback. However, the authors referenced Butler (2000), Heslin et al. (2005), and Plaks et al. (2001) and found that adults with growth mindsets were more open to expect a change in their students' performances, whereas individuals with a fixed mindset did not expect change after their first impressions of low ability from students. In their theorization, mindset impacts subsequent expectations of students' performance after failure, and expectations, in turn, impact the type of feedback they use. Although two empirical studies have found that growth mindsets predict process-oriented feedback, I evaluate this link as weak because there have been no studies conducted among school leaders or leaders in general.

The third practice in the *Instructional Program* category is *to recognize and reward quality teaching*. There are two components to this leadership practice. The first part is to *recognize*. The second is *reward*. There are two types of empirical evidence that support these practices. Two studies found

evidence that a growth mindset allows individuals to *recognize* changes in their performance. The third study found an association between growth mindset and rewarding good teachers.

Heslin et al. (2005) found that growth mindsets positively predicted managers' recognition of both improved performances (Study 1) and decreased performance (Study 2). The results suggest that growth mindsets allow managers to recognize changes in employee behaviors. The authors studied the effect of *growth mindsets* on changes in managers' initial judgments about employee performance. They were interested in whether growth mindsets impacted managers' awareness of employees' performance changes. The studies were conducted in a Canadian power-generating company (82 managers in Study 1 and 43 managers in Study 2). Dweck (1999) theorized that individuals with a fixed mindset form strong judgments about others based on their first impressions. Individuals with a fixed mindset do not expect others to change over time because they believe in the 'fixedness' of personal characteristics. However, individuals with a growth mindset were more likely to recognize changes over time because they believe that individuals can change over time (Dweck, 1999). This suggests that leaders with growth mindsets are more likely to recognize teachers' changes in performance than are leaders with fixed mindsets. A growth mindset allows one to revise one's personal prior judgments. Dweck (1999) suggested that initial impressions are difficult to change for fixed-mindset people. By contrast, people with a growth mindset expect others to change. Therefore, their subsequent observations are more prone to change, allowing them to recognize their performance. Dweck (1999) suggested that people with fixed mindsets do not change their initial impressions easily, even when presented with different information. This is because people with fixed mindsets believe that human characteristics are stable (Dweck, 1999).

Abernethy et al. (2021) found a significant positive association between managers' growth mindset and the use of non-financial rewards ($r=.23$, $p<0.01$.). The authors employed structural equation modeling to explore this relationship. There were 238 school principals who took part in the study in a large state in Australia. The author expected leaders with growth mindsets to encourage subordinates to learn their goals. Thus, they would use rewards to motivate employees to embrace mastery-oriented strategies. They base their argument on Dweck's (2016) description of growth mindset characteristics, such as asking for help from others, trying new things, and embracing challenges.

Overall, there is solid evidence that leaders with growth mindsets would engage in recognizing and rewarding quality teaching. There is one study in general leadership literature and one in school principalship literature. Therefore, I consider this evidence to be strong.

Communities of Learning

The third category of leadership practice was the *Community of Learning*. The emphasis of this group of leadership practices is principals' actions, directed at encouraging the learning orientation of the staff. Thus, school leaders invest in their personal learning and encourage teachers to collaborate to enhance their professional learning. The only practice in this category that is associated with growth mindsets is *to participate in professional learning and reading professional literature.*

Heslin and Keating (2016) suggest that leaders adopt a learning stance in the face of challenging situations when they have growth mindsets. Dweck and Leggett (1988) theorized that people with a growth mindset would develop their abilities through learning goals. Dweck and Leggett (1988) theorized that people with a growth mindset set learning goals because they believe that knowledge and skills can be developed. Therefore, people with a growth mindset are more likely to engage in self-development and learning. This hypothesis has been confirmed in multiple studies of K-12 students (Blackwell et al., 2007). Among business or school leaders, however, there is no evidence that a growth mindset has an impact on self-development activities, such as professional learning. Therefore, the rigor of the evidence to suggest its impact on school principals is weak.

Resources

The fourth category is *Resources*. This category of practice includes using, securing, and distributing resources to the school community to support teaching and student learning (Murphy et al., 2007). The only practice that has a link with growth mindsets is *to secure extra funds for their schools*. Abernethy et al. (2021) found that school principals with growth mindsets engaged in extra fundraising (controlling for student demographics) and used non-financial rewards to recognize teacher performance. Abernethy et al. (2021) explained this relationship using the self-regulatory framework (Burnette et al., 2013). Abernethy et al. (2021) theorized that managers with growth mindsets would perceive budgeting targets and variances as learning opportunities, and, thus, would invest time to understand the variances, and then apply mastery orientation to achieve the budgeting targets. Managers with fixed mindsets in contrast, were expected to set performance goals, feel more anxious, and deploy 'hopelessness' strategies when assessing the progress towards the budgeting goals. According to Dweck (2014), individuals with growth mindsets often engage in entrepreneurial behaviors in the face of challenges, while Abernethy et al. (2021) expected managers with growth mindsets to engage in external fundraising more often than those with fixed mindsets. The rigor of this link is moderate because there is empirical evidence from the school leadership literature that suggests that a growth mindset may impact securing extra funds for their schools.

Culture

The fifth category of leadership for learning practices relates to school *Culture*. It consists of practices, such as setting high expectations for teachers and ensuring that schools are continuously improving. Three practices provide empirical evidence to support these practices.

The first practice is *to set high expectations for teachers*. To the best of my knowledge, no empirical study has investigated the association between mindsets and expectations about others. However, Dweck and Leggett (1988) theorize that believing in the malleability of characteristics allows individuals to expect others to change. Gutshall et al. (2013) explored the relationship between teachers' mindsets and their expectations of their students' abilities. They found a statistically significant relationship between teachers' mindsets and expectations about the malleability of skills, as it relates to hypothetical students. Similarly, as in the practice of principals setting high expectations for students, the growth mindset literature suggests that people with growth mindsets view external attributes as malleable. Therefore, they would hold developmental views and 'act upon them' (Dweck &Leggett, 1988). This suggests that principals with a growth mindset are likely to set high expectations for their subordinates. There have been no empirical studies to support this relationship among leaders; therefore, the rigor level of this practice is weak.

The second leadership practice in the *Culture* category is to *model risk-taking to achieve school goals*. There are two components to this practice. The first component is *modeling*. The other relates to *risk-taking*. An individual can take risks but not model them. However, in this framing of leadership practices, the two components must occur simultaneously: modeling and risk-taking. This practice involves taking risks and explicitly demonstrating the act of risk taking. An example of such behavior might be the principal asking questions during a professional development class with teachers. In a professional development session, a principal might ask questions about things they did not know. Asking a question would serve as a demonstration of not knowing; there is a risk that teachers could think that the principal is not sufficiently knowledgeable to serve as a school principal. However, a principal with a growth mindset would strongly believe that taking risks is OK and that teachers should witness this behavior. In addition, they would model this kind of risk-taking behavior so that other teachers could observe the principal engaging in risk-taking behaviors.

There is one piece of evidence for the modeling aspect that leaders with growth mindsets engage in role modeling more frequently than leaders with fixed mindsets (Kouzes & Posner, 2019). However, the authors did not provide a theoretical explanation of the link between leaders' mindsets

and the practice of modeling. To the best of my knowledge, no empirical study has investigated the link between mindset and risk-taking behaviors among leaders.

For the risk-taking aspect, only Dweck (2006) asserted that individuals with a growth mindset are more likely to take risks. However, these links have not been investigated in leadership literature. Therefore, the rigor level of this practice is weak.

The third leadership practice in the *Culture* category is *to make sure the school is not complacent with the status quo - they continue to improve.* The core idea of this leadership practice is that individuals with growth mindsets have learning goals for their schools. Leaders with fixed mindsets would set performance goals, whereas those with growth mindsets would set learning goals for their organizations (Dweck & Leggett, 1988). The most relevant evidence comes from Kouzes and Posner (2019), who compared managers with growth and fixed mindsets on the Five Practices of the Leadership Practices Inventory (Kouzes & Posner, 2003). Kouzes and Posner (2019) described this practice as an encouraging change. Effective leaders promote the culture of experimentation for organizational development. The limitation of this study is that it did not discuss the theoretical link between mindsets and leadership practices. In addition, although the mean differences in leadership survey responses were different, the value was small (46.20 (growth mindset) compared with 45.37 (fixed mindset)). This link is moderate because one piece of evidence comes from the general leadership literature.

Advocacy

Advocacy is the fifth and last category of leadership for learning that includes practices associated with growth mindsets. These practices include engaging with the public, policymakers, and the community to create opportunities for students to thrive.

The only practice that can be associated with growth mindsets is *to understand the environmental contexts that hinder student learning.* Plaks et al. (2009) explained that a growth mindset is a meaning system framework in which individuals attribute the causes of people's behaviors mainly to contextual factors rather than personal attributes. Building on this argument, Rissanen et al. (2018) suggested that contextual factors, learning strategies, and emotional processes are the main predictors of students' behaviors. Individuals with growth mind-sets believe that personal attributes are amenable to external forces; therefore, they emphasize strategies and create supportive environments for individuals to succeed. There is no empirical evidence in the leadership literature that suggests this link; therefore, the level of rigor is weak.

Conceptual Framework: Growth Mindsets and Theory of Planned Behavior

In this study, I combine two theories. Specifically, I embed the Theory of Planned Behavior (TPB) framework (Ajzen, 2020) into the relationship between the growth mindset (Dweck & Leggett, 1988) and leadership practices (Figure 1).

Traditionally, researchers have assumed that a growth mindset directly influences individuals' actions by shaping their motivation and goal orientation (e.g., Dweck & Leggett, 1988). However, recent findings suggest that there are more elements between mindset orientation and practice. Overall, the core idea here is that school principals consider several psychological factors when deciding to engage in leadership practices (behavior). According to the TPB, first, a school principal would have a general mindset that would initially inform their growth mindset associated with leadership intentions. School principals then consider behavioral, normative, and control beliefs related to performing a growth-mindset-associated behavior. A principal would think about the outcomes of engaging in that practice, and what significant others would expect them to do. Finally, they would assess the extent to which they have control over that behavior. Before an intention manifests into action, there are actual controls that moderate the effect of intentions on actual behaviors. In the next section, I explain the Theory of Planned Behavior in more detail.

It is helpful to read the diagram from right to left. On the far right, there is a behavior. A behavior is the observed action performed by an individual. The intention is to the left of the behavior. Intention is the closest determinant of behavior. The greater the intention, the more likely the behavior will occur. To the left of the intention, there are three groups of factors that impact intention formation: attitude toward the behavior, subjective norm, and perceived behavioral control. Fishbein and Ajzen (2010) describe that we can empirically estimate a single value for each group of factors. These values can be negative, neutral, or positive. The higher the magnitude of a value, the greater is its influence on intention. I provide descriptions of the key intention determinants below.

Attitude Toward the Behavior

Attitude toward the behavior refers to favorableness or dislike of the outcome of the behavior. Attitude is the result of the sum of the behavioral beliefs associated with behavior. Fishbein and Ajzen (2010) define behavioral beliefs as 'the subjective probability that an object has a certain attribute' (p. 96). In other words, behavioral belief is a personal evaluation of the likelihood of specific outcomes or experiences because of engaging in related behavior. For example, the behavior of interest might be "wearing a heart monitor in the following two weeks." A related

behavioral belief can be "wearing a heart monitor (behavior) will detect a heart dysfunction (outcome) or result in discomfort (experience)" (Fishbein & Ajzen, 2010).

Fishbein and Ajzen (2010) suggest there are *instrumental* and *experiential* types of attitudes. The instrumental belief refers to the cognitive and logical evaluation of a behavior (good-bad). Experiential belief refers to the affective and emotional evaluation of a behavior (pleasant versus unpleasant) (Fishbein & Ajzen, p.89). The authors argue that, for valid attitude measures, a good scale should include both instrumental and experiential types of attitudes (Fishbein & Ajzen, 2010, p.90).

Estimation of Attitudes. The expectancy-value model drives the theorization of the relationship between attitudes (ATT) and behavioral beliefs. There are two components of behavioral beliefs: belief strength and attribute evaluation. *Belief strength* (b) is "the subjective probability of an object having a certain attribute" (Fishbein & Ajzen, 2010, p.101). For example, physical exercise (objects) can reduce heart disease (attributes). Beliefs are often measured with agree-disagree, likely-unlikely statements. *Attribute evaluation* **(**e_i**)** refers to an individual's general favorableness or unfavorableness of an outcome. For example, an individual might be extremely positive about reducing heart disease as a result of performing physical exercise. i refers to readily accessible beliefs related to a behavior. To estimate the value of an attitude the strength of behavioral beliefs (b_i) is multiplied by the outcome evaluation (e). All products are then summed to produce a single measure of attitude (Ajzen, 2020). These measures can be negative, neutral, or positive. In the presence of conducive perceived behavioral control and neutral or positive normative beliefs, a higher magnitude of attitudes will result in a higher likelihood of intention activation. The estimation of subjective norm is expressed as $ATT \propto \sum b_i e_i$ (Ajzen, 2020).

Subjective Norm

Subjective norms are another determinant of behavioral intention. Subjective norms refer to the overall social pressure to perform or not perform a behavior of interest. According to the TPB model, the higher the social pressure to perform a behavior, the more likely it is that an individual will generate an intention to engage in it (given a sufficient level of perceived behavioral control).

Fishbein and Ajzen (2010) suggest that normative beliefs consist of *injunctive* and *descriptive* beliefs. Injunctive normative beliefs refer to the likeliness of significant others' (friends, coworkers, supervisors) *approval or disapproval* of performing a specific behavior. Descriptive normative beliefs refer to the likeliness of significant others to *engage* in that behavior (Ajzen, 2020).

Estimation of Norms. Subjective norms are directly proportional to normative beliefs associated with a specific behavior. As with attitudes, subjective norms (SN) have two components: normative belief strength (n_i) and motivation to comply with the significant other (s_i) (Ajzen, 2020). Normative belief strength refers to the perceived likelihood of a significant other (i) having a certain expectation. The subjective norm for a specific behavior is the sum of the products of salient normative belief strength and the motivation to comply with the associated referent (s_i). The estimation of subjective norm is expressed as $SN \propto \sum n_i s_i$ (Ajzen, 2020).

Perceived Behavioral Control

Perceived behavioral control refers to an individual's perception of the extent of control or influence they have on their ability to perform a behavior. Perceived behavioral control may include resources such as information, skills, and obstacles that may impede behaviors of interest. This includes both facilitating and inhibiting factors. Ajzen (2019) posits that in the presence of positive attitudes and subjective norms; there is more chance for an individual to form a behavioral intention if there are enough perceived behavioral controls. The authors' definition of perceived behavioral control is like Bandura's definition of self-efficacy (p.153).

Both internal and external factors can facilitate or impede people's behavior. Fishbein and Ajzen (2010) term the internal factors as *capacity* and the external factors as *autonomy*. Capacity refers to the necessary skills, ability, and proficiency to perform a behavior (e.g., I believe I have the ability to perform behavior X). Autonomy refers to the degree of control an individual has over performing a behavior (an example item might include I have complete control over whether I perform behavior X, p.163).

Estimation of Perceived Behavioral Controls. Perceived behavioral control (PBC) is the sum of control beliefs. Control beliefs (c_i) refer to the subjective probability of facilitating or impeding factors present during the execution of a behavior. Control beliefs interact with associated subjective power (p_i). Subjective power refers to the amount of influence of the corresponding factors. To estimate the value of the PBC, we multiply each control-belief strength (c_i) by its subjective power (p_i). These products are then summed to obtain the perceived behavioral control value. The estimation of perceived behavioral control is expressed as $PBC \propto \sum c_i p_i$ (Ajzen, 2020).

Actual Behavioral Control

Actual behavioral control moderates the impact of intention on behavior. Actual behavioral controls refer to the observed external circumstances (money, time, and unanticipated events) or internal capacities (prior experience and skills) that can impede or facilitate the manifestation of the intention. Overall, according to the TPB model, a positive attitude and a conducive subjective norm led to behavioral intention, given that they believe they have sufficient influence on behavior. The behavioral intention then leads to the behavior, given that there are sufficient favorable actual controls to act on the intention. Because it is difficult to measure actual control, perceived behavioral control can serve as a proxy for the intention's effect on behavior (Ajzen, 2020).

General Operationalization

In general, beliefs and evaluations of behaviors result in attitudes towards the behavior. Similarly, normative beliefs (injunctive and descriptive) combined with the significance of significant others result in a general subjective norm, and control beliefs impact perceived normative beliefs. Attitudes and subjective norms indirectly impact actual behavior through behavioral intentions. Perceived behavioral control impacts behaviors through the moderation of attitudes and subjective norms on intentions or by moderating the impact of intentions on behaviors (p.194). According to Fishein and Ajzen (2010), the predictive nature of attitudes, subjective norms, and controls can be applied to single behaviors (jog every day for two miles), or behavioral categories (exercise every day), and goals (lose weight) (p.174). In this dissertation, I examine the growth mindset associated with leadership practices as a behavioral category.

Weights

Attitudes, subjective norms, and controls can have different weights on intentions, depending on the person, groups of people, and behaviors. For some groups, attitudes might be more important than subjective norms and controls, whereas for others, subjective norms would be more important than attitudes. Similarly, for some types of behavior, attitudes might be more important than subjective norms; for other behaviors, subjective norms would be more important than attitudes (Fishbein & Ajzen, 2010, p.174). Understanding different weights is important because they can inform better interventions (Fishbein & Ajzen, 2010, p.174). We can assume that people weigh their attitudes and subjective norms differently. For some individuals personal attitudes are more important, and they would care less about norms. In this fashion, they would ascribe more weight to their personal attitudes towards a behavior. Conversely, others might care

more about what others expect and less about personal attitudes. This type of individuals assigns more weight to the normative component of behavioral intention formation.

Feedback Effects

Furthermore, the execution of a behavior can have a feedback effect on attitudes, subjective norms, and perceived control. Positive or negative results from engaging in a behavior may change an individual's anticipation of behavioral outcomes, perceived expectations of others, and perceived behavioral controls over the behaviors of interest (Ajzen, 2020). For example, an individual might intend to work in the morning before going to work. An individual may have positive attitudes towards morning workouts because workouts increase their stamina and help them stay fit. Their friends would approve of this initiative. In addition, they have the time and money to go to the gym in the mornings. However, after their first workout, they might realize that morning traffic is so dense that it takes too long to get to the gym and to work afterwards. Morning workouts tired them out instead of giving them energy, and their friends did not care. As a result of these experiences, they form a negative intention about morning workouts and eventually give up (Ajzen, 2020, p. 316).

Salience of Beliefs

Only a handful of beliefs associated with performing behaviors are important for attitude formation (Fishbein & Ajzen, 2010, p.102). Psychologists refer to these as accessibility to memory or the salience of beliefs. Research suggests that individuals have five to nine readily accessible beliefs at a given time (Mandler, 1967, as cited in Fishbein and Ajzen, 2010). There are groups of readily accessible or salient beliefs and their valence that contribute to attitude, subjective norm, and control formation. Combined with the importance of these salient beliefs, they impact attitudes, subjective norms, and perceived behavioral control.

Prototypical Scenarios

Below, I illustrate various scenarios in which a school principal with a growth mindset engages or does not engage in growth-mindset-associated leadership practices. I built the scenarios based on a leadership practice linked to a growth mindset: *providing consistent process-oriented feedback to teachers*. I describe five hypothetical cases in which TPB components might impact behavioral intention and, subsequently, the actual practice of giving consistent process-oriented feedback.

Attitude Toward the Behavior. An experienced principal might have a positive attitude towards giving process-oriented feedback because they anticipate several desirable outcomes, such as improving personal feedback skills, enhancing teacher instruction, and increasing self-efficacy as an

instructional leader. The principal would highly value each possible outcome. In this case, there is a high chance that the principal would engage in giving process-oriented feedback to teachers.

In a different case, the principal might be in the early stages of the principalship career. Although they have growth mindsets and prefer to provide process-oriented feedback, they might have neutral negative attitudes towards this leadership practice. Specifically, the new principal might have negative attitudes towards giving process-oriented feedback in this case because they believe that there are more negative outcomes from giving process-oriented feedback to teachers than positive outcomes. For example, because most teachers are experienced educators, giving feedback to teachers might offend them. The principal might believe that giving feedback is useless, both for teachers' instruction and for the principal's feedback, giving skill improvement. In this case, the principal, despite having a growth mindset, would likely not engage in process-oriented feedback.

Subjective Norm. There might be a school where teachers and the superintendent expect the principals to give process-oriented feedback. If the principal has a high level of motivation to comply with expectations, they are likely to engage in providing process-oriented feedback to teachers. On the other hand, the teachers and the superintendent might oppose the principals' intentions to provide process-oriented feedback. If the principal is motivated to comply with these expectations, they would not engage in this practice.

Perceived Behavioral Control. A principal must have sufficient expertise and skills to provide process-oriented feedback. If the principal has a sufficient level of knowledge and skills and a sufficient level of autonomy to give feedback (time, rules), then there is a high chance that the principal will engage in process-oriented feedback. However, if the school is too big, with over 100 teachers, the principal would not have enough time to provide teachers with consistent process-oriented feedback. In addition, if the school is a turnover school with numerous challenges to deal with, the principal would put feedback giving practice to lower levels of their 'to-do list". In that case, there is little chance that the principal will engage in this growth mindset associated with leadership practice and focus on other tasks that urgently need the principal's attention.

Different Weights. The different weights that a principal ascribes to the different factors might also play a role in the likelihood of their engagement in providing process-oriented feedback to teachers. For example, personal attitudes towards process-oriented feedback might be more important than the superintendent's disapproval. Alternatively, for a principal, what others expect them to do might overshadow what they personally believe is important (attitudes).

Feedback Effects. Finally, the feedback effects from engaging in process-oriented feedback might severely impact some or all predictors of behavioral intentions. For example, a principal might have positive attitudes about giving process-oriented feedback, perceive that the superintendent and teachers approve of this practice, and have sufficient skills to engage in this practice. However, after trying to provide process-oriented feedback a couple of times, the principal might revisit their attitudes because they did not experience the anticipated outcomes. As a result of engaging in this practice, teachers' instruction has not been enhanced, and principals' skills have not increased. Teachers felt insulted by the act of providing feedback. In addition, the principal realized that it took too much time to provide process-oriented feedback and required more expertise than they had to provide process-oriented feedback. Thus, the initial intention to provide process-oriented feedback might vanish after engaging in that behavior.

Implications

The literature suggests that growth mindsets can impact at least 12 leadership practices. Such leadership practices have been found to increase student learning (Murphy et al., 2007). The policy around principals' leadership practices should align with the principles conducive to growth mindset associated with leadership behaviors to increase the positive impact of school principals on student learning. Policymakers may foster growth-mindset-associated leadership practices through mechanisms aligned with the TPB.

Attitude Toward the Behavior

By increasing the chances of positive outcomes as a result of growth-mindset-oriented practices, school principals would develop positive evaluations of those outcomes. For example, if district leaders encourage school principals' process-oriented feedback skills, the principals would attach positive attributes to engaging in this leadership practice. Principals are likely to believe that engaging in process-oriented feedback will improve their performance as instructional leaders. Furthermore, there is a greater chance that principals would use beliefs conducive to growth-mindset-associated practices if district office leaders encourage principals to engage in this type of leadership practice.

Subjective Norm

Districts' encouragement of process-oriented feedback would also create positive norms around this practice. This would increase the likelihood that significant individuals, such as superintendents and principals in neighboring schools, would expect principals to engage in this type of practice.

Perceived Behavioral Control

Policymakers can also increase the chance of principals engaging in growth-mindset-associated behaviors by developing principals' skills and creating conducive policies, such as encouraging experimentation and encouraging new things.

Feedback Effects

The TPB suggests that, as illustrated in the prototypical scenarios, actual behaviors can have feedback effects on attitudes, norms, and controls. To maintain principals' engagement in growth-mindset-associated practices, it is also important to ensure that feedback effects encourage growth-mindset practices.

Chapter Summary

In summary, I presented a review of four bodies of literature related to growth mindsets. First, I reviewed the general growth mindset literature related to K-12 students to set the stage for further discussion. From the general literature, I found that the impact of growth mindset on students has been inconsistent. In general, growth mindsets are associated with higher academic achievement, greater resilience, and fewer stereotype threats. The causal effects of a growth mindset has been difficult to assess. Several meta-analyses have found that, on average, mindset interventions have little or no effect. In the case of some effects, the effects were contextual, being evident among students at risk or lower income (Burnette et al., 2018; Sisk et al., 2021; Macnamara & Burgoyne, 2023). Growth mindset scholars are now moving to explore the contextual role of mindsets through the lens of *Mindset x Context* framework (Hecht et al., 2021), which suggests that mindset impacts students depending on contextual supports, such as teacher pedagogy, classroom climate, peer support. After that, I discussed the literature suggesting that the growth mindset has positive associations with effective leadership behaviors in organizations outside education. I then discussed the limited literature that investigated the role of mindsets in school principals. Only one study has found a positive association between growth mindsets and budgeting behaviors (Abernethy et al., 2021). Other studies have not found significant associations between growth mindsets and leadership outcomes such as burnout levels (Korolzcuk, 2021) and resilience (D' Anca, 2017). This inconsistency in results suggests that exploring the impact of growth mindsets on practices is more nuanced.

I analyzed the methods used by researchers to investigate the associations between mindsets and practices. The common limitation was that the survey-based quantitative study results likely produced a self-selection bias and false growth mindset. Based on the limitations of previous

research, I decided to pursue a qualitative approach to explore the complex interactions between various psychological factors that impact practices.

TPB suggests that researchers must first specify the behaviors of interest to understand its determinants (Ajzen, 2020). Therefore, I reviewed the general leadership literature, with a focus on the connection to school leadership practices. I did this by connecting conceptual and empirical evidence to specific leadership practices based on leadership for the learning framework (Murphy et al., 2007). I identified and listed 12 school leadership behaviors that are likely to be associated with a growth mindset. For every leadership practice, I presented a piece of empirical or conceptual evidence and its theoretical explanations and assessed their rigor. A list of leadership practices further guided the interview protocol. Finally, I present the Theory of Planned Behavior in more detail. This model guided my research questions and the interview protocol.

CHAPTER 3: METHODS

My overarching research question is: To what extent does the Theory of Planned Behavior (TPB) explain why school principals with growth mindsets engage or do not engage in growth mindset-associated (GMA) leadership practices? This research question comprises three components of the TPB, namely, attitudes, subjective norms, and perceived behavioral controls, each of which needs to be addressed to approach the overarching questions. The first component is attitude, which refers to perceived favorableness or unfavorableness of a practice. The second is the subjective norm, which refers to the social pressure to perform a practice. Finally, perceived behavioral control refers to the perceived capacity to perform a practice. GMA practices are leadership practices likely to be associated with a growth mindset. My cross-domain analysis yielded 12 leadership practices that are likely to be associated with school leaders' growth mindsets; however, for ease of use in the interview protocol, I used only six that had the strongest (moderate or strong) evidence. I expect the principals to engage in leadership practices at different frequencies. I also expect that the variation in frequencies can be attributed to the attitudes, norms, and controls of the TPB. To guide my research, I formulated the following specific research questions that addressed each of these components:

1. What are the most and least frequently engaged GMA practices among school principals with a growth mindset?
2. What are the principals' attitudes, norms, and controls towards GMA practices?
3. What are the other factors that influence principals' intentions towards GMA practices?

As a recap, the TPB suggests that if a principal's attitudes, subjective norms, and perceived behavioral control fall below a critical value, they are unlikely to engage in that practice. Conversely, if the combination of these attitudes, norms, and beliefs exceeds a critical value, principals are more likely to engage in these practices. The goal of this analysis is to determine whether this pattern holds among actual principals. Do principals who engage in GM practices generally have positive attitudes, norms, and beliefs about these behaviors? Do principals who do not engage in particular GM practices tend to have largely negative attitudes, norms, and beliefs about those behaviors? If these patterns predicted by the TPB are present in the data, then we have some evidence that the TPB may explain principal behavior. This could provide valuable insights into increasing research-supported behaviors in practice and explain why principals do not engage in these behaviors.

I used a generic qualitative inquiry approach (Patton, 2015) to explore how TPB explains school principals' engagement in growth-mindset-associated practices. I used a qualitative inquiry

method to tap into the psychological factors that impact principals' leadership engagement in growth mindset-associated practices because this approach would provide more "breadth and depth" (Patton, 2015, p.257) into the decision-making processes of school principals. Below, I explain the study design and the theoretical rationale for the design choices.

Research Design

The applied research design (Patton, 2015) best described the purpose of this dissertation. According to Patton et al. (2015), the purpose of applied research is to "understand the nature and sources of human and societal problems" (p.250). I am addressing the gap between school principal mindsets and expected associated outcomes (leadership practices). Possible sources of this disconnect may lie in the attitudes, subjective norms, perceived behavioral controls, and actual controls that can all impact school principals' behaviors. This study aimed to understand and explain the antecedents (attitudes, subjective norms, and perceived behavioral controls) of principals' leadership practices associated with growth mindsets.

Growth mindset-associated leadership practices are indirectly associated with students' better learning. However, the antecedents of these leadership practices remain unclear. The question is whether the TPB is a useful framework to explain the reasons for principals' practices. This question is critical because growth mindset-associated leadership practices are related to increased student learning. Identifying the reasons for these practices will allow professional development (PD) designers, district leaders, and policymakers to make targeted PD interventions, district leadership to adjust their leadership approaches, and policymakers to create policies conducive to growth mindset-associated practices. The findings of this study contribute to the design of targeted interventions and policy solutions. A critical assumption is that this problem can be solved by learning its mechanisms and components. Although the TPB does not cover all the antecedents of leadership practices, it is still found to explain a vast majority of the variation in behaviors in other fields such as health, AIDS prevention, and drug use (Godin & Kok, 1996).

Generic Qualitative Approach

There are two reasons for my choice to use a generic qualitative approach. First is the so-called "elimination approach." Researchers often use a generic qualitative approach when the topic of interest does not fit the existing traditional qualitative frameworks (e.g., phenomenology, narrative inquiry, and case studies) (Percy et al., 2015). Researchers often arrive at this approach by the elimination approach and define the generic qualitative approach as 'what is not instead of what it is' (Kostere & Kostere, 2021, p. 1). A similar approach was followed. I did not pursue an understanding

of a phenomenon as in phenomenology. I did not develop a grounded theory. This was not an ethnography within which I would follow a group of people over time. It was not a narrative inquiry where I would be interested in human stories. I was interested in the school principals' attitudes, norms, controls, and intentions towards GMA leadership practices. In my case, I did not fall under any traditional qualitative approach. Since in Patton's (2015) words, I did not have to "pledge allegiance to the traditional qualitative approaches" to investigate my questions, I used a generic qualitative approach to guide my study by eliminating previous methods.

Another rationale was the fit of this study. The generic qualitative approach suited me best because I sought to learn principals' perceptions of factors that precede their leadership practices (Finlay, 2011, p. 16) rather than their "lived experiences," which is typically the focus of phenomenological approaches. Kostere and Kostere (2021) describe the generic qualitative approach as "a methodology that seeks to understand human experience by taking a qualitative stance and using qualitative procedures" (p.3). According to Kostere and Kostere (2021), in a generic qualitative study, a researcher aims to reflect and explain the meaning of a phenomenon based on the participants' perceptions and experiences (p.3). This generic qualitative method allows us to study how participants describe and perceive their experiences of engaging in leadership practices (Willgens et al. 2016). In addition, the generic qualitative approach design is expressive because the interviewer asks specific questions about the target topic and the perceptions, thoughts, and feelings about the research topic. The purpose was to gain a broad description of their experiences based on their perceptions. They ask about specific practices. This includes describing behaviors or actions within contexts (Cooper & Endacott, 2007; Kennedy, 2016). Since the TPB (Ajzen, 2020) focuses on perceptions of norms, controls, and attitudes towards behaviors, the generic qualitative approach suited my study well.

Purposeful Sampling Strategy

A purposeful sampling strategy was used in this study. In purposeful sampling, researchers select study participants who can provide rich information about the central topic of inquiry (Kostere & Kostere, 2021; Patton, 2015). Within the purposeful sampling framework, I used the deductive theoretical sampling approach (i.e., operational construct sampling) (Patton, 2015). Patton (2015) describes deductive theoretical construct sampling as a sampling strategy when a researcher selects participants with the theoretical construct of interest. This strategy aims to refine a construct and to examine its discrepancies and implications. "The theoretical constructs are based in, derived from, and contribute to scholarly literature" (Patton, 2015, p. 289).

In this dissertation, the central construct of interest is the growth mindset. I sought to explain the discrepancies between growth mindset and leadership practices using the TPB framework (Ajzen, 2019). The key informants about leadership practices associated with growth mindsets were school principals with growth mindsets. Therefore, the central study participants were school principals with a growth mindset.

Deductive theoretical sampling enriches or confirms a theory in different contexts, fresh periods, and new scenarios (Patton, 2015, p. 289). This growth mindset originated in the context of K-12 and college students. However, its application in adult settings is new. My purpose was to qualitatively test the theory of a growth mindset in the context of educational leadership for school principals.

According to Patton (2015), the key difference between deductive theoretical sampling and other strategies is that, in the former approach, a researcher selects a theoretical construct, identifies its significance to the field, and then determines the individuals, cases, or organizations to study the concept. In my dissertation, I followed the route described by Patton (2015). The growth mindset was selected as the central construct of interest, reviewed for its relevance to the educational leadership area, and then decided that school principals with growth mindsets would be best to investigate the phenomenon of growth mindsets.

Participant Recruitment Procedures

I concentrated on the leadership practices of school principals who possess a growth mindset. To identify potential participants, I sent out an invitation flyer accompanied by a mindset screening survey. This survey included the mindset assessment developed by Chiu et al. (1997) to identify principals with growth mindsets. Within the survey, participants had the option to express their willingness to engage in an hour-long interview by providing their email or phone number. Fifteen school principals completed the survey, and I reached out to those who indicated their interest in participating. Thirteen of them scheduled a follow-up interview with me, resulting in interviews with 13 school principals. Of these, 12 demonstrated a growth mindset, while one exhibited a fixed mindset, as indicated by the survey results. According to Kostere and Kostere (2021), interviewing between eight and 15 participants is recommended for studies relying solely on individual interviews as the data-gathering method. During the interviews, I presented an informed consent form for the participants to review and sign.

Data Collection

Interview protocol

I used a single semi-structured interview with principals to learn about the attitudes, norms, and controls of school principals' leadership practices. According to Patton (2015), qualitative interviewing aims to learn about interviewees' perceptions of the world and the complexities they experience in their own words (p. 442). An interview protocol guided by the TPB framework was developed. I incorporated an approach that borrowed from the Q methodology. The Q methodology is a data collection method used to study individuals' attitudes, perspectives, and opinions (Brown, 1993). The Q methodology helps to explore the unobservable parts of personality that often impact human behavior (van Exel & De Graaf, 2005). Respondents typically rank a set of statements called a Q-set. I asked the principals to rank the order of a set of six leadership practices according to the frequency of engagement. I asked them to rank their frequencies twice. First, I asked about their actual engagement in leadership practices over the past twelve months. Second, I asked me to re-rank the practices thinking about a hypothetical ideal world with no constraints. Asking frequency ranking in an ideal world allowed to minimize the contextual barriers and learn principals "true" an unconditional attitude toward the leadership practices. I asked principals to talk about the ranking process and share what decisions they thought about when sorting leadership practices. Overall, the ranking activity allowed the participants to abstract the practices from their daily routines and allowed principals to talk deeply about the reasoning behind the ranking of leadership practices.

Leadership practices in Q-sort

I used six leadership practices that school principals were most likely to engage in. These practices have either strong or moderate evidence of being linked to a growth mindset. Despite having weak evidence of support, I also included "providing feedback based on observations" in the Q-sort list. Since these six practices are more likely to indicate the presence of a growth mindset, it is reasonable to expect that school principals with a growth mindset would engage in these practices more often than those with a fixed mindset. In addition, using only six leadership practices provided a more manageable number to work during interviews compared to using 10 or 12. My goal was to learn the various reasons why school principals engaged or did not engage in certain practices, not to measure the frequency or preference for a practice per se. Therefore, focusing on these six leadership practices fits well with testing whether the Theory can explain the reasons behind principals' actions.

I interviewed 12 principals using Zoom, and one face-to-face. I used a computer voice recorder protected with passcode. After every interview, I wrote field notes to help me plan future interviews and interpret the data during the analysis process (Bogdan & Taylor, 1990). I field-tested the interview protocol with five school principals in Michigan. This field testing allowed me to refine the interview protocol before scaling it to a larger sample of school principals.

Introduction to Participants

Thirteen school principals participated in the interviews. The average leadership experience of participating principals was 9.5 years. In their current schools, they had served an average for 4.8 years. Twelve principals were identified as male, one as female, 10 as White, two as African American, and one as Asian American. Six principals served in PreK–5 schools, and five served in middle schools, covering grades 6–8. One principal served in a 7–12 building and one in a K–8 building. Most of the principals (N = 11) served in suburban areas, whereas two served in rural areas. More detailed information about principals' backgrounds and contexts is provided in Table 2.

Table 2

Participants' key demographic and school context information

*Name	Years of total school principalship experience	Years of principalship experience in current school	Self-reported identity dimensions	Building level	School location	Number of teachers	Number of students **
Phillip	10	1	White male	PreK-5	Suburban	18	600
David	10	7	White male	PreK-5	Suburban	40	600
Brian	13	4	African American male	PreK-5	Suburban	25	200
Mark	13	4	White male	PreK-5	Rural	19	300
Steven	7	4	White male	PreK-5	Suburban	14	300
Deb	17	9	White female	PreK-5	Suburban	30	700
James	7	7	White male	K-8	Rural	26	400
Linda	8	8	Asian American Female	M (6-8)	Suburban	42	700

Table 2 (cont'd)

Participants' key demographic and school context information

Michael	20	2	African American male	M (6-8)	Suburban	67	800
Kevin	10	10	White male	M (6-8)	Suburban	47	900
Scott	3	2	White male	M (6-8)	Suburban	12	200
Greg	2	2	White male	M (6-8)	Suburban	45	600
John	4	2	White male	7 to12	Suburban	30	600

I assigned pseudonyms to each school principal to protect their identities and omitted identifying details. Pseudonyms were selected to culturally reflect Midwestern naming conventions, while ensuring anonymity and confidentiality. In the section below, I briefly describe each principal's leadership style and the school context.

Principal Phillip is a White male with 10 years of principalship experience serving in a PreK-5 school. This was his second year at the current school. Principal Phillip described his leadership as a combination of servant- and value-based leaders. He focuses on relationship building, helping others grow, grace, and being a good teammate. The school is located in a suburban area. The school PTO (parent–teacher organization (PTO) budget is quite wealthy. Principal Phillip worked in diverse settings before this school, including a more racially and economically diverse school.

Principal David is a White male with 10 years of total principalship experience. This was his seventh year in PreK-5. He described his leadership as a mix of collaborative and transformational leadership. He shares that it requires the ability to be empathetic to work in elementary school children. The school is in a suburban area. Their school serves five percent of the district students. (was high on intent to engage in budgeting because the central office expects schools to look for extra resources on their own).

Principal Brian is an African American male principal in PreK-5 school building located in a suburban area. This was his fourth year as a principal in the current school. Overall, principal Brian has been the principal for 13 years. The principal, Brian, describes himself as a relational leader. He significantly valued human relationships. He embraces parents' children as his own.

Principal Mark is a White principal in the PreK-5 school building located in a rural area. This is his fourth out of 13 years of school principalship experience. He describes himself as a mix

of servant and transformational leaders. The principal focuses on understanding others first by actively listening and being present and patient so that others feel heard and understood. He also tried to build good relationships with others, which gave him joy.

Principal Steven is a White male in a PreK-5 school building. This is his fourth year as the principal of the current school. The school is in a suburban area. Principal Steven described his leadership style as a mix of relational and visionary leadership. He previously used to be a coach, and he carries a lot from his coaching experience into current leadership. He tries to build good relationships with students and staff, and then models these interactions with others. Unique to this principal is that he currently has two personal leadership coaches. One coach is a friend who is building a client base for his consulting business. The other coach is provided through Teach for America fellowship.

Principal Deb is a White female serving a PreK-5 building in a suburban area for the 9th year. She had 17 years of experience in principalship. She described her leadership style as primarily a servant leader with some aspects of a transformational leader. She mentions that it is primarily a transformational leader trying to push teachers to increase their capacity, but that this has changed during COVID-19. She is now more of a supportive leader who tries to meet teachers at their levels.

Principal James is a White male principal with seven years of principalship experience in a rural school that serves students from K through grade 8. He described his school community as being highly conservative and rural. The school was very remote from major cities. The principal describes himself as a servant leader. He prioritizes providing individualized support to teachers based on their current needs. Previously, Principal James was a physical education teacher with high expertise in students' socio-emotional learning. His school holds a Blue Ribbon. The students excelled academically. In his statements, he often recalled that he started to experiment with new leadership approaches and recently reached out to other schools in the area when he started to get his "feet underneath"

Principal Linda is an Asian American female with eight years of leadership experience serving a middle school in a suburban area. Principal Linda had one assistant principal with whom she shared teacher evaluation visits. Principal Linda describes herself as a distributed leader, or in her words "arranger." She constantly recognizes talent among teachers and tries to bring their expertise to the forefront so that the school can benefit from it.

Principal Michael is an African American male principal with 20 years of experience serving a suburban middle school. This was his second year of principalship at the current school. Previously, he was the principal of urban turnaround schools. He has described himself as a transformative leader for the past seven years. Principal Michael ascribed his shift in leadership approach to the expectations of the central office he worked in recently. The current school community is an extremely supportive, wealthy district, and students academically in the top five percent.

Note that Principal Michael was the only school principal to identify himself as having a fixed mindset in the screening survey, with a mindset score of eight. Regardless of the screening score, I included his responses, as I did not observe differences between his and other principals' interview responses. Additionally, based on scenario questions, it is likely that he had a strong belief that personality was malleable.

Principal Kevin is a White male at a middle school located in a suburban area. This is the only school that he has served as a principal, and his total principalship experience is 10 years. Kevin described his leadership style as a mix of transformational and relational styles with a balance on accountability. At the same time, he acknowledges that leadership is situational, depending on a specific need from the staff or situation (COVID-19, for example).

Principal Scott is a White male serving a middle school located in a suburban area. This is his second year as a school principal in the current building and the third year as a principal overall. Principal Scott describes his leadership style as relational, focusing on support and collaboration. He also encourages a "growth mindset" approach to learning by displaying posters that make mistakes in school hallways.

Principal Greg is a White male serving in a middle school located in a suburban area in the second year. This was his first school principal. Principal Greg described his leadership style as a mix of relational and servant leadership. He strives to build strong relationships with the staff and community and remove barriers to others so that they can improve their capacity.

Principal John is a White male in middle and high school buildings serving students from grade seven to 12 in suburban areas. This was his second year as the principal of the current school. In total, this is John's fourth year as school principal. Principal John described himself as a servant leader, focusing on collaboration and elevating others. He acknowledges that he is quite adaptive to various situations but also balances this with accountability.

Data Analysis

In the following section, I describe the data analysis approach and procedures. First, I discuss the theory-based thematic analysis that guided my coding strategies. Then, I explain the deductive coding process and the generation of the codes. After that, I describe the inductive coding approach. I then outline the data analysis steps and an explanation of how I addressed issues of trustworthiness. Finally, I conclude the chapter by reflecting on my personal worldview and the rationale behind my choice of analytical approaches.

Theory-Based Thematic Analysis

The purpose of this study was to explore the extent to which TPB can explain the differences in school principals' leadership practices that endorse growth mindsets. I used the theory-based thematic analysis approach (Kostere & Kostere, 2021) to test the constructs and their relationships. According to Kostere and Kostere (2021), theory drives the generation of themes in thematic analysis. Theory guides themes. I carried out the data analysis in two phases: deductive and inductive (Saldaña, 2021). During the first phase, I analyzed the transcripts and assigned codes under the themes predetermined by the TPB. I revisited the interview transcripts in the second phase and generated new codes. The inductive analysis contributes to previous research by identifying additional factors that extend beyond the Theory of Planned Behavior.

Deductive Coding. Saldaña (2021) describes deductive coding as an analytic approach with predetermined codes and themes. The deductive approach is recommended when a theory drives the study, focusing on participants' specific experiences and when it is likely that the corresponding themes appeared in the data (Saldaña, 2021, p. 40). In this approach, I listed codes based on the theory of planned behavior. Some example codes are behavioral beliefs, attitudes, normative beliefs, perceived normative beliefs, control beliefs, perceived behavioral controls, behavioral intentions, actual controls, and behaviors. I used the deductive approach to the data relevant to the research questions and fell under preexisting codes.

Provisional Coding. Provisional coding is a type of coding in which a researcher outlines a predefined list of codes before data collection (Saldaña, 2021, p.216). I created a list of provisional codes that aligned with the TPB so that data analysis could answer my research questions directly (Saldaña, 2021, p.92). The interviewees' possible responses guided the generation of a provisional list of codes. In addition, the study's research questions, and conceptual framework drove the development of codes. For a deductive – oriented study, Miles and Huberman (1994) suggest starting with 12–60 codes. The TPB model's constructs, such as attitudes, norms, controls,

intentions, and behaviors, served as a basis for Provisional Coding. The list of the provisional codes is displayed in the Table 3.

Table 3

Provisional deductive codes based on the Theory of Planned Behavior

Category	Codes	Definition	Examples (based on "Giving consistent (process-oriented) feedback to teachers" practice)
Attitudes	Behavioral belief	Perceived belief about outcomes as a result of engaging in a behavior.	Improving teachers' instruction; getting skilled in providing consistent feedback to teachers; feeling a sense of competence
	Instrumental beliefs	Instrumental aspect refers to the cognitive, logical evaluation of a behavior (good-bad).	Providing consistent feedback to teachers will enhance their instruction.
	Experiential beliefs	Refers to the affective, emotional evaluation of a behavior (pleasant-unpleasant).	Providing consistent feedback to teachers will improve my self-efficacy as an instructional leader.
	Belief strength	Perceived likelihood of an outcome to occur as a result of performing a behavior.	Teachers are highly likely to learn from my consistent feedback; I will likely get more skilled

Inductive Coding. For the data relevant to the research questions, but not under the preexisting codes, I applied the inductive coding (Saldaña, 2021) approach for data analysis. For example, in the inductive analytic approach, I reviewed the data with an open mind and prepared new codes that were not part of the TPB theory. This approach allowed me to locate codes that refined the TPB related to school principals' experiences.

Data Analysis

I used MAXQDA computer software to transcribe and analyze the interviews. I prepared interview transcripts and post-interview memos, read the texts, and divided them into chunks of preliminary idea blocks (Saldaña, 2021). During initial coding, I also selected some words or phrases that stood out to me and label them as "Great Quotes" (Saldaña, 2021, p. 31). During the deductive analysis step, I read the transcripts and assigned chunks of text (sentences or blocks) with codes

from the provisional coding list. For each coded sentence or block of text, I included accompanying descriptive notes. After the first cycle of deductive coding, I revisited the transcripts and conducted a second cycle of coding. Following the initial round of coding and reflection, I revisited the Theory of Planned Behavior to deepen my understanding of its components. During the second cycle of coding, I refined and added codes based on this enhanced understanding. This process enabled me to code additional segments of the transcripts, increasing the total by approximately 20 percent.

During the inductive coding stage, I read the transcripts again with a guiding question in mind: What are other reasons for engagement in leadership practices that are not addressed by the Theory of Planned Behavior? When I encountered new reasons, I assigned codes that best captured their essence. After completing the inductive coding, I reviewed the codes, identified common categories, and translated those into overarching themes.

Analytical Memo. I kept an analytic memo to document my impressions, reflections, and thoughts during the coding period. An analytic memo is a researcher journal that keeps records of the coding process and is placed to keep whatever comes to mind during the research project (Clarke et al., 2018). Keeping an analytic memo allows the researcher to free up the memory space and move 'toward a solution' (Saldaña, 2021, p.58). It was important to write down ideas as they occur without delay because these ideas are sources of reflection. Coffey (2018) described data analysis as a constant dialogue with and between data ideas. Therefore, maintaining these ideas enhanced and supplemented the data. I wrote analytic memos after each interview, during coding process, and after coding every interview transcript.

Issues of Trustworthiness

Lincoln and Guba (1985) argue that in qualitative studies, researchers need to address trustworthiness issues. Trustworthiness includes credibility, and transferability.

Credibility. Credibility refers to how participants' experiences and perceptions are reflected in the researchers' study reports (Bloomberg & Volpe, 2016, p.162). The credibility of the findings was ensured using the following strategies: keeping a reflective journal, presenting unexpected findings, and peer debriefing.

Keeping a Reflective Journal. I retained a reflective journal to document my biases during the research process. Bloomberg and Volpe (2016) suggest openly presenting a personal bias to readers. A reflective journal is a good strategy for monitoring personal bias. Keeping a reflective journal during the research process will allow me to track my personal biases and participants'

subjective perspectives. This strategy gives the reader transparency and an honest stance (Bloomberg & Volper, 2016, p. 163).

Contradictory findings. I also presented contradictory findings that were unexpected and could challenge my expectations. The complexity of real-life situations necessitates discrepant findings. Presenting variations in the phenomenon increases the validity of the findings (Bloomberg & Volper, 2016). These contradictory findings contributed to the inductive analysis.

Peer debriefing. This is another strategy to reduce bias in the interpretation of data. This strategy involves inviting a colleague to review field notes, ask questions to check assumptions, and suggest different ways of data interpretation (Bloomberg & Volper, 2016). For this study, I invited a fellow doctoral student from my program to participate in peer debriefers.

Transferability

Transferability refers to the extent to which the study findings fit other contexts (Bloomberg & Volpe, 2016). Although qualitative research does not aim to generalize the findings from one study, it is often helpful for readers to understand whether the study findings can be applied to their contexts. I addressed transferability by providing "thick descriptions" (Geertz, 2008) and a large body of detailed information about the context to offer a shared experience (Bloomberg & Volpe, 2016). Thick descriptions and abundant detailed information allow readers to dive deeply into the contextual details of the research to assess whether the research findings are generalizable to their contexts (Bloomberg & Volpe, 2016).

Philosophical Positioning and Worldview

My philosophical positioning aligns with this pragmatic framework. According to Patton (2015), in the pragmatic worldview, researchers focus on practical problems and solutions, rather than the nature of reality. Pragmatists find value in findings that can help or contribute to solving a problem. The pragmatic worldview is characterized by attention to experience rather than reality, focusing more on the outcomes than the nature of reality, and exploring shared beliefs rather than individual beliefs (Patton, 2015, p. 153). Pragmatic researchers do not adhere to fixed methods. They tend to be flexible, as long as the method allows the investigation of the practical problem of interest (Patton, 2015).

In my worldview, I am interested in understanding practical problems. In my experience as a school administrator, I have always focused on problem-solving. I faced numerous challenges, and the top priority was looking for solutions to these challenges. My experience as a school leader probably shaped my view of the world. In this dissertation, I am interested in the practical problems

of educational leadership. I am interested in ways to help school principals become more effective leaders. Specifically, I am curious about the psychological antecedents of successful leadership. One potential psychological resource (Leithwood, 2023) can be a growth mindset (Dweck, 2006). However, in scholarly literature, there is a weak link between leaders' mindsets and their leadership practices. I believe that well-designed learning interventions targeting school principals' mindsets can help them become better leaders. However, there is a scarcity of evidence to lay the foundation for this strand of scholarly work. If professional development (PD) designers better understand the pathways between school leaders' mindsets and leadership practices, they can design more effective PD and address the contexts surrounding their everyday work. When I think about my research problems, I am concerned about the outcomes of leadership practices conducive to better student learning. However, before designing interventions for school principals, we first need to understand the decision-making mechanisms that explain effective leadership practices. The focus on practical solutions dominates my research design choices, reflecting my pragmatic reasoning.

Personal Rationale

Caelli et al. (2003) suggest that a researcher using the generic qualitative approach outlines their theoretical positioning, alignment between methodology and methods, strategies to establish rigor, and the analytic lens for data analysis. These researchers must present "their disciplinary affiliation, what brought them to the question, and the assumptions they make about the topic of interest." As suggested by Caelli et al. (2003), researchers who use the generic qualitative inquiry approach must make their rationale and background explicit to provide readers with a deeper understanding of the rationale for using this approach. Therefore, in the following paragraphs, I explain the experiences that motivated me to explore this research.

Before starting my doctoral journey, I had been an administrator for seven years. In the last three years, I became a school principal. My work as an administrator taught, encouraged, and forced me to deal with numerous challenges, for which I did not have ready solutions. My job was characterized by being in a constant problem-solver mode. As a school leader, facilitating teachers' work was my primary venue for impacting student learning. My purpose was to sustain school conditions conducive to teachers' quality teaching. My teachers would come with the questions I were expected to answer.

I was also a mathematics teacher who was trained with a strong interest in physics. I took joy in solving mathematical and physical problems. I was trained to believe that problems would be solvable if I had enough (data) information (minimum unknown variables) and the necessary

formulas. In addition, I used to think that there could be multiple solutions to a problem. My engagement in Physics encouraged me to focus on the mechanisms of natural phenomena (dynamics, mechanics, and interactions between forces). Mathematics and Physics trained me to think deeply about the antecedents of the outcomes. Once I know the triggers, I would put those elements into the mechanisms so that the systems would produce the intended results. Although humans are less predictable, I was always interested in factors that could explain and predict human behavior.

As a principal, I conducted a series of workshops with in-service school principals on various topics of school leadership. I was flexible in choosing the issues and methods for these workshops. This invaluable experience encouraged me to think about the social psychology of the school principals. I observed the principals who exhibited strong growth-mindset orientations. They acknowledged what they did not know, were eager to learn, were ready for feedback, and were innovative. At the same time, I witnessed school principals who were not eager to engage in any growth-mindset-associated practices. This experience encouraged me to think about the power of mindsets. I wondered if growth mindsets can help school principals be more effective leaders, so that we could design professional development to address school principals' mindsets. However, the literature on educational leadership does not have enough evidence to suggest that growth mindsets positively impact school principals. Existing studies have found mixed effects of growth mindsets on leaders' practices. Therefore, I examined the reasons for this inconsistency.

Chapter Summary

In this chapter, I explained the rationale behind my methodological choices. I presented why the generic qualitative research approach (Kostere & Kostere, 2021) is appropriate for investigating the extent to which school principals engage in growth-mindset-associated practices, using the Theory of Planned Behavior. I adapted the Q-sort technique and conducted semi-structured interviews to investigate school principals' perceptions of the antecedents of their leadership practices. I analyzed the data both deductively, aligning with the themes of the TPB, and inductively, to allow other factors to emerge. I ensured credibility, dependability, and transferability by using multiple strategies.

CHAPTER 4: FINDINGS

The purpose of this dissertation study was to explore the extent to which the Theory of Planned Behavior explains why school principals with a growth mindset engage or do not engage in growth mindset-associated practices. The overarching research question of this study is "To what extent does the Theory of Planned Behavior (TPB) explain the reasons why school principals engage or do not engage in growth-mindset associated practices?" Two parts of the findings answer this question: deductive and inductive. The deductive findings are based on the findings of the TPB lens. The inductive findings allow us to explore additional reasons that TPB has not been addressed before. The specific research questions were as follows.

RQ1. What are the most and least frequently engaged GMA practices among school principals with a growth mindset?

RQ2. What are principals' attitudes, subjective norms, and perceived behavioral controls toward GMA practices?

RQ3. What are the other factors that influence principals' intentions toward GMA practices?

The deductive findings answer RQ1 and RQ2, while the inductive findings answer RQ3. The findings are presented in three sections. In the first section, I present patterns of GMA leadership practices. In the second section, I present the principal reasons behind the different prioritizations of GMA leadership practices in a deductive manner. Finally, in the third section, I present findings from the inductive analysis that were not predicted by the Theory of Planned Behavior.

RQ1. What are the most and least frequently engaged GMA practices among school principals with a growth mindset?

In the first section, I present the findings related to leadership practices. I used six leadership practices in literature associated with a growth mindset. During my interviews with school principals, I asked them to rank their practices according to their frequency of engagement. I then organized the practices according to the frequency of engagement. The rankings allowed the separation of practices into two groups: first, most frequently engaged and second, least frequently engaged. As I asked principals to rate the practices in two scenarios, I had two tables of ratings (see Tables 4 and 5). There were overlaps and differences in ratings. To capture these overlaps and differences, I organized the practices using a 2 by 2 matrix (Fig. 2).

In the second section, the behavioral beliefs, normative beliefs, and control beliefs for each of the six practices are presented. Following these beliefs, I summarize the interpretations of principals' quotes for every leadership practice.

In the third section, I present inductive findings that capture any findings that fell outside of the TPB but were related to the reasons influencing principals' level of engagement in leadership practices. Finally, the chapter concludes with an overall summary.

Ranking of Growth Mindset Associated Leadership Practices

Based on the ranking of practices, the rankings across all participants were averaged. I obtained mean scores that represented the average ranking of these practices by this group of principals. The mean rankings for the past 12 months and the ideal world are presented in Tables 4 and 5. Lower mean scores indicated a higher rank.

Table 4

Ranking practices over the past 12 months. Lower numbers indicate higher frequency

GMA leadership practice	Phillip	David	Brian	Mark	Steven	Deb	James	Linda	Michael	Kevin	Scott	Greg	John	Average	Rank
Providing feedback to teachers based on my observations.	1	2	2	1	1	2	5	1	3	1	3	2	1	1.9	1
When identifying struggling teachers, working with them to find strategies that would help them improve.	5	3	4	5	3	3	1	2	2	4	5	3	4	3.4	3
Recognizing quality teaching.	2	4	1	2	4	1	3	6	1	3	1	1	2	2.4	2
Encouraging teachers to see old problems in new ways.	4	5	5	4	6	4	2	5	4	5	4	5	5	4.5	5
Implementing feedback from others into my practice.	3	6	3	3	2	5	4	3	5	2	3	4	3	3.5	4
Taking actions to expand the financial resources available to the school.	6	1	6	6	5	6	6	4	6	6	6	6	6	5.4	6

Table 5

Ranking practices in an ideal world. Lower numbers indicate higher frequency

GMA leadership practice	Phillip	David	Brian	Mark	Steven	Deb	James	Linda	Michael	Kevin	Scott	Greg	John	Average	Rank
Providing feedback to teachers based on my observations.	1	4	4	1	1	1	1	2	3	3	2	4	1	2.2	1
When identifying struggling teachers, working with them to find strategies that would help them improve.	4	3	2	5	3	2	3	1	4	6	5	6	5	3.8	5
Recognizing quality teaching.	3	5	3	2	2	3	2	3	5	5	1	2	2	2.9	2
Encouraging teachers to see old problems in new ways.	6	1	1	4	4	4	4	6	1	1	4	1	4	3.2	3
Implementing feedback from others into my practice.	5	2	5	3	5	5	5	4	2	4	3	3	3	3.8	4
Taking actions to expand the financial resources available to the school.	2	6	6	6	6	6	6	5	6	2	6	5	6	5.2	6

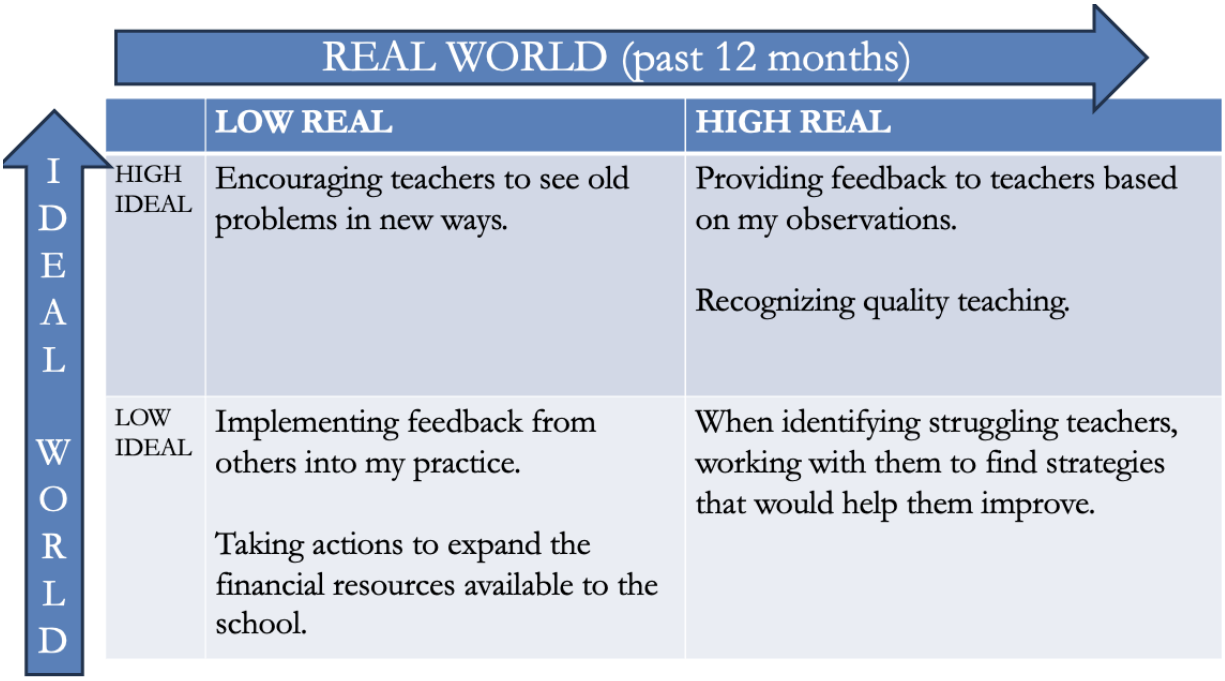
From these tables, it can be observed that the practices are not ranked in the same way across both scenarios. Some practices were prioritized in both scenarios (real and ideal), such as providing feedback and recognizing quality teaching, which were consistently highly ranked. The other two practices were consistently ranked low: engaging in budgeting and implementing feedback from others into one's own practice.

However, some practices vary depending on the scenario. For example, encouraging teachers to see old problems in new ways was ranked high in the ideal world, but low in the real world. Conversely, supporting struggling teachers was ranked low in the ideal world, but high in the real world. Based on these different ranking combinations, I grouped the practices in a 2 by 2 matrix (see Figure 2). The 2 by 2 matrix allowed to reduce the information from tables 4 and 5 into one figure. The ranking table had 6 rankings each, totalling in 12 rankings. with 2 by 2 matrix i was able to reduce the 12 rankings into 4 quadrants. i was able to define four categories that captured the essential information from the ranking tables. Four ranking patterns emerged when I place the six practices into 2 by 2 matrix.

The 2 by 2 matrix was beneficial to my analysis in identifying converging and diverging components of the Theory of Planned Behavior (TPB). For example, in the high ideal–high real (Quadrant 1) and low ideal–low real (Quadrant 3) categories, attitudes, subjective norms, and perceived behavioral control were consistent: strong and positive in Quadrant 1, and consistently weak or negative in Quadrant 3. However, in Quadrants 2 and 4, the matrix helped surface important discrepancies. By placing a practice "encouraging teachers to see old problems in new ways" in the low real–high ideal quadrant (Quadrant 2), I was able to identify the intention–behavior gap that the TPB addresses. Further analysis of the reasons for high ideal rankings but low real-world implementation revealed contextual constraints that prevented principals from engaging in those practices more frequently, despite holding strong and positive attitudes. Similarly, examining the placement of "supporting struggling teachers" in the low ideal–high real quadrant (Quadrant 4), I identified an inductive code: "need." In this case, principals engaged in the practice not because of strong personal attitudes, but because the presence of struggling teachers in their schools created an immediate and pressing need, which influenced their behavior in the real world.

Figure 2

2 by 2 matrix representing the overlaps in the frequency rankings of GMA leadership practices



2 by 2 matrix

As a recap, I asked principals to rank GMA practices in two different scenarios: first, thinking of the past 12 months to capture their real experiences and, second, an ideal world imagining a situation with no constraints. Real experience responses reflected their priorities based on real-life demands, which stemmed from staff expectations, budgeting constraints, external policies, accountability, and other factors. However, when principals re-ranked practices in an ideal world, these constraints were controlled for. In other words, ideal-world thinking eliminated the external and internal pressures that influenced their decisions. As a result, I was able to gain insight into the principals' true attitudes toward practices in the absence of external factors.

The 2 by 2 matrix consisted of four quadrants distributed along two axes: real-world and ideal-world rankings. Each axis has two components: low and high. The vertical axis represents the ideal world ranking, with low scores at the bottom and high scores at the top. Similarly, the horizontal axis has two components with low scores on the left and high scores on the right. Together, these axes form a matrix consisting of four quadrants that fall under two broad categories: the most frequently engaged practices and the least engaged practices.

Most frequently engaged practices:

1) Top-right quadrant 1: High real (past 12 months), high ideal

2) Bottom-right quadrant 2: High real, low ideal

Least-frequently engaged practices:

1) Bottom-left quadrant 3: Low real, low ideal

2) Top-left quadrant 4: Low real, high ideal

RQ1. What are the most and least frequently engaged GMA practices among school principals with a growth mindset?

Finding 1. Most frequent and least frequent leadership practices

Most frequently engaged practices

The high-intent, high-action quadrant (Quadrant 1) represents practices in which principals have both strong positive intentions to engage, and they actually engage frequently. Two practices fell into this category: providing feedback to teachers based on their observations and recognizing quality teaching. Principals consistently ranked these practices highly in both scenarios—the ideal world, where they indicated their highest intent, and the real world–based on their actions over the past 12 months. For example, Principal Mark shared:

> Just having those ten, 15 minute conversations are, um, I think, more beneficial than filling out our evaluation tool and then sending an email, and then they look it over and, you know, they don't get any verbal feedback. So I try to do that, um, weekly, not for every teacher weekly.

Principal Mark ranked providing feedback as the number one practice, and he also emphasized the formative nature of feedback, noting that he tries to give short and frequent feedback rather than only the occasional minimum required by the state within the teacher evaluation system.

The low-intent, high-action quadrant (Quadrant 2) represents a practice that principals did not have a strong intention to engage in within an ideal world, yet they frequently engaged in in the past 12 months. Only one practice fell into this category: supporting struggling teachers. This category highlights practices that principals must engage in because of real-life necessities or external pressures, even if they do not necessarily want to prioritize them. The decision to engage in these practices is highly dependent on situational demands. For example, this how Principal James describes this practice:

> When I see someone struggling, I want to want to be able to get help. So when I identify a struggling teacher, what I try to get them to do or what I provide for them is an opportunity to have a peer come in and and watch them and and have them have the opportunity to go and watch another peer's classroom.

Principal James prioritized supporting struggling teachers by connecting them with

colleagues who could serve as valuable resources.

Least frequently engaged practices.

The low-intent, low-action quadrant (Quadrant 3) represents practices that principals consistently ranked lowest. These practices include engaging in extra budgeting and implementing feedback from others into one's own practice. These practices were given the lowest priority in both the scenarios. On average, principals do not engage in extra budgeting for various reasons, the most significant being their low level of control over budgeting procedures. Interestingly, implementing feedback from others in one's own practice was also consistently ranked low, even though implementing feedback was within the principal's control. These are just a few examples of the reasons for low engagement in these practices. For example, Principal David shared the occasional nature of implementing feedback into his practice:

> And that's that's the ironic part of being in school leadership is you can take so much, you can give so much feedback out because that's what you do. You're making thousands of decisions every day, uh, in regards to the school. But you're also not getting a lot of information back. You do. You get it in bits and pieces.

An interesting observation was that principals often give feedback to others but do not receive as much feedback themselves. When they do receive feedback, it is often challenging to incorporate it into their own practice. I will present the challenges associated with implementing feedback in the section dedicated to this practice.

The high-intent, low-action quadrant (Quadrant 4) represents practices that principals see as highly valuable and would like to engage in more frequently; however, real-life constraints prevent them from doing so. Encouraging teachers to see old problems in new ways falls under this category. Many principals expressed a strong desire to engage in this practice, yet, in reality, they consistently ranked it much lower than other practices. For example, Principal Brian shared:

> I put that towards the bottom because I think that that's something that you can always work on. You know, that I always feel like I could be a do a better job at like one on one conferences with teachers. Like, I want to be able to push their thinking a little bit more.

Principal Brian feels like he is not engaging in the practice of encouraging teachers to see old problems in new ways frequently enough. In the real world he ranked this practice as number six. However, in the ideal world scenario he ranked this practice as number one.

In the next section, I delve into the components of TPB within each quadrant and provide interpretations of the different attitudes, norms, and controls based on the situation's principals. I analyzed each quadrant and compared principals' attitudes, norms, and controls using two additional columns: ideal and real. This comparison will help to illustrate how the degree of alignment

influences the placement of practices in a particular quadrant. For instance, in the low-intent, low-action quadrant, we would expect attitudes, norms, and controls to be consistently low. In contrast, in the high-intent, high-action quadrant, we expected these TPB components to be consistently high. In the other two quadrants (Quadrants 2 and 4), TPB components are likely to be mixed.

Deductive Findings

RQ2. What are principals' attitudes, subjective norms, and perceived behavioral controls toward GMA practices?

Finding 2. Principals demonstrated strong attitudes, strong perceived norms, and strong perceived behavioral controls for practices in Quadrant 1

Two practices, providing feedback and recognizing quality teaching, received the highest ranking in both the ideal and real world. First, I discuss the *providing feedback* practice. Since many principals discussed the reasons for this practice at length, I included only those instances that were mentioned at least twice to keep the tables parsimonious.

The principals reported that they engaged in providing feedback most frequently. This suggests that principals had strong and positive attitudes, strong and positive perceived norms, and strong facilitating perceived behavioral controls so that they were able to form intentions to engage in this practice frequently. According to the TPB, attitudes are formed by the combination of all behavioral beliefs (perceived expected outcomes) and their strength (perceived likelihood of the outcomes to occur). There are two types of behavioral beliefs: instrumental and experiential. The degree to which principals who participated in this behavior had positive attitudes among these beliefs is associated with the degree to which the TPB explains these outcomes. The Table 6 below summarizes the TPB beliefs associated with the practice of providing feedback to teachers.

In the section below, I display various themes organized under the three types of TPB beliefs: behavioral beliefs, normative beliefs, and control beliefs. Understanding specific examples is important because they help illustrate the attitudes, subjective norms, and perceived behavioral controls that principals held toward a GMA leadership practice. In my interview protocol, I did not directly ask about their attitudes, subjective norms, or perceived behavioral controls. Instead, I asked about the reasons behind their practice rankings. These responses were categorized by belief type, which in turn informed the overall attitude, subjective norm, or perceived behavioral control. I then follow a similar pattern of presenting findings for each of the six GMA leadership practices.

Table 6

TPB beliefs associated with providing feedback to teachers

Belief type	Themes
Behavioral beliefs	Development
	Building culture
	Modeling
	Show care
	Awareness of classroom
	Collect evidence
Normative beliefs	Other schools
	Mentor
	Districts
	Teacher evaluation system
	Superintendent
	Teachers
Control beliefs	**Facilitators**
	System
	Human resources
	Superintendent
	Climate
	Barriers
	Urgent duties as assigned
	Lack or resources (HR, time, books)

Instrumental Beliefs. Instrumental beliefs refer to expected outcomes resulting from engaging in a behavior. Below are the possible outcomes principals expected if they engaged in providing feedback to teachers based on their observations.

Development. The most popular outcome principle expected as a result of providing feedback to teachers was that feedback would allow their teachers to develop professionally. Principals viewed feedback as a tool for teachers' development. For example, Principal John shared, "If we want something to be done in our buildings, if this is our goal, you know, then I think the only way you get better at anything is by feedback." Overall, principals perceived feedback as a useful instrument to increase teachers' professional capacity.

Building Culture. The second most cited instrumental belief was building a culture of trust, safety, and confidence. The principals gave frequent feedback to give the message to teachers that principals come from a non-evaluative space. As Principal Steven shared, "So there's huge benefit, I

think, in building culture, um, associated with being in classrooms for non-evaluative reasons and more frequently." In Principal Steven's view, providing non-evaluative frequent feedback allowed to create culture of trust, safety, and confidence among teachers.

Awareness of Classroom. Another frequently expected outcome from providing frequent feedback was awareness of the classroom. Engaging in providing feedback often allowed principals to get a sense of what happens in the classrooms: "Yeah. I mean, I think it's a feeling of presence, but it's also an awareness, right? Like, if you're not in your building in all the spaces, how do you know what's happening?" (Principal Linda). "So, I think there's that piece, too. Um, but I do like getting out there in classrooms, seeing the kids as well. I think that's another bonus of just getting out there" (Principal Phillip). "Because I think you get the reality of what's happening in the classroom" (Principal Deb). When principals engaged in providing feedback to teachers, principals were aware of what was happening in the classrooms. In other words, providing frequent feedback allowed the principals to be aware of what was happening in the classrooms.

Modeling. Some principals engaged in providing feedback because it allowed principals to model the interactions they wanted to observe in their teachers. Principal Steven shared:

> And then that third one, that that idea of modeling, you know, um, if I want my teachers to think outside the box to try different things, to be good communicators, to show empathy, to have fence lines in their classrooms for kids, then I have to model those things, right.

By providing feedback to teachers, principals aimed to serve as a model of interaction that principals would like to observe among teachers when teachers provided feedback to their students.

Show Care. The less frequent purpose cited by the three principals was to show that principals cared about their teachers. Principal John shared:

> I just I feel like internally I just want to help teachers. I want to be that servant for them, you know, I want to. Um, I want them to know that their job is important and that... It's important to them and I need to be in their classrooms. I just can't be sitting in my office. That's not helping.

For Principal John, frequent feedback was an instrument to show teachers that he cared about them.

Collect Evidence. The least cited outcome the principals were looking for was to collect evidence for further use. It might be to give schoolwide feedback or to use formative feedback for state-mandated teacher evaluation. The two principals mentioned this point. "I see, um, and then if we want to that I can synthesize all of that and provide maybe some building wide feedback." Principal Steven. Frequent feedback to teachers would invite more insights from teachers which will allow for richer follow up conversations with teachers. As Principal Kevin shared, "You know, it

allows us to dive into more of those, uh, conversations." Engaging in frequent short feedback allowed Principal Kevin to collect evidence about instruction so that he could later use that information in school improvement efforts.

Instrumental Belief Strength. Instrumental belief strength (IBS) refers to the perceived likelihood of an outcome. Six principals shared beliefs about anticipating success. However, five of them shared that based on their previous experiences, it would be more relevant to code it as feedback from previous practice. Only one principal mentioned anticipating future success without citing the previous experience. They anticipated "high effect size" which drove the principal to put this to the top of the priority list. Principal Phillip shared:

> I think just you know, out of those six [practices], I think that's the thing that's going to move the needle the most. I think it's the most impactful thing. Um, you know, in terms of feedback, it has a pretty high effect size.

Other principals cited previous experience of success that drove the principals to put this practice to the top: "So it's really helped us with feedback. I feel like… um, and created a more successful environment" (Principal John). "Um, where, and, and we've seen really good success with some of our, with some of our instances" (Principal Linda). Prior positive outcomes influenced their perception of future success. Because principals had previously observed positive changes in teachers' instruction, they now held strong and positive expectations that such outcomes would occur again.

Instrumental Belief Value. Instrumental belief value refers to the perceived value associated with the outcome of a behavior. Being able to appreciate teachers' work and being engaged in conversations was important for principals. Principal Kevin shared:

> I mean, walking down the hallway and seeing a teacher in a conversation with a student and stopping and eavesdropping and being a part of that conversation, and then telling the teacher, you know, I appreciate you, you know, taking the time and energy and effort to have that one-on-one conversation with your student and the impact that that's going to have. I think about even those things. Um, yeah, those are those are important to me.

This exemplifies the shared value principals placed on providing frequent feedback to teachers. They highly valued the outcomes resulting from that feedback.

Experiential Beliefs. The emotional aspect of engaging in these practices was also important. Principals shared feelings like fun. The principals felt good about providing frequent feedback to teachers. However, most principals shared their feelings only after engaging in the practice. For example, one principal shared that it "has been fun to see the evolution" (Principal

Linda). Using the past tense, Principal Linda shared past emotions she experienced when providing feedback to teachers. I present more findings on experiential beliefs in the feedback section.

Descriptive Normative Beliefs.

This category refers to subjective beliefs about what others would do. Factors that act as models may fall into this category. For the principals, there were two sources of descriptive beliefs: other schools and their mentors. Three principals shared how other schools served as sources of inspiration to engage in providing feedback to teachers.

Other Schools. Schools that principals visit or read about can be a source of descriptive behavioral beliefs that serve as a motivation to emulate. "…just seeing how other schools prioritized instruction and learning showed me that I also needed to make that investment in our school, too" (Principal Steven). Practice in a distant school can also serve as a source for modeling: Principal Steven further shared:

> I just offhandedly read an article of hers that I found really interesting. It was about turnaround schools and how she had turned around a school that was, um, pretty impoverished in New York, um, um, and had some pretty unique challenges. But what she's done and what her team and her community has done at that school is pretty impressive.

Principal Steven learned about this turnaround school from an article. This story of turning around other schools inspired Principal Steven to adopt the practice of providing feedback because this was the most important lever the distant principal in the turnaround school had adopted.

Mentor. A former supervisor who was a principal served as role model for Principal Kevin in his early years of the principalship: "And I think my first couple years, I was trying too hard to be him. Right. And so, uh, that's part of that evolution and modeling who I am" (Principal Kevin). In this way a former mentor can be source for subjective norm to provide feedback to teachers.

Injunctive Normative Beliefs. Principals shared injunctive normative beliefs, that is an expectation from others that the principals would engage in providing feedback. These sources of injunctive normative beliefs included districts, teacher evaluation systems, superintendents, and teachers.

Districts. Many districts expected principals to visit classrooms frequently. Districts expected Principal John to visit classrooms frequently: "…that has evolved over the years, um, for what the expectation is from a district level in terms of feedback for teachers. Right. Uh, formal observations, mini observations, etc." (Principal John). Districts have been a common source of subjective norm for school principals.

Teacher Evaluation System. For many principals providing frequent feedback was part of teacher evaluation system. The principals were expected to visit all teachers during the year. This was the state requirement. Principal Deb shared:

> We have like the certain numbers of like with the nine, ten like observation written down, four of them with a non-tenured and two of them with a tenured. Mhm. Um, and if it's a. And those are the smaller visits.

In that way, there was a strong expectation that the principals would engage in providing frequent feedback to teachers.

Superintendent. This strong alignment for frequent observations was also reflected in superintendents' expectations. Principal John shared that this expectation might have been the reasons for being hired: "I kind of thought it was important to. He thought it was important. Um, maybe that's why he hired me too. Maybe because it was just kind of. We kind of had the same thought process around it" (Principal John). Principal John shared that he and his superintendent had similar views about the positive outcomes of providing feedback.

Teachers. Teachers also expected their principals to provide frequent feedback as part of classroom observations. These expectations might override the need to respond to the many emails principals receive. Principal Deb shared:

> I'm getting more comfortable with having 200 emails in my inbox, which drives me crazy. Yeah. Um. But you know, the teacher feedback. They want they want to hear from me. They want to see me. They you know, just recently they said it again. They're like, get out the rooms again more, you know, and I'm like, that's my favorite.

In Principal Deb's school, teachers became accustomed to her frequent classroom visits, which formed a habit and expectation. Teachers also expressed that they wanted to see the principal.

Control Beliefs. Perceived control beliefs refer to factors that describe the subjective belief in the capacity or autonomy to engage in a behavior. TPB describes two groups of control beliefs: autonomy and capacity. Autonomy beliefs refer to external factors. These factors can be related to legislative constraints or facilitators. For example, in the case of budgeting, there may be restrictions on the extent of autonomy a principal can engage in budgeting practices. Capacity beliefs refer to the personal capacity or skill level of self-efficacy. A person might have various levels of self-efficacy related to their perceived mastery of performing a behavior. These factors can also be facilitating or impeding. For every practice below, I present the facilitator and barrier factors grouped under autonomy and capacity beliefs. PBC can be a variety of resources, such as availability of time, money, and people that can help or distract from the behavior in question.

Autonomy: Facilitators.

System. Principal Steven realized that most of their leadership time was used for student behavior. Therefore, this principal assembled a group of school leaders who first encountered and dealt with student behavior. The principal steps only occurred when the leadership was not able to tackle the issue and required severe principal attention. Once the system of dealing with student behavior was established, the principal was able to use more classroom observations and teacher feedback. Principal Steven shared:

> I essentially said, I'm going to remove myself from this team in a way to free myself up for other things that I want to prioritize as a school building. And so they recognize that they understand that. And then I only get called into situations if it's a fairly big emergency or it's kind of like time for me to help out with the situation.

Having classroom observations under the state requirements of teacher evaluation also helps. This aligns with external accountability measures and what principals think moves the needle the most. "Um, I'm not a big fan that we're using an evaluation tool as a coaching tool at the same time, but I understand like that's from the state requirement. We have to" (Principal Mark). Principals also use digital systems to track classroom observations, which also helps them. Principal Steven shared:

> Um, I've got kind of a tracking system to allow me to see which classrooms I've been in. Um, which classrooms maybe I haven't been in. Um, and then I also have kind of a system as far as giving feedback to teachers.

These kinds of systematic support factors allowed school principals to provide feedback to teachers frequently.

Human Resources. For many principals, the presence of some key staff members often helped them to be in classrooms. For example, for Principal Phillip, their secretary helped be on-track:

> …so she does a good job when I ask, um, just to keep me on keep me on pace in terms of what I expect to get done for the day… But, um, you know, so coming in today and tell her, hey, I need to do better today. So, you know, if you could help me do that, that's much appreciated. Yeah. So those two things I think are the biggest, just utilizing that calendar and utilizing the people that can help you.

Instructional coaches from the central office also helped with the teacher feedback. In Principal Brian's word about an instructional coach in their district, "She'll go in and observe and give them feedback. She'll go teach a lesson and model for them. I mean, she'll do basically whatever the teachers need her to do to support the students and support them." Having assistant principals was also a tremendous help. Principal Kevin shared:

> Some of the little the little things, uh, they're managing and they're addressing before it even gets to me. And so I think having having two assistant principals that are absolutely lights out allows me to do the other things.

Overall, human resources – such as having a secretary or assistant principal – were an important source of support for school principals to engage in providing feedback.

Superintendent. This theme falls under both perceived behavioral control and perceived norms. When reading these quotes, it is evident that there are two factors. Principals sought approval from their supervisors, which served as a facilitator for providing frequent feedback to teachers. Principal Mark shared:

> I once I initiated that and I asked for help from the ISD, um, during my conversations with our superintendent, I also made sure that he was aware that, hey, part of my own learning and growing right now is focusing on the feedback that I'm providing teachers. So I had his support as well.

In this way, the superintendent served as a source of subjective norm, and his approval also acted as a facilitator for the school principal to engage in providing feedback.

Climate. For Principal John, the positive climate around providing frequent feedback to teachers was also positive. They worked as a group with several staff members, which made the feedback-giving process more fun. Principal John shared:

> So it's something we work on it together, so it makes. It makes a lot more fun. We're all kind of. We're heading in the same way. We've all made decisions together. So we have buy in. And obviously that's what you want to have. And I think our staff bought into it too. And they kind of feel the same. So yeah.

A positive climate associated with providing feedback was a facilitating factor that made it easier for Principal John to engage in giving feedback to teachers.

Barriers

Urgent Duties as Assigned. The most frequent barrier to providing feedback for principals was the large number of daily tasks that required the principals' attention. They call it "other duties as assigned" (Principal Linda). These can take up the majority of the day. This can even include helping teachers chase a mouse in a classroom. Principal Linda shared her recent experience:

> Um, yeah. I mean, other duties as assigned. Right. So that's on the job description at the end, other duties as assigned. And, um, and it takes up like some days 80% of my time. Uh, so, you know, like you're catching a mouse and you're the, this, the, the plumbing isn't working and so and so needs to rent the gym and like, just facilities stuff. Um, we're going through a bond and so we're reviewing furniture for new furniture. Um, you know, just like managerial tasks that are other duties as assigned. They're not, they're not, nobody else is gonna do 'em. And also, um. They're, they just kind of can suck you away from that. Um, behavior

> investigations. Um, I don't know. I'm trying to think of other big, big things. Um, individual student response. Uh, angry or upset parents. uh, yeah. Legal issues. Just stuff like that.

These kinds of things are directly related to the instructional work of principals, but principals are the only people in the building who can deal with these managerial things, such as construction. Principal Kevin shared:

> I don't want to be a manager. I don't, unfortunately, sometimes we have to do that stuff. Right? Um, I don't want to just manage the construction that's going on in my building, even though that it takes probably 2 or 3 hours a day of my time that I'm dealing with something around construction. Right?

Alternatively, finding a substitute teacher for those who are sick, dealing with student behavior, etc. Principal Brian shared:

> …student discipline, you know, dealing with those types of situations. Or, like I said, that management component of leadership is important. Um, and sometimes it'll pull me away from fully engaging, like, if I don't have enough teachers, everyone, like, there's multiple people sick, and I can't, um, cover classrooms and things like that. I want to make sure that and I have to make sure that those pieces are put together. You know, I can have in my mind, um, a vision to go into these classrooms. But the morning of. There's no teacher. The teacher got sick on the way to school, and I have no replacement, so I now have to be that teacher. I have to go in that classroom or something like that. So, yeah, just dealing with the day to day stuff. Um, someone gets hurt, you know, and I have to. That becomes the priority. So. Yeah.

School principals' daily routine was full of unexpected and unplanned issues related to various small but important matters that ensured the school operated smoothly. These issues often required the principal's immediate attention, which served as barriers to engage in providing feedback to teachers more frequently.

Lack of Literature about Feedback. For one principal a significant factor preventing them from engaging in feedback was the lack of appropriate books about effective feedback to teachers. Principal Mark shared:

> I struggle to find leadership feedback [book] with teachers. There's a lot of coaching books out there, but the coaching books have a lot to do with just being present and listening to understand again, there's like other practices involved, but actually writing about feedback, um, and finding examples or um, you know, there's there doesn't seem to be a feedback, a feedback for coaching kind of book or coaching for feedback. Um, so I think I'm always interested in looking for, for books that I can, that I can take and, and put into practice. But, um, that's been a challenge.

Principal Mark needed a good set of literature that could help them understand how to provide effective feedback to teachers. Despite having a number of books about coaching in general, few books specifically describe the art of providing feedback to teachers.

Time Resources. Providing frequent feedback requires time. Lack of time can be a barrier to principals' intentions to engage in frequent feedback. As Principal Mark shared, "Um, time is a challenge" (Principal Mark). This was a common sentiment that prevented the principals from engaging in frequent feedback more frequently.

Interpretation. Providing feedback was the most frequently practiced practice in both scenarios (in the past 12 months, and in ideal world). Principals had strong attitudes, strong expectations from others, and several facilitators that contributed to positive intentions.

Behavioral Beliefs. Many principals noted that providing feedback allowed teachers to develop a culture of trust, stay informed about classroom instruction, and model the type of interaction principals wanted to see between teachers and students.

These expected outcomes were also reinforced by previous experiences of success, which further strengthened the principals' positive attitudes toward this practice. Compared with other Growth Mindset-Associated (GMA) practices, principals cited multiple positive outcomes resulting from their engagement in providing feedback to teachers. They both expected and observed numerous benefits of engaging in this practice.

Principals valued these outcomes highly. According to the Theory of Planned Behavior (TPB), the magnitude of attitudes is determined by summing all potential outcomes, each weighed by its perceived value. In the case of feedback, there were several highly valued positive expectations. Combined, these behavioral beliefs resulted in strong overall positive attitudes toward providing feedback to teachers.

Normative Beliefs. Principals have also experienced multiple sources of societal pressure to provide feedback to teachers. Feedback was an integral part of the teacher evaluation system, with clear expectations from both the central office and superintendent. Additionally, teachers became accustomed to receiving feedback and expected it from principals. Engaging in a socially expected practice made it much easier for principals to prioritize it.

However, there were no explicit expectations regarding the specific types of feedback principals provided. Instead, principals relied on the general expectations of the feedback process and incorporated their frequent classroom visits into these expectations. If principals strictly followed the central office guidelines, they would have conducted fewer but longer classroom observations. Instead, they adapted by providing more frequent and shorter feedback sessions. Thus, there were two levels of expectations: first, general expectations for providing feedback from state requirements. Second, there were specific expectations for delivering short and frequent

feedback from some superintendents. Principals adapted the state requirement expectations about providing teacher evaluations and blended them with the best practices for providing short, more frequent feedback.

Controls Beliefs. When discussing external factors, principals primarily mentioned facilitating factors that enabled them to provide consistent feedback. The most significant facilitator was that the feedback was embedded in the teacher evaluation system. Additionally, principals had access to sufficient human resources, such as secretaries who assisted in scheduling classroom visits. Several principals also noted that their prior experience as teachers or instructional leaders made them more comfortable spending time in the classroom and provided constructive feedback.

Regarding barriers, many principals identified urgent administrative duties as major obstacles to providing frequent feedback. However, compared with the barriers affecting the other quadrants, these were less significant.

Conclusion. Providing feedback was supported by high levels of positive attitudes, perceived social norms, and perceived behavioral control factors, all of which contributed to the formation of strong intentions that were likely to translate into observable leadership practices. As all key factors—attitudes, perceived norms, and perceived behavioral controls—were favorable, it was highly likely that principals would form positive intentions to engage in providing feedback to teachers.

Recognizing Quality Teaching

The second practice in this quadrant was recognizing quality teaching. This practice consistently received high rankings, often second right, after providing feedback to the teachers. However, although this practice received high rankings, principals rarely chose it as their top priority. Therefore, there were few descriptions of the reasons for engaging in this practice.

Table 7

TPB beliefs associated with recognizing quality teaching

Belief type	Themes
Behavioral beliefs	Grows teacher confidence
	Tool to show care
	Grows quality teaching
	Creates collective focus
Normative beliefs	Other educational leaders
	Professional organization
	District

Table 7 (Cont'd)

TPB beliefs associated with recognizing quality teaching

Control beliefs	**Facilitators**
	Suburban school context
	Comfort
	Strategy
	Barrier
	Urban school context
	Urgent duties as assigned

Recognizing quality teaching was the second-most engaged leadership practice. This practice describes the action of intentionally paying attention to moments of good teaching.

Behavioral Beliefs: Instrumental

Growing Teachers' Confidence. The emphasis of this practice is on *quality* teaching. This presumes noticing positive things in teachers' teaching. Principals have noted that they have anticipated and observed positive changes from engaging in this practice. The behavioral outcome most associated with recognizing quality teaching was its potential to increase teachers' confidence. Principals viewed recognizing quality teaching as an instrument that makes teachers confident in good teaching. The causal chain was as follows: recognizing quality teaching increases teachers' confidence; increased teacher confidence results in better teaching: "With a strength-based approach to feedback, I think [recognizing quality teaching] helps teachers find their own strengths, build their confidence, and improve their teaching" (Principal Deb). "Um, you know, the fastest and most efficient way to grow quality teaching is to recognize when quality teaching is happening" (Principal Greg). These reflections highlight the perceived benefits of recognizing quality teaching. In the principals' view, recognizing quality teaching improved teacher morale and confidence.

Show Care and Support. Some principals recognized quality teaching as an instrument to show teachers that the principal cares about and is supportive. "Um, and I'm showing my teachers that I'm very kind, very supportive" (Principal Brian). "I want them to know that I care about them" (Principal Scott)**.** For these principals recognizing quality teaching served as an instrument of showing care and support to teachers.

Create Collective Focus. Recognizing quality teaching was an instrument for directing a collective focus. For Principal Greg, recognizing quality teaching was a tool to show directions for

staff to focus on: "I think that if I spend my time focused on quality teaching, discussing quality teaching, helping those who could learn from quality teaching, participate in quality teaching, um, observations, it that's where we will head as a staff and as a team." These reflections show that recognizing quality teaching can help create a collective focus by directing teachers' attention to effective instructional practices.

Instrumental Belief Strength. Principals shared their belief strength because they had engaged in this practice in the past. Prior engagement in recognizing quality teaching resulted in good outcomes, which in turn fueled the principals' expectations of success in the future. Therefore, I present the findings about belief strength in the feedback section of this chapter.

Behavioral Belief: Experiential. One principal shared a positive emotion associated with recognizing quality teaching: "You know, when I truly engage in this practice and I'm intentional about it, it makes me feel good" (Principal Brian)**.** This reflection highlights that recognizing quality teaching can also evoke positive emotions for principals.

Normative Beliefs: Injunctive.

This practice was not frequently discussed at the extremes. Therefore, there were only two mentions by principals of normative beliefs about supporting struggling teachers. Overall, there was nobody who would have expected them to support struggling teachers. However, two principals shared that significant others served as role models.

Other Educational Leaders. Principal Michael was a member of a professional organization where he observed that other superintendents used to recognize their teachers for quality teaching. These superintendents gave advice about recognizing teachers as the tool to boost teacher morale in the context of high teacher turnover. Principal Michael shared:

> Some superintendents I had met from other school districts talked about things that they do and that they've shared with their principals when staff morale is low, because, uh, that was a key thing that came up during the horizon leadership program. Like "what do you do for staff morale?"

For Principal Scott it was good to hear that others also engaged in this practice. It served as validation "So it's kind of nice when I hear from people that are really accomplished and they're doing it and they're saying this is a good practice.

These sentiments show that school leaders from other districts can serve as subjective norms that encourage principals to engage in recognizing quality teaching.

Normative Beliefs: Descriptive. There were few external expectations that participants would engage in recognizing quality teaching.

Professional Organization. There were two examples of external motivators: a professional organization and a district. Principal Scott learned from their professional association that recognizing quality teaching was one of effective leadership practices: "I'm, uh, part of the APPLE (pseudonym) program. The group, uh. And you always kind of hear that you should try to do a, a personal note to, to teachers and make sure that" (Principal Scott). This reflection shows that a professional association can serve as a subjective norm for recognizing quality teaching.

District. Although not directly, there was a general expectation to recognize quality teaching. Principal Greg shared, "I definitely think that there is an expectation to grow quality teaching. Um, and there's definitely an expectation to recognize teaching in one way or another." This sentiment shows that districts can also be a source of subjective norms for school principals.

Overall, when the practice is not prescribed, personal modeling of significant others can serve as a source of motivation. There was almost no expectation from others that principals would engage in this specific type of recognizing quality teaching practice.

Control Beliefs: Facilitators.

School context. To engage in recognizing quality teaching, two external facilitators were cited by two principals: the school context and the state evaluation system. The school context was suburban; students and teachers were bright, and parents were supportive. The principal did not have to constantly "put up the fires." Instead, they focused on increasing teacher morale by recognizing teachers' small daily wins in their instruction: "But the only thing about it now, being a more affluent school, I don't have to as much because level of parental involvement is much, much higher" (Principal Michael). Principal Michael further elaborated, "The level of kids wanting to achieve academically, behaviorally is much, much higher. So, and, uh, the teachers are stellar. And because the kids perform so well." The difference in school contexts were apparent for Principal Michael: "I'm in the school district now where we have like 70 people coming to meetings. So, the level, the, you know, look at suburban versus urban. So, I think that plays a role now." The suburban context of Principal Michael clearly had many factors that allowed this school principal to engage in the practice of recognizing quality teaching.

Comfort. One principal perceived this practice as a simple task. He shared, "It is a very simple way to improve the way they feel about their career choice" (Principal Greg). In fact, this activity does not require extra effort from the principal because "the approach and how to do it, I think, is just more within my comfort zone and my philosophy on leadership" (Principal Greg).

Principal Linda found that recognizing strength in others was part of her natural ability. She used the Gallup test for personality. She shared:

> Well, um, so I don't know if you're familiar with Gallup Strength Finders, but it's a strengths assessment. Um, and so one of my top strengths is arranger. And so, I'm constantly arranging, you know, if we put certain people in certain places and leverage certain strengths, like does that maximize our, um, movement forward? I think that's probably one of the strengths that I, where do I, where do we wanna go as a building and what do we need to do now to be set up well for that?

Overall, this reflections show that when principals perceived recognizing quality teaching as an easy task, there was a higher chance that they would engage in it.

Strategy. There were also some specific strategies that helped make recognizing quality teaching easier. It was convenient to integrate the practice of recognizing quality teaching into the feedback that principals provided during mini observations: "Instead of making these big observation teacher evaluation observations announced, you know, be out more often and just visit and do it with small mini observations" (Principal Deb). It was easier to engage in recognizing quality teaching when principals embedded this practice within their feedback routines.

Control Beliefs: Barriers.

School Context. When the school context is not conducive, it is extremely difficult and almost impossible to use time for instructional things, such as recognizing quality teaching. In the context of the principal's urban school, they had to deal with urgent things. Principal Michael:

> So, I've been in schools like that where you're putting out fires so much that you don't have time to think about achieving. You're trying just to keep people safe. I've been in schools where safety was like the top priority, not academic achievement or attendance. I was just trying to make sure our kids felt safe and felt welcome and trying to focus in on inclusion and the importance of having respect and empathy for others.

These reflections show that the context of urban schools forces principals to prioritize safety first, which significantly diminishes the amount of time they can devote to other leadership practices, such as recognizing quality teaching.

Urgent Duties as Assigned. Daily leadership tasks include school principal dealing with student discipline, communication with parents, and the list goes on and on. Principal Deb shared:

> Um, parent pop-ins or parent phone calls? Um, IEP meetings, 504 meetings. Situations with a staff member that needs my assistance meeting with staff. Central Office meetings or administration meetings. (...) The list goes on. I don't know, there's, you know, just the, um, the email reports and all, you know, the, well, reporting and the email. Um. Yeah. Just trying to stay up on top of the communication that is for ever increasing the amount of communication. It's just constantly. What's expected is constantly rising I guess increasing.

This sentiment shows that the amount of work principals need to attend to is substantial and constantly increasing. All these important, endless tasks that require principals' attention prevent them from engaging in recognizing quality teaching as frequently as they would like.

Interpretations

Behavioral Beliefs. One of the most frequently mentioned positive outcomes of engaging in recognizing quality teaching was its role in boosting teacher confidence. It was a quick and inexpensive way to improve teachers' morale, motivate them, and increase their self-efficacy. This practice also served as a tool for principals to demonstrate their care to teachers. Additionally, recognizing quality teaching contributed to the overall improvement in teaching practices. By acknowledging effective teaching methods and styles, principals signaled to other teachers the types of instruction they valued, ultimately fostering higher teaching quality across schools.

Normative Beliefs. This practice did not receive as many external expectations as feedback. Unlike regular feedback, which often includes constructive criticism, recognizing quality teaching focuses on highlighting teachers' success. Consequently, it seemed less common as an expectation at the central office or district level.

However, the principals mentioned that other educational leaders, such as former successful principals or their own former school principals, served as role models for engaging in this practice. This suggests that the perceived social norm to recognize quality teaching can come from distant educators, even those who do not work directly with the current school principal. Overall, there were few formal expectations for this practice.

Controls Beliefs. Few principals discussed control factors influencing their ability to recognize quality teaching. Some factors were context dependent. For example, in suburban areas where schools had high achievement levels and positive parental engagement, a principal noted that it was easier to support teacher morale through recognition of quality teaching. In contrast, in urban settings, principals often found it challenging to focus on anything other than student discipline and addressing immediate issues.

Among facilitators, certain strategies helped principals integrate this practice without overburdening them. Framing teacher recognition as part of the teacher evaluation system ensured that it did not become an additional responsibility beyond the already full workload. Regarding barriers, the most cited challenge was dealing with urgent administrative duties.

Conclusion. Overall, recognizing quality teaching and providing feedback were the highest-ranked practices in both ideal and real-world scenarios. The TPB (Theory of Planned Behavior)

components—attitudes, subjective norms, and perceived behavioral control factors—were consistently high in both contexts. These findings suggest that principals held high expectations for the positive outcomes of these practices and that they are supported by social norms. In addition, the absence of significant external barriers allows principals to engage in these practices as frequently as they desire.

Unlike encouraging teachers to see old problems in new ways, where principals lacked clear expectations and facilitators, engaging in recognizing quality teaching was feasible because personal motivation alone was not the only driving factor; external facilitators and social expectations played a role in ensuring its implementation in real-world settings.

RQ2. What are principals' attitudes, subjective norms, and perceived behavioral controls regarding GMA practices?

Finding 3: Principals demonstrated strong attitudes, weak perceived norms, and mixed perceived behavioral controls for practices in Quadrant 2.

Only one leadership practice *supporting struggling teachers* is included in this quadrant. This quadrant is characterized by a low intent to engage in practice, yet it is ranked highly in the real world. The main reason for ranking it low in the ideal world was that principals did not expect to engage in this practice in an ideal world. Ideally, all teachers would be highly skilled professionals, eliminating the need for principals to provide support, as teachers would not struggle. However, in reality, many principals placed this practice high on their priority list because they often had teachers who needed support. Below, I present TPB components associated with this leadership practice.

Table 8

TPB beliefs associated with supporting struggling teachers

Belief type	Themes
Behavioral beliefs	Builds better sense of community
	Help retain teachers
Normative beliefs	Prior principal's support
Control beliefs	**Facilitators**
	Human resources
	Realizing that this practice under principal control
	Barriers
	Teacher resistance
	Capacity

Behavioral Beliefs: Instrumental.

Builds Better Sense of Community. Principal James put this leadership practices as the number one practice, meaning that he would engage in it the most frequently in an ideal world. Principal James shared several reasons why he prioritized supporting struggling teachers in his school. The primary reason was that supporting teachers helped build a stronger sense of community. He explained: "I've seen it build a better sense of community. I've seen it build a better sense of support, you know, for, for the teachers, um, you know, builds colleagues, um, like how I talked about" (Principal James). Principal James further elaborated that supporting teachers also benefited students and families, aligning with his vision of effective leadership. He stated, "Uh, I'm here to help my teachers and in turn, help my families and students" (Principal James). These reflections show that supporting struggling teachers can helped principals build a stronger sense of community in their schools.

Helps Retain Teachers. Another reason Principal James prioritized this leadership practice was his desire to retain teachers. He noted:

> Because there's another reason why I want to help these struggling teachers. Right? It's because I want to keep them. You know, I don't—I don't want them to be dissatisfied with the position. I don't want them to be dissatisfied, you know, thinking that, oh, it'll be easier somewhere else.

Principal James likely held this leadership practice as a top priority because retaining teachers in rural areas was a persistent challenge. By offering support, he aimed to help teachers feel comfortable and valued in his school so they would be less likely to leave.

Normative Beliefs: Descriptive.

Prior Principal's Support. When Principal Mark was a teacher, his former principal served as a role model for supporting struggling teachers. Principal Mark shared that in the time of previous challenges in teaching, their former principal was supportive of him: "He could just see that I was struggling. Um, thank God he could see somebody good inside of me, because how I was with my students wasn't what they needed me to be at that time." This prior experience motivated Principal Mark to engage in supporting their teachers in the current school.

Control Beliefs: Facilitators.

Human Resources. Principals utilized available human resources in their schools to support struggling teachers. One approach was encouraging frequent peer-to-peer observations, allowing struggling teachers to learn and improve their teaching skills. When a core (expert) teacher was in the classroom of a "mentee" teacher, a substitute was needed to cover the core teacher's

class. For Principal James, this was not a challenge, as sufficient personnel were available to make this possible. He shared:

> You know, at first, I thought I'm like, well, okay, so if this teacher is over here observing who's, you know, what's going on with. With those students, you know. But but we have enough support staff. And I'm not talking about, you know, observing and watching for a day. I'm saying, you know, go watch someone for a half an hour. Mhm. Um, I mean, I have, I have the personnel to be able to, to, to physically do it to make sure kids uh, you know, are, are, are being engaged in teaching and learning is happening. So I have the physical manpower to be able to do it.

Other principal was able to create a team of support for every teacher who experienced struggles in teaching. Principal Linda shared:

> So that particular, uh, uh, so that was an individual plan for that individual teacher. I, uh, and then, you know, different teachers struggle with different things, and so we create a team of support around what those concerns or issues are.

There were also teacher coaches from ISD to come to school and support teachers. But this was not consistent. Principal James shared:

> ISD are extremely supportive… Friday. So uh, guess when a lot of people at the ISD go to conferences and oh it's on a Friday. So it's not, it's not consistent, you know. And I get it, you know, there's other places and other things and I understand that I, I so if they're here. Yep. Sure. Let's try to do this. Um but I can't rely on it. So really they're not a part of my plan.

These reflections show that the principals utilized support from other staff members to assist struggling teachers. Additional human resources contributed through peer observations or by serving in mentor-mentee roles.

Under Control. Realizing that this is something under control of the principal made it easier to put effort on that practice. Principal James shared:

> So that's why I say I want to control what I can control. Um. I know what's happening here in this building. Um, I want to be able to give these teachers opportunities to watch each other and learn from each other.

This reflection shows that recognizing the practice as within the principal's control can encourage engagement in supporting struggling teachers.

Control Beliefs: Barriers.

Teacher Resistance. The only barrier to supporting struggling teachers was teacher resistance. Elements of this resistance included the perception of the principal as a boss, teacher anxiety, and an unwillingness to learn. The principal was often viewed as an all-knowing leader, which hindered genuine interaction between teachers and the principal—interactions that are often essential for meaningful learning. One principal acknowledged, "I still have that, that's my boss kind

of aura that I'm trying to break down" (Principal James). Additionally, some teachers were resistant to change and hesitant to accept support from their principal. Principal James shared:

> Um, now, to me, what the what the barrier is, um, is I still don't have that capacity of staff, you know, being, um. Having that confidence or relationship or vulnerability or just that growth mindset of saying, yep, I want someone to come in and watch and see what I'm doing so they can learn, and maybe I can also learn from them.

Teachers were also anxious to engage in peer-to-peer conversations. Principal James further elaborated:

> … here's some of that kind of old school mentality of, oh, you know, uh, but then there's just the, the peer to peer, um, anxieties in peer to peer of, you know, well, why do I have to go see, you know, there's that adult anxieties that are getting in the way of us learning how to do something differently or better. Or maybe you don't learn anything, but maybe you're going to watch and someone watching you help support that person, right?

Overall, these reflections show that teachers' resistance to accepting support can act as a barrier for principals trying to offer help to struggling teachers.

Capacity. Interestingly, there were no significant factors on the capacity side that hindered support for struggling teachers. One mention referred to a lack of prior experience, but the principal did not view this as a barrier. In fact, it acted as a motivator to leverage teacher-to-teacher relationships for professional growth. Principal James explained, "But like I told you, I was a P.E. teacher. I was a health teacher. I mean, I know teaching; I don't specifically know how to teach third grade, you know, in a self-contained classroom." Principal James acknowledges his lack of expertise in the subject area; however, he was able to use other teachers' expertise to provide support for those who needed it.

Overall, all three GMA practices discussed in this section were associated with positive attitudes, perceived social norms, and perceived behavioral control, which together contributed positively to the formation of intentions and engagement in the related practices. While there were a small number of PBC-related barriers, their influence was not strong enough to prevent principals from engaging in these GMA practices, particularly in the presence of strong attitudes, supportive norms, and facilitating conditions.

Interpretations

Behavioral Beliefs. The principals reported that they engaged in supporting struggling frequently. Principals noted that providing this support helped build teacher confidence, which they viewed as a valuable outcome. Principals believed that increased teacher confidence enhanced

teacher instruction. Because principals valued these outcomes, they regarded supporting struggling teachers as a favorable and worthwhile practice.

Normative Beliefs. Few references were made to social norms surrounding this practice. Most principals did not report strong normative expectations related to supporting struggling teachers. Only one principal mentioned that a former mentor had modeled this behavior, suggesting that normative influences may come from mentors rather than immediate colleagues. This implies that principals help shape future leadership by modeling supportive practices, and that social norms may originate from prior experiences or influential role models. These delayed influences can be seen as lagged expectations—social norms that persist from earlier mentorship.

Control Beliefs. Supporting struggling teachers required additional resources, such as an instructional coach from the ISD (as mentioned by Principal James) or sufficient staff to provide classroom coverage (as noted by Principal Linda). While positive attitudes were important, they were not sufficient on their own; practical implementation of this practice depended on having adequate human resources from the central office. When such resources were available, principals were more likely to engage in this practice.

This interpretation aligns with the Theory of Planned Behavior, which posits that control factors moderate the influence of attitudes and norms. In this case, principals exhibited strong positive attitudes, largely neutral norms, and favorable control conditions. Together, these components supported the formation of strong intentions and enabled principals to act on those intentions by supporting struggling teachers.

RQ2. What are principals' attitudes, subjective norms, and perceived behavioral controls toward GMA practices?

Finding 4. Principals demonstrated low attitudes, weak norms and low controls for practices in Quadrant 3.

This quadrant included two practices: (1) engaging in extra budgeting activities, and (2) implementing feedback from others into one's own practice. First, I discuss common attitudes, subjective norms, and perceived behavioral control factors to the budgeting practice.

Table 9

TPB beliefs associated with Engaging in extra budgeting activities

Belief type	Themes
Behavioral beliefs	Money buys people
Normative beliefs	Other successful principals
	Community
Control beliefs	**Facilitators**

Table 9 (Cont'd)

TPB beliefs associated with engaging in extra budgeting activities

	Human resources
	Experience
	Barriers
	Different control
	Lack of training

On average, this practice was the least frequently engaged practice. The principals cited the regulations that govern money as the reason for engaging in the least. Often, the district allocates and makes decisions regarding school finances. However, some principals who ranked this as the least frequently engaged practice wished they could engage more often in the real world. The common reason for their intention was the potential for extra funds to help resolve some school issues by hiring more staff.

Behavioral Beliefs: **Instrumental.**

Money Buys People. For example, Principal Phillip finds that extra finances could allow him to hire more mental health specialists for students who need it. In Principal Phillip's words: "If we had financial resources to pay, um, either additional people or outside people. So, for example, um, students that need mental health supports, right? We can't provide that service to as many people that likely need it." Additional finances could allow schools to prevent many issues. "So, um, you know, money, you can't throw money at a problem, but money buys people, and I can throw people at a problem and be proactive" (Principal Phillip). These reflections show that engaging in extra budgeting has the potential to hire specialist that could help students.

Normative Beliefs: Descriptive.

Other Principals. Principal Scott would engage in this practice because they observed this from colleagues who had accomplished and revered leaders in that area. Principal Scott shared, "So, it's kind of nice when I hear from people that are really accomplished and they're doing it and they're saying this is a good practice." This reflection shows that colleagues can serve as a source of subjective norms that encourage engagement in extra budgeting activities.

Normative Beliefs: Injunctive.

Community. The school community where Principal David worked expected the principal to engage in budgeting. He shared:

Um, so the reality is there's there's a lot of expectations that go with how we're going to

> support everyone. So, by not responding, you would probably be putting yourself in a precarious situation by not at least seeking those resources because the stakeholders you're dealing with, whether it be teachers or families, have a have a set expectation from you that you're going to be their biggest advocate for support. And when you don't show that support, you're putting yourself leadership wise in a, in a, in a difficult spot, because if you're not at least showing that good faith of you're trying to help out, then then you're going to lose some of that, I guess, social capital or whatever you've had built up with those, with those people, uh, it's going to be tough to maintain.

Why would principals not engage in this practice? Many principals did not see value in this practice even in an ideal world. According to Principal Mark, money was not needed for good teaching:

> I never spent money as a teacher. I didn't need those resources. I just loved to be creative and find ways to connect with my kids. So, um, so I don't know, that's that's part of my personal history that makes me put resources, financial resources always at the bottom of this list.

Using monetary incentives might in fact harm the leadership. It might devalue the feedback that principals provide verbally. "In fact, I think in some ways if I were to use those financial resources to incentivize, I think it would, it would cheapen the, the quality of feedback that I'm providing" (Principal Mark). In this way, some principals might intentionally choose not to seek extra funding to incentivize teachers, as they believe monetary incentives could diminish the value of verbal feedback from principals.

Control Belief: Facilitators.

Human Resources. Various types of human resources were important for school principals to effectively engage in budgeting practices. For some principals, this support came from a skilled secretary. One principal noted, "My secretary helps me a lot with the financial, day-to-day stuff and those kinds of things" (Principal John). The presence of sufficient staff to address certain issues in the school freed up the principal's time. Once the system was established the principal was able to engage in budgeting activities. Principal Steven shared:

> Um, that was something that kind of looking at this list, number six could be high up too, because I've been trying to leverage our district. And like, now we've got a solid system, we've got enough people to respond to certain things. And we have like a structure that's working. So, I've been working with our HR department to say, like, we we've got some things somewhat figured out. I need some help, um, financially to do that.

These reflections show that human resources, such as a secretary or staff members who can support the principal with other school matters, can significantly facilitate school principals' engagement in budgeting practices.

Experience. Budgeting is an area in which principals typically receive little formal training. For one principal, a significant asset was the experience they gained in learning how to request and utilize funds effectively. This practical experience compensated for the lack of formal preparation. Principal David shared:

> So, I've become much more adept at, you know, communicating what the need is, having the important data and information to support the request, and then also being able to kind of being able to share that information with stakeholders, uh, back at the building level of why something did or did not happen.

These reflections show that prior experience in budgeting activities can support principals in their subsequent efforts to seek additional funding.

Control Beliefs: Barriers.

Level of Control. For principals to engage or even consider this practice it needs to be under their control: "Resources, financial resources available to the school a lot of that is, is in my control" (Principal Mark). In many cases, however, this practice was out of principals' control. Engaging in budgeting behavior depended on the level of control over it. In some cases, principals had little control over finance. In other cases, they had a lot of control over budgeting activities. This level of autonomy often predicted the extent to which principals would engage in them or not.

The primary barrier that prevented principals from engaging in budgeting practices was the lack of autonomy; budgeting was largely outside their sphere of control. In many cases, budgeting decisions were managed by the district rather than at the school level. As one principal explained, "I think that's more of a macro kind of thing. I don't have the ability to look that broad—I need to be more focused on the now" (Principal James). Principal John also shared:

> Um, I feel like in a way, we are funded pretty good, so I don't I don't worry about it too much. So, it's not like a thing that's a priority on my list, because I feel like in a way, I don't have total control over it.

These sentiments show that school principals often do not have control over budgeting practices in their school. Therefore, they decide to allocate their time to things that are under their control.

Lack of Budgeting Training. Lack of training created barriers to engage in budgeting activities. Principal Greg shared:

> I think it's not uncommon for a school principal to be afraid of making mistakes with public dollars, and as a result, will often be hands off with public dollars, which just ends up not using public dollars. Um, for the kids in the building.

For many other school principals just the idea of working with public dollars is associated with a lot of anxiety. Principal Greg further shared:

> I had any real training. I mean, I remember a couple classes in grad school about being efficient with public dollars at Midwestern [anonymized] State, um, and learning about inefficiencies, common inefficiencies. Um, but then once I just realized how inefficient we were, it was about me just seeking guidance and input and things like that.

These reflections show that it is often possible for school principals to actively engage in budgeting activities. However, a lack of training in budgeting can create obstacles that may discourage them from participating in such activities.

Overall, *Engaging in attracting more financial resources for the school* was the lowest-ranked practice, primarily due to weak attitudes, weak subjective norms, and, most significantly, limited perceived control. Together, these components of the Theory of Planned Behavior (TPB) help explain why school principals did not frequently engage in this practice.

Interpretations.

Behavioral Beliefs. On average, principals demonstrated a low prioritization of budgeting-related tasks. Although some acknowledged that additional funds could enhance schooling—such as by hiring extra staff or offering more student activities—most did not express a strong personal interest in engaging in budgeting. Additionally, there appeared to be limited external expectations or pressure for principals to take on budgeting responsibilities.

Control Beliefs. Many principals identified external constraints—particularly a lack of autonomy—as a major barrier to engaging in budgeting practices. Rather than lacking the capacity, they felt restricted by district-level control over budgetary decisions. This perceived lack of control emerged as the primary factor inhibiting their involvement in budgeting.

Because principals believed they had limited agency in this area, most ranked budgeting as a low priority in their day-to-day leadership responsibilities. Notably, this practice also received the lowest ranking in a hypothetical "ideal world" scenario—one in which external constraints were removed. This suggests that the issue extends beyond structural barriers.

Two possible explanations emerge: First, limited autonomy and past experiences may have fostered entrenched negative attitudes toward budgeting. Second, principals may hold low expectations regarding the potential impact of their engagement in budgeting. The following example illustrates this perspective. Principal Mark explained:

> I never spent money as a teacher. I didn't need those resources. I just loved to be creative and find ways to connect with my kids. So, I don't know, maybe that's part of my personal history—that I always put financial resources at the bottom of the list.

Principal Mark further reflected on how using financial incentives might undermine the authenticity of other leadership practices: "In fact, I think in some ways, if I were to use those financial resources to incentivize, it would cheapen the quality of feedback that I'm providing." Taken together, the TPB components—attitudes, perceived norms, and perceived behavioral control—help explain why budgeting consistently ranked lowest among all the leadership practices examined.

Findings suggest two primary barriers to principals' engagement in budgeting practices: limited control and unfavorable attitudes. In terms of control, the most significant obstacle is the lack of autonomy. Interestingly, a study conducted in Australia found that school principals with growth mindsets engaged in budgeting practices more frequently than those with fixed mindsets (Abernethy et al., 2021). While this association may hold in the Australian context, the situation in the United States is different. U.S. principals generally have less autonomy in financial decision-making, as budgeting responsibilities are traditionally centralized within district offices. Therefore, even school principals with growth mindsets in the U.S. are unlikely to engage frequently in budgeting activities due to systemic constraints on their decision-making authority.

Regarding attitudes, principals often held low expectations about the effectiveness or impact of engaging in budgeting. In TPB, expected outcomes are a central component of attitudes. In this case, principals anticipated limited benefits from engaging in budgeting tasks, which made them less likely to prioritize these efforts. Given the competing demands and time constraints they face, principals tend to focus on practices where they have more direct influence and can achieve more immediate results. This helps explain why budgeting was the least frequently enacted leadership practice and why principals reported low intentions to engage in it moving forward.

Implementing Feedback into One's Own Practice

The second practice in Quadrant 3 *is implementing feedback from others into one's own practice.* This practice did not receive extensive explanation in the data, as it consistently ranked as the second least frequently engaged practice—just above budgeting. The discussion that follows is based on responses from only two principals. Although limited, their perspectives may still offer insight into broader trends or general attitudes toward the implementation of feedback.

The principals did not identify it as a frequent leadership behavior in real-world settings. It was consistently ranked among the least practiced leadership activities. In one instance, it was ranked sixth. Because Principal Brian ranked it as the least frequently engaged practice, his comments provided valuable insights into the behavioral beliefs that may underlie this ranking.

Table 10

TPB beliefs associated with Implementing feedback from others into own practice.

Belief type	Themes
Behavioral beliefs	Helps to be self-reflective
	Uncomfortable
Normative beliefs	Nobody would engage in this practice
	No expectations
Control beliefs	Time
	Emotions

Behavioral Beliefs: Instrumental.

Helps to be Self-reflective. One positive outcome has been that it helped Principal Brian to be self-reflective. In his own words, implementing feedback from others "has helped me be more self-reflective" (Principal Brian). Principal Brian's reflection shows that the practice of implementing feedback into practice can help school principals to be self-reflective.

Behavioral Beliefs: Experiential.

Uncomfortable. The emotions associated with this practice were negative, however. This is the practice that did not give joy to Principal David: "That's probably my least enjoyable part of my job is taking other people's feedback" (Principal David). His sentiment shows that receiving external feedback for self-improvement can often be unpleasant.

Subjective Norms: Descriptive. There were no others among significant others who would engage in implementing feedback into own practice.

Subjective Norms: Injunctive. Teachers did not expect principals to engage in this practice as well. In fact, there was an opposite expectation. Working with feedback often entails taking a stance of being vulnerable. However, Principal David perceived that school does not expect the strong principal to be vulnerable. In his words:

> And that can be really tough as a leader to to know that you have faults or that you have areas you need to improve on while you're still trying to be a strong, you know, presence, uh, in that school setting.

His sentiment suggests that others may not expect principals to implement feedback, as this implies a lack of strength in a school leader—an idea that often conflicts with the perception of a strong leader.

This practice was not mentioned very often; therefore, I did not have many descriptions around controls associated with this practice. In addition, there were no facilitators shared. Only barriers by one principal. This principal placed this practice as the last one in real life, however, they wanted to engage in much more often in an ideal world with no constraints. The constraints that they experiences were related to emotional aspect of implementing others feedback into own practice.

Control Beliefs: Barriers.

Time. Principal Deb acknowledged that she was a type of person that was open to change and new ideas, including implementing feedback from others into her own practice. However, it was not a frequent practice. Principal Deb might engage in that during the summer, because summers are good time for reflection. "I'm open to other ideas. But again, I don't know if it's a frequently thing because, change like…Over the summer, that's my reflection time of when I might want to try a bigger adaption of something in my" (Principal Deb). Her sentiment shows that principals can be open to implementing feedback from others; however, the timing of this practice is important. For example, they may work on feedback during breaks or the summer, but not during the school year.

Emotions. To Principal David, being a leader meant being a strong person. However, implementing feedback form others, meant accepting a stance that you might not be strong. It required to be vulnerable and admit that they might need to learn and grow. As a principal it was often hard to do. Principal David shared:

> And I think that in leadership that is so tough is the willingness to take strong, or maybe not. So, to take negative feedback and try to help it help you, help you grow as a leader. That's very difficult.

He further elaborated:

> I think a lot of the barriers will hinge on almost that vulnerability. Are you willing to be vulnerable with other people and let them know that, hey, maybe you are right, maybe this is an area I need to improve on.

Principal David's sentiment shows that, for school leaders, implementing feedback from others can be emotionally taxing and sometimes feel contradictory to their role. This can serve as a barrier to engaging in the practice.

Overall, despite some positive outcomes associated with this practice, there were no social pressure to engage in implementing feedback into own practices. In addition, there were a few barriers that prevented positive attitudes to form into actionable intention. Together, this

combination of TPB components explain why this practice was ranked low among school principals. It was not a pleasant practice to engage in, despite the possible positive outcomes.

Interpretations.

Behavioral Beliefs. The emotional aspect appears to be the most challenging component of this practice. Receiving and implementing feedback was often perceived as unpleasant and uncomfortable and was commonly associated with negative emotions. These negative emotions acted as barriers related to capacity. Although there was one account of a potential positive outcome—such as becoming more self-reflective—the emotional cost of this practice outweighed its potential benefits.

From the perspective of the Theory of Planned Behavior (TPB), a single factor is unlikely to lead to the desired practice. Instead, an accumulation of facilitating positive factors must be in place for individuals to engage in a practice. However, when it comes to implementing feedback in one's own practice, the number of negative emotional outcomes (e.g., discomfort, self-doubt) outweighs the potential practical benefits (e.g., increased self-reflection). Indeed, Immordino-Yang (2015) argued that emotions serve as a critical part in human decisions, shaping and sometimes redirecting our actions. Similarly, school principals may be inclined to avoid implementing feedback due to the strong emotional associations attached to it.

Normative Beliefs. Teachers often viewed their principals as strong leaders who had answers to many questions. Implementing feedback might signal to others that they were not as strong or that they have areas of weakness to address. Being open to feedback and working to implement it could therefore conflict with the school community's expectations of the principal's role.

One of the core responsibilities of leadership is establishing credibility with teachers and the wider community. Teachers often need to see a strong leader in their principal to feel confident in following their direction. Aware of this, principals strive to cultivate and maintain an image of strength. However, vulnerability is often perceived as a weakness rather than a sign of growth. In this sense, principals may face a dilemma between maintaining the appearance of an all-knowing leader and embracing a learning-oriented mindset.

When principals are uncertain about a course of action, the prevailing social norm—where school leaders are not expected to display "weakness"—works against their willingness to implement feedback. As a result, school principals often lack the necessary support and enabling conditions to fully engage in implementing feedback from others.

Control Beliefs. Implementing feedback practices involves self-reflection, which requires both time and a conducive environment. However, the typical work conditions of school principals are not favorable for self-reflection. Principals often operate in an environment where they are constantly addressing urgent issues, making it difficult to engage in implementing feedback. Additionally, implementing feedback is time-consuming and may lead to changes during action, making the timing of this practice critical. Principals often prefer to maintain the status quo rather than disrupt the school plan.

Those who shared their perspectives noted that they engaged in implementing feedback not during the school year but rather during vacation periods. While this practice was infrequent throughout the school year, it appeared to be more suitable during periods such as summer breaks, when the environment was more conducive to self-reflection and professional development.

RQ2. What are principals' attitudes, subjective norms, and perceived behavioral controls toward GMA practices?

Finding 5. Principals demonstrated strong attitudes, moderate subjective norms, but weak perceived behavioral controls for Quadrant 4 practice.

Encouraging teachers to see old problems in new ways received a very high ranking in the ideal world, despite being ranked low in the real world. This practice provides interesting insights into leadership prioritization. Findings suggest that principals highly value this practice and believe it has many potential positive outcomes. However, in reality, they struggled to engage in this practice for several reasons, all of which can be explained by the Theory of Planned Behavior (TPB) components.

Table 11

Encouraging teachers to see old problems in new ways

Belief type	Themes
Behavioral beliefs	Reframes old mindsets (e.g. referrals, student performance)
	Systematic perspective
	Staff improvement
	Brings negative emotions
Normative beliefs	Mentor
	Professional organization
	Superintendent
Control beliefs	**Facilitator**
	Strategy
	Barriers

Table 11 (Cont'd)

Encouraging teachers to see old problems in new ways

Teacher resistance
Lack of resources
School context
Time and timing
Vulnerability

Behavioral Beliefs: Instrumental. The attitude toward this practice was generally weak. Expected outcomes associated with encouraging teachers to see old problems in new ways were positive. Principals expected that when teachers were encouraged to see old problems in new ways, they would become better teachers, and it would allow them to reorganize the school system to better serve students. However, there were many negative emotions associated with this practice. There were also low expectations of success from this practice. Overall, combined, these components resulted in weak attitude toward this practice, which in turn resulted in infrequent engagement in this practice.

Reframes Old Mindsets. A common instrumental belief was that encouraging teachers to see old problems in new ways would help resolve many daily issues in the school. The principals saw many academic and behavioral issues with kids were rooted in the way teachers' mindsets: "Because if we don't [change], then that way of that old way of thinking is definitely going to play out in our actions" (Principal Brian). He further elaborated:

> I also see teachers not putting the burden solely on the students' performance but also being self-reflective and thinking of ways that they can become stronger and better to reach the variety of students they have in the classroom.

This is how encouraging teachers to see old problems in new ways may change teachers' attitudes toward students' potentials and ultimately improve their learning.

Systematic Perspective. The second common theme was addressing the education system that was not built effectively. Principal Kevin perceived that for schools to operate effectively, educators needed to reconsider old problems in new ways. He shared:

> I think one of the biggest challenges we have in education is that, um, we want to do education for the most part, in the same way that we've done for the for 60 years. Right. Um, we take kids, we put them into classrooms, we give them some content knowledge, and then we tell them to go to another room and get some more content knowledge.

These reflections exemplify how principals perceive the need for systematic change in an education system that no longer meets students' needs.

Staff Improvement. The other instrumental belief was that it helps staff improve, which is aligned with growth mindset theories: "And then that just helps you grow as a person. Like, oh, well, now I could do this" (Principal Brian). Principal Brian shared that he believes staff can learn and grow by approaching old problems from new perspectives.

Behavioral Beliefs: Experiential.

Negative Emotions. Experiential beliefs refer to the negative emotions principals experience as a result of engaging in a practice. Principals did not talk about emotions associated with this practice a lot. Only one principal shared that they would feel uncomfortable, because they valued relationship a lot, and reframing the old problems posed threats to the relationship they had with teachers. Principal Brian shared:

> Um, and sometimes, you know, because of who I am, what's ingrained in me about relationships and stuff like that. Sometimes it may feel a little uncomfortable if you have to step out and pose something different from what the teacher is thinking about, you know?

The Principal Brian shared that this practice might undermine the good relationships with the staff.

Instrumental Belief Strength.

Low Likelihood of Success. Instrumental belief strength refers to the perceived likelihood of observing an outcome because of engaging in a practice. In the case of reframing old problems, the Instrumental belief strength was often weak. In many cases, principals shared low expectations of success happening. They often described that teachers would not change their old views. For example, Principal Linda shared:

> Um, some of my teachers have more of a, a, like just a continuous improvement mindset, a growth mindset, and so that's easier. Um, but some of my teachers are more rigid and they're thinking, and it's really hard to reframe things for 'em.

Principal David shared:

> And sometimes, uh, there's teachers who choose a path of least resistance and don't want to... really don't want to have to change their adult ways. They'd prefer the students adjust themselves to fit what the adult needs. Uh, and that's not that's not always. It's not always the best thing.

These reflections show that there is always a group of teachers who are unwilling to change and prefer to adhere to the status quo. Principals do not expect these teachers to change, even when they encourage staff to view old problems in new ways.

Normative Beliefs: Descriptive.

Mentor. For Principal Greg there were two sources of external social pressure to engage in the practice of encouraging teachers to see old problems in new ways. The one was his mentor, and the other was a professional organization that he was a member of. This practice was the norm both for the mentor and the organization. He shared:

> Um, I have a supervisor right now who, um, is constantly challenging. I mean, she, to her credit and to her crazy. Maybe, um, is, uh, she lives in that space as her top priority 1,000% of the time. And we're not in an ideal world. And she still does it. Um, I think it exhausts most people. Um. But I, I, I am always intrigued in those conversations and those brainstorming and those problem solving sessions with her. Um, and in terms of seeing schools differently. Um, and truly modernizing schools. Uh, I think she's probably the number one person in my world that, um, has opened my eyes to the potential.

This sentiment shows that his supervisor was a proactive change leader who consistently encouraged challenging the status quo and looked for ways to improve student learning. Her motivation extended beyond her own leadership and influenced her mentees, such as Principal Greg.

Professional Organization. Seeing a lot of people engage in critical conversations was a source of external social norm for Principal Greg: "A lot of people, um, I find great joy in participating with APPLE (Pseudonym). Um, and all that membership brings to me are a lot of different, a lot of different thoughts and mindsets" (Principal Greg). These reflections show that professional organizations for school principals can serve as spaces where principals perceive it as the norm to engage in the practice of revisiting old problems.

Normative Beliefs: Injunctive.

Superintendent. For Principal Brian their supervisor was a source of social norm as they were constantly challenging the principal's thinking:

> They, um, we hired a, um, a director of equity and inclusion, um, for our district that works with administrators, that works with teachers. Um, and, ah, I, you know, our, our superintendent has basically explained that that's her vision is to make sure that we are engaging in those things.

This sentiment shows that a superintendent can signal that challenging the status quo is a norm by hiring staff specifically dedicated to that purpose, such as a director of equity and inclusion.

Control Beliefs: Facilitators.

Encouraging teachers to see old problems in new ways was the practice that many principals wanted to engage in frequently; however, they were not able to do so. This practice was associated with several barriers related to both autonomy and capacity factors. There was only one mention of a facilitator.

Strategy. The only thing that helped one principal in this practice was knowing a specific strategy. Principal Kevin was approaching the change strategically. Principal Kevin acknowledged that change was difficult. Therefore, he enacted change gradually, by first spreading "a sprinkle, then pouring". The "flooding" strategy would take place only at the last stage of change. Principal Kevin shared, "…if we [administrators] try to flood it right away, we will be met with resistance and roadblock" (Principal Kevin). This reflection shows that approaching change through a strategy of gradual introduction can help encourage teachers to see old problems in new ways and ensure that change takes place.

Control Beliefs: Barriers.

Teacher Resistance. Change has been always challenging to do. Many principals shared that there was a group of teachers that would never engage in reframing old problems. Principal Linda shared:

> Um, some of my teachers have more of a, a, like just a continuous improvement mindset, a growth mindset, and so that's easier. Um, but some of my teachers are more rigid and they're thinking, and it's really hard to reframe things for 'em.

One principal delved into the complexity of change. This is something that cannot be done to teachers externally. Teachers need to have a buy in, which is not easily achieved in practice: "Change is something that you have to choose to do. Uh, change is not just something that can be done to you" (Principal David). Principal Greg did not engage in this often because he felt teachers were not ready for these types of conversations: "I think unfortunately you have to meet people where they're at" (Principal Greg). These reflections show that principals often face teacher resistance when they attempt to encourage seeing old problems in new ways. This resistance makes it difficult for principals to engage in the practice regularly.

Lack Resources. When implementing this practice, sometimes there is a need for human resources. Principal David shared:

> Another piece would be, do you have the resources to do it? You know, you might have a great idea, but if you don't have either the human or the physical resources to do it, it's not going to go or it's not going to be. It's not going to have the same impact that it could.

This sentiment shows that encouraging teachers to see old problems in new ways can be a challenging task that may require additional human or physical resources. In their absence, it would be very difficult to achieve.

School Context. For change to take place, there was a need to engage in interaction with other teachers. In rural contexts, when individuals are separated and have little opportunity to

interact with others, it is more challenging to engage in reframing the problems. For example, Principal David shared:

> More or less like, uh, the structure of your building. Yeah. How was your building set up? Do people have access to certain things? Um, based on where the geography is of where your school is, you know, we try to do it, like, agriculturally based, and you're in a school that's tough. You know, people aren't going to be able to connect to that. Uh, so I think your geography can play as well.

This sentiment shows that the makeup of the school community may influence teachers' eagerness to engage in seeing problems in new ways. For example, in an agricultural community, families tend to be more isolated and slower to embrace changes.

Time and Timing. Encouraging teachers to see old problems in new ways requires time and proper timing. And time is often not available for teachers in their daily routines during a school year. For example, Principal Brian shared:

> Um, you know, teacher only gets one little block of time free away from the children, and they have to use the bathroom. They may need to make a phone call, things like that. So. And I don't, you know, if I go in and try to talk to them about certain things, I try to allow them to have their time to make copies or do whatever. So time is always a natural constraint. Yeah. Yeah. So but I do think that's important to look at. And I'm trying to think of examples of when I do do this, like maybe during like our data discussion meetings that we have scheduled.

Not only time but timing of encouraging to see old problems in new ways can be challenging. For example, one principal shared that the best time for the staff to engage in reframing old problems is summertime when teachers are on vacation. The school routine works like a factory which does not allow for staff to stop and think. If they do stop to reflect some of the daily routines might suffer according to this principal. For example, Principal Deb shared:

> So it's when, you know, with the calendar year of a school, we do a we're go, go go go. And so while like spring break right now, the teachers and myself, we left with some kind of thoughts like, okay, let's reflect over this week and come back with some ideas. Um, but when you're in it and you don't have those breaks, it's hard to maybe. Um. Bring in a new idea or new change.

These reflections show that revisiting old problems is a complex task that requires reflection, and reflection often depends on having adequate time and timing. These examples indicate that during the school year, principals and teachers are less likely to engage in this practice, but during summer breaks, they are more eager to do so.

Vulnerability. Two principals shared barriers they experienced during engaging in this practice. All of their mentions were related to the challenging nature of encouraging teachers to see old problems in new ways. This practice was a challenging one, "because when you start looking at

those types of things, you you're asking people to reevaluate their beliefs, their values, their experiences and, and to try to approach things differently. That's hard to do" (Principal Brian). He further shared:

> So to to maybe take a different approach, to deal with a problem and to be okay with that, to be vulnerable, um, enough to step out of your way of solving the problem and trying and trusting someone else and trying a different approach.

These reflections show that this requires approaches that school principals may be unwilling to engage in, such as becoming vulnerable—something that is often difficult to do.

Interpretations.

Behavioral Beliefs. The high rankings in the real world primarily stemmed from strong attitudes. Principals identified numerous potential positive outcomes resulting from encouraging teachers to view old problems in new ways. They shared that many issues related to student discipline and academic performance were rooted in teachers' deeply held beliefs about students. Valencia (2019) refers to this as a deficit thinking—a mindset in which teachers focus on students' perceived shortcomings rather than their potential. Because of these limited perspectives, many teachers struggled to handle disciplinary cases effectively. Some teachers found it easier to refer students to the administrative office than to adjust their own behaviors and respond to students' needs.

On the academic side, principals noted that when teachers adopted an asset-based approach, they became significantly more responsive to student needs. The principals perceived that the root cause of many issues in schools was teachers' mindset. The principals had high expectations that changing teachers' mindsets by encouraging them to see old problems in new ways would address many educational challenges.

Additionally, some principals emphasized that educators' deep-seated beliefs must evolve to align better with modern educational demands. Transforming these beliefs could help reshape a system that was no longer suitable for providing quality learning experiences to today's children. Finally, principals highlighted that encouraging teachers to see old problems in new ways fosters opportunities for the staff to learn and grow.

Encouraging teachers to see old problems in new ways was ranked highly in the ideal world, indicating that principals had strong intentions to engage in this practice. However, reality did not allow them to do so as often as they intended to.

Attitudes toward this practice were consistently strong, with principals expecting many positive outcomes in the ideal world. However, past experiences produced negative attitudes,

especially when it came to encouraging "difficult" teachers to see old problems in new ways. Overall, principals expressed a strong willingness to engage in this practice and recognized its untapped potential in shaping teachers' perspectives and professional growth.

Normative Beliefs. For principals, two sources of norms encouraged engagement in this practice. First, role model of a supervisor. One principal mentioned that their superintendent was particularly committed to social justice and actively called for revisiting old practices, thereby encouraging district-wide staff members to reframe their perspectives. Another principal highlighted the importance of an organizational culture of change, where there was an implicit expectation that members would encourage teachers to see old problems in new ways.

However, social norms regarding this practice were mixed. In other words, there were few external expectations that the principals would engage in this practice. This suggests that social norms (from the central office and teachers) did not explicitly encourage a shift in perspectives on old problems. Indeed, seeing old problems in new ways was not a natural daily practice for educators, and it required change. However, change is a challenging process (e.g., Kegan & Lahey, 2001). Many prefer to stick to the status quo and avoid engaging in activities that challenge their prior perspectives.

Control Beliefs. The constraints were derived from real-world control factors. Some teachers were resistant to change, and there was always a group of teachers who reacted defensively to shifts in perspective. When discussing external factors, barriers were found to be prevalent. In addition, the timing of the school year was not conducive to engaging in changing perspectives. Schools operate on an intensive schedule, and taking time to reflect might cause more harm than good in terms of workflow and efficiency.

On an emotional level, encouraging teachers to see old problems in new ways was difficult because it could compromise the relational ties that principals valued more than the potential to change their perspectives. These factors also indicate low expectations from others (subjective norms). For example, the central office did not expect the principals to engage in this practice.

Overall, many positive attitudes were associated with encouraging teachers to see old problems in new ways. However, frequent external barriers prevented principals from engaging in this practice as often as they liked. Societal and cultural norms were generally not conducive to change. As Principal James shared: "We live in a culture of competition, and collaborating to learn is not usually welcomed in our area." Similarly, in a schooling context that prefers maintaining the status quo, it is highly unlikely that individuals will be encouraged to see old problems in new ways.

Inductive Findings

Inductive analysis is a type of analysis based on emerging codes and themes from the data itself rather than being informed by a theory (Huberman & Miles, 2002). Inductive coding is used to locate new meanings that were not previously described in a theory. This can be valuable in adding a nuanced perspective to a theory, especially when applying a theory from social psychology to educational leadership, which has not been done before. Inductive codes can offer new insights into how the Theory of Planned Behavior (TPB) can be used in the context of school leadership to explain school principals' decision-making reasons. Three questions guided my inductive analysis: What unexpected reasons emerge that TPB does not predict? What external influences shape principals' decisions that TPB does not explicitly include? What personal emotions or contextual realities complicate TPB's explanation? Below, I present a summary of findings for each question.

RQ3. What are the other factors that influence principals' intentions toward GMA practices?

Inductive Themes

Finding 6. Principals consider additional factors such as vision and values, internal motivation, dilemmas, and contexts.

Four themes emerged as reasons that TPB did not predict: vision and values, internal norms, dilemmas, and contexts. Each of these themes is similar to behavioral beliefs, normative beliefs, and control beliefs, respectively. However, values, internal norms, and contexts offer a more nuanced role. When discussing values, principals referenced their internal beliefs, leadership values, and long-term expected outcomes. In the area of internal norms, the focus was on internal motivation, contrasting with the external social norms of TPB. Principals often relied on their internal motivations as the primary source of intention formation. Dilemmas refer to occasions when a principal did not act in a predicted or planned manner. Emotions drove so hard that they often overruled the other beliefs. As for contexts, the principals viewed barriers as motivators to engage in leadership practices.

Vision. In some cases, principals did not have an expected outcome or norm associated with a behavior. They had a long-term vision of how things should unfold. Principal Michael had a strong sense of a collective good approach, demonstrating high empathy toward teachers. Therefore, recognizing teacher efforts resonated deeply and received the highest priority. This principal engaged in this practice because it aligned with their vision of what makes a good leader. Principal Michael:

> I'm not a big title person. Like I don't look at it like I'm principal. So I'm here and you're here. I look at it as I have a different role than you do, whether I'm the lead, but I have a different role than you do. But we're all working for the collective good of all, all key

stakeholders in the community, so.

Principal Greg had a long-term vision of how success should take place. Focusing on the long-term outcomes helps the principal to engage in challenging conversations with their teachers. Principal Greg:

> Um, but rather something that can help them achieve, um, more long-term success. And sometimes that comes with direct conversation, challenging conversations. Um, so it's not about pleasing people in the moment, but helping people to find joy in our work.

These reflections suggest that a preference for certain behaviors may be associated with the long-term outcomes of a leadership vision, rather than immediate results, as is often the case with instrumental beliefs. This implies that principals might choose leadership behaviors that do not necessarily yield immediate outcomes but instead reflect an alignment between their actions and their long-term vision. This approach somewhat intersects with the space of norms, though there is no clear external or subjective pressure—at least not explicitly.

Internal Norms. This theme emerged as principals did not rely heavily on external social norms. The principals consistently shared that they had autonomy over their priorities in their schools. Teachers were not strong sources of social pressure. Instead, principals frequently relied on their internal motivations. Additionally, principals developed systems within their schools so that those systems acted as sources of social pressure, encouraging both school principals and, at times, other leadership staff to engage in certain leadership practices. Below, I present two sub-themes that fall under this theme.

Internal Motivation (vs. External Pressure). Principal Linda visited classrooms often despite their superintends' expectations. Principal Linda did not have any social pressure regarding providing frequent feedback to teachers: "No, there's no like real expectation. Um, I mean, I think, like I said, when I first started, um, my superintendent made a comment. He's like, I can never get ahold of you 'cause you're never in your office" (Principal Linda). Principal Linda further elaborated that they had autonomy over their leadership choices:

> Um, no. I think there's not very much intentionality probably from our superintendent and our district on things, um, related to this. We have a lot of autonomy as building principals for how we're gonna recognize people and who we're gonna put in leadership roles. We're super intentional about who we put in leadership roles, and we'll have conversations to move people out if it's not a good fit. And I'm not sure every principal in my build in my district does that.

These reflections show that school principal might not experience external social pressure to engage in some leadership practices, as they have enough autonomy in their buildings as building

administrators.

Some school principals did not think about what others expected; rather, they were engaging in the practice out of an intrinsic feeling of obligation. They created these expectations themselves: "Um, so yeah, I think the expectation that is most heavily placed upon me by myself, um, and not necessarily other people" (Principal Phillip). Urgency pushed internal motivation to build teacher capacity. Principal James shared:

> Yeah. I wasn't pushed in in, in, like I said, maybe selfishly, it's from that panic of I need to keep these teachers. You know, I don't want to go through the hiring process, you know, but but that's what got me to a good spot. Maybe, maybe that was the initial, you know.

Principal Phillip did not need anyone to tell or show them what was important for their school: "I mean, I want to do a good job. I don't really need other people telling me that I need to do a good job. I already know that" (Principal Phillip). These reflections show that principals may not require external motivators to engage in certain practices, as they are likely to act based on intrinsic motivation.

Engineered Norms. In some cases, principals initiated schoolwide systems so that these systems function as expectations for the administrative staff to engage in frequent feedback to teachers. For example, Principal John shared:

> Um, engagement is one because that's part of our mission statement. You know, engage, educate and empower is our Brandywine kind of mission statement. So we thought, well, if engagement is an important thing, let's focus on that. So that's why we've kind of got buy in from teachers because they kind of helped us create these. And now we're kind of hold them accountable to those things by going into the classrooms.

The administrators created the mission statement with a focus on student engagement. In turn, this mission statement held everyone accountable, including the principal and assistant principals, ensuring they remained focused during classroom observations. These reflections show that, at times, principals may initiate norms at the school level by setting expectations—for example, around classroom observations—and then holding themselves and teachers accountable to those expectations.

Emotions and Dilemmas. This theme refers to instances when principals made decisions based on the instant emotions in the moment.

Instant Emotions. Emotional factors are usually accounted for in the experiential behavioral belief component of attitude. However, in some instances, their emotions might overtake rational, planned thinking and have a much greater impact on their actions. For example, Principal Michael observed a teacher making racist comments toward minoritized students to the extent that

students became emotionally hurt (cried). This prompted the principal to pursue punitive measures to prevent the teacher from engaging in that behavior again. Principal Michael shared:

> But we've had some things happen in my district this year as far as for comments that were made that were just so, just so blatantly disrespectful. And I would say it was clearly meant to hurt an individual that I couldn't have, that I couldn't have that empathic, coaching, considerate conversation with them.

Principal Michael might have acted differently if it had been a different situation. However, because there were students hurt emotionally, this principal's emotions took over their actions: "...because my emotions got the best of me, because I don't like to see people intentionally hurt kids. I can't, that, that doesn't work well for me. If you're intentionally hurting somebody, I can't deal with that" (Principal Michael). This example shows that, at times, emotions may override a typically rational response.

Dilemmas. Principal Brian had multiple beliefs regarding encouraging teachers to see old problems in new ways. On one hand, he was positive about the development of the staff; on the other hand, he expected this practice would negatively affect the relationship with teachers. It might be the case that a principal who does not value relationships might be willing to stretch the staff even more. But it is not clear what is best for staff development: having great relationships or stretching their thinking by inviting to reframe old problems. Principal Brian was experiencing ethical dilemmas (Kim, 2020). He valued relationships greatly. In fact, he felt relationships were a part of him: "Who I am, what's ingrained in me about relationships" (Principal Brian). In a similar vein, Principal Kevin had to balance between building relationships with teachers and accountability:

> So, uh, generally, um, I really try to try to build relationships the best that I can with our staff. I really will focus on, on a positive, healthy culture. Mhm. And, um, still making sure that we have expectations with accountability.

These reflections show that it is often difficult to find a balance between what is best for teachers and what is comfortable. This becomes especially complex when beneficial behaviors conflict with personal values, such as encouraging teachers to see old problems in new ways and maintaining relationships.

Context.

Geography. Rural schools are often located far from other schools. Due to the lack of opportunities for rural schools to learn from other schools, principals of remote schools prioritized building the capacity of teachers by leveraging the potential of teachers with greater expertise. They did this by organizing peer-to-peer observations. The distant location from other schools influenced

school principals to place greater value on building internal capacity among school staff. This factor does not align with attitudes or subjective norms. It might fall under external constraints as a barrier in perceived control. However, this external constraint acted as a positive "influencer" on the intention to support struggling teachers rather than as a moderator, as described in TPB (Ajzen, 2019). This direct impact role aligns more with the earlier version of the theory, namely the Reasoned Action Approach (Fishbein & Ajzen, 2010). Principal James shared:

> Well, uh, we don't have a lot of support here. Um, I don't know if you've looked at (school location) on a map. Uh, but I'm in the (remote area of the state). Uh, I'm actually in the Central time zone. …We're very rural. Um, we don't have a lot of opportunities, um, to.. connect with the latest and greatest or to grow, if you will.

However, being rural and distant helped the participating school principal realize that he had to rely on the existing teachers' capacity to support each other's growth. These reflections show that external constraints can sometimes act as facilitators of effective leadership practices.

Need. Need was another factor that directly influenced the intention to engage in a practice or not. This need was based on the context of the schools, sometimes socioeconomic, sometimes achievement, and sometimes both. In instances where a school was in a wealthy neighborhood, principals did not express a need to engage in extra fundraising. Although they might have had positive attitudes and norms because the school had enough funds, school principals did not engage in extra budgeting activities. Principal Michael shared:

> So, this one I ranked the lowest again because I'm in a very, very affluent school now. So financial resources are in abundance. There are no issues as far as finances. We have the funds now to do any and everything we need with the kids. We can send staff to any training that they need. Um, there are people in the community because it's so affluent that often stop by and just... if I reached out, I could reach out to any parent. They are doctor, so-and-so, they are lawyer, they are engineer, and say, hey, we're trying to do this for the kids, for a field trip. I want to lower the cost for our kids to go somewhere. And the next day someone's anonymously dropped off a $2,000 check.

However, in other case, when there was a need to hire more staff in the case of teacher shortages, the principal had to advocate for extra funds to be able to hire more staff. Principal David shared:

> Say the, the rationale for that is that's kind of, that's kind of what the school year has required of me. Um, we we we were, you know, pretty, in my opinion, we were understaffed to support the students we that were in the building. So I had to advocate for adding more, uh, personnel to support. That's what necessitated it was the basically the student population was, was, was pretty taxing on our staff. And we needed to add some folks. So that's where that came from.

These reflections show that school principals may frequently assess needs before engaging in practices such as attracting additional funding for their schools.

Feedback Type. The type of feedback can predict how principals would react to it when it comes to implementing the feedback into their own practice. Principals must always balance a set of emotions that come with receiving feedback. A principal might experience both positive and negative emotions about the feedback. It is a delicate equilibrium, where a small influence can shift the intention to engage or not engage in implementing the feedback into their practice. Principal David shared:

> Sometimes it's for a helpful positive, like they're just trying to help you grow. And sometimes people are just not happy with what you're doing or how you're doing it, and that's how they share it. So being able to kind of balance that emotion that comes with it, I think is really important. That's one area I just don't always have to try to do my best on, because I think anytime people get feedback that might not be positive, they get defensive with it and they don't use it to grow.

This sentiment shows that incorporating feedback from others into one's own practice is not a straightforward task, but rather a dynamic process with varying outcomes depending on the type of feedback a principal receives.

Barriers as Enablers. The principals viewed their barriers as influences on their ability to engage in leadership practices more frequently. For example, principals often recognized that they lacked the expertise to be effective instructional leaders. One principal had previously been a Physical Education (PE) teacher (Principal James), while another had been a high school teacher (Principal Brian). However, they were now expected to serve as instructional leaders for teachers across a wide range of subjects and school levels. In the case of the PE principal, he focused on leveraging teacher-to-teacher interactions to build teachers' internal capacity, recognizing that he lacked the necessary knowledge and skills to provide direct instructional support. In the case of the high school principal, she chose to pursue professional development in literacy to become a more resourceful leader for her teachers. These examples illustrate how perceived barriers within the perceived behavioral control component can act as positive influences, encouraging school principals to adopt research-based, effective leadership practices, such as implementing peer-to-peer feedback systems or attending professional development in literacy. Unlike a moderating factor in the Theory of Planned Behavior (TPB), these perceived barriers served as positive influences that shaped the intention to engage in a behavior. In this sense, principals viewed these limitations not as barriers but as motivators, which represents a new perspective. Principal Linda shared:

> Um, because knowing that I, I actually don't have all of the, um, expertise or knowledge.

> Um, so really just trying to find who needs to be at the table and then facilitating, um, decision making processes and protocols that, that take into account all the, all the different voices.

Principal Linda acknowledged she did not have all the expertise for instructional leadership. This might reinforce the utility of the growth mindset approach, seeing their own limitations as assets. Similarly, Principal Brian shared his proactive stance toward his lack of teaching experience at an elementary school level:

> …because I was a high school teacher and so being an elementary educator, you know, I had to learn a lot, but I had never actually taught elementary, so I had to do a lot of background learning. And this helps me understand reading from like, the bare basics of decoding words and blending and all of that, and how that all fits together to teach students how to read, which is something that I never was taught because I was at a higher level teaching.

These reflections show that school principals can perceive barriers as positive influences on their choices of effective leadership practices.

Finding 7. Feedback effects from past experiences influence current behavioral beliefs.

Principals oftentimes considered their prior experiences of outcomes because of engagement in leadership practices. In other words, past successes and failures influenced their intention formation. These influences were mostly on behavioral beliefs. Below, I demonstrate examples of how school principals describe their past experiences as reasons for their ranking patterns.

Table 12

Number of feedback mentions for GMA leadership practices (N of feedback mentions / total mentions)

GMA leadership practices	Instrumental belief	Instrumental belief strength	Experiential belief
Provide feedback based on my observations	7/51	5/8	4/5
Recognize quality teaching	8/17	3/4	5/6
Supporting struggling teachers	N/A	N/A	N/A
Encourage teachers to see old problems in new ways	0/8	3/5	2/2
Implementing feedback into own practice	2/3	N/A	3/3
Budgeting	2/8	N/A	N/A
Overall	19/87 (22%)	11/17 (65%)	14/17 (82%)

Feedback on Instrumental Beliefs. Outcomes from past experiences have influenced principals' current instrumental beliefs. Their prior experience of recognizing quality teaching guided their decision to engage in this practice.

Draws Staff Attention. Principal Greg observed that when he recognized quality teaching at least some of the teachers paid specific attention to that instructional practice: "It's very rare that especially if something really goes on public display, it's very rare that there's not at least one person who inquires, um, how to grow in that space" (Principal Greg). This sentiment shows that Principal Greg's past observation of success has being fueling his intention to engage in recognizing quality teaching.

Improved Staff Morale. In other cases, recognizing quality teaching improved teacher morale. Principal Michael shared:

> Uh, staff started having more fun and staff meetings… you could just sense that staff were happier. They were enjoying their job more, which led to them wanting to give more in terms of being at their best, being top notch and seeing the bigger picture in terms of our goal being to maximize instructional outcomes for students while supporting them socially, emotionally, mentally and, you know, every other aspect of their life.

This reflection shows that recognizing quality teaching in the past has resulted in several positive outcomes for Principal Michael's school, such as increased teacher morale.

Teachers' Mobility. An unexpected finding was that one principal observed in the past encouraging seeing old problems in new ways made some teachers leave the building. However, at the same time, Principal Greg observed new teachers coming who wanted to be a part of the change initiatives he was implementing in his school. So that practice allowed to recalibrate the staff and gather the ones who would share the common goal of transformation. Principal Greg shared:

> Um, I've seen, um, some staff members choose to leave the building because they're not looking to grow and change, and they've learned that this isn't a place to be stagnant. We've seen other staff members in our district put in transfers to come be a part of what we're doing, because they want to be a part of something that is growing and developing.

This is something they observed in the past, so their prior action served as a feedback loop to the future belief about these practices.

Feedback on Behavioral Beliefs. The perceived likelihood of success drove the type of feedback to provide to teachers. In some cases, it would be a developmental approach, in others – more directive. The ultimate goal was to make sure students get benefit of the changed teacher behavior. Principal Linda shared:

> Um, but there's some people that are not very fun to give feedback to because you know that they're gonna approach it through their lens of defensiveness. No matter what you say,

> they're not gonna take what you say and implement it. That's right. So, um, this is just not very fun. Yeah. But it still needs to happen, right? And then that's where it's, um, you think of folks in, in quadrants of skill and will. So if it's, if it's solely a skill thing, then you, then you teach them how to do it. If it's solely a will thing and they're just not doing it 'cause they don't want to, then it's a directive. Then it gets to a space of directives, which is not the space I like to be in, but, um, but ultimately for the sake of students, if there's something that really needs to be done or to changed and someone's not willing to do that, um, that can be tricky.

This reflection shows that principals' approaches vary depending on their prior experience with providing feedback to teachers. When teachers were eager to grow, the principal provided learning-oriented feedback. However, when teachers were unwilling to accept feedback, the principal used a directive approach to ensure that teachers changed their behavior in the best interest of the students.

Feedback on Experiential Beliefs. Teachers' prior reactions informed Principal Linda's emotion toward providing feedback to teachers. The emotion was specific to specific teachers. Some of them reacted positively, while others resisted. When teachers received principal feedback well, the principal formed positive emotions. Principal Linda:

> And those are the ones that are fun to provide feedback for because they actually listen to it. They don't get offended or defensive. And then they, in.., they incorporate it, but in a way that's personal to them. And that's, that's fun to see.

Interestingly, liking the outcome started only after the principal decided to engage in this practice. Principal Linda further elaborated:

> Um, but it wasn't until I started doing that where I really started to enjoy the conversation part of it. Um, not so much the observation part, but the conversation part is what I, um, I mean, I get jacked up sometimes, just like talking to teachers about ideas and things that we can do. Um, so that's the part that I really, really like.

These reflections show that prior experience can also inform principals' current emotions associated with a leadership practice. In fact, at the level of experiential beliefs, nearly all reasons were rooted in the emotional responses following past engagement in these practices (see Table 12).

Feedback on Behavioral Belief Strength. Principals' prior experience with positive outcomes formed strong belief strength toward leadership practices. "So, I started to see the change in student behaviors. I started to see the change in student academic achievement… so, I started to see the community come together" (Principal Michael). Perceived Behavioral Controls were also rooted in experience. One twist is that principals with a growth mindset (GM) could convert barriers into stimuli. Principals reported that they considered past experiences very often when prioritizing

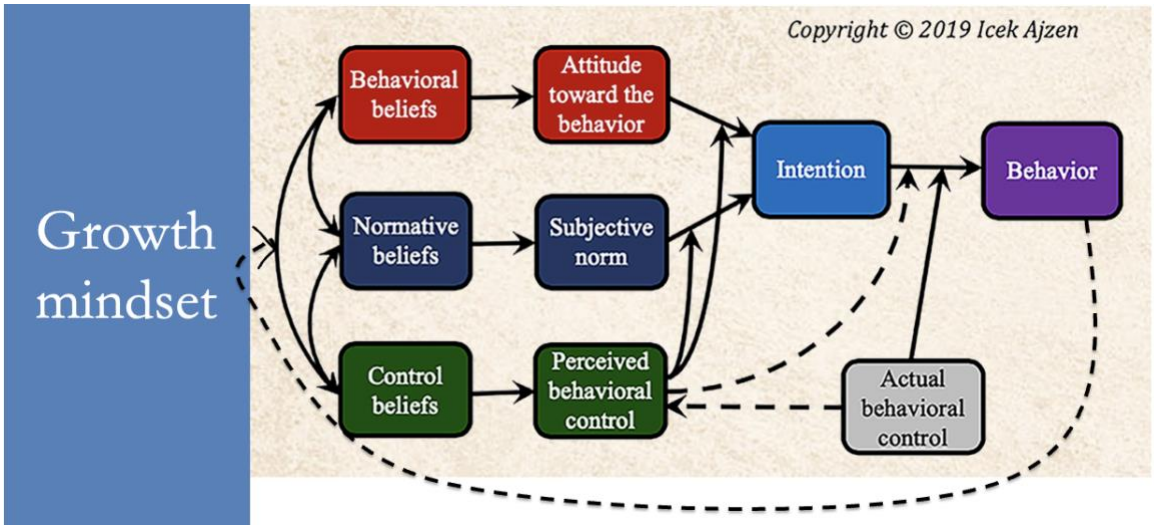
their ranking of practices. Past experiences accounted for nearly 24 percent of principals' reasons to engage in them. At the perceived likelihood level, they relied on past experiences very frequently.

Feedback Summary

More than half of their responses were informed by their past experiences. With these findings in mind, it might be more relevant to look into the framework with a feedback loop. This feedback loop comes from the past experiences and impact one or some of the primary TPB beliefs (Fig. 3).

Figure 3

Updated Conceptual Framework connecting Growth Mindsets and TPB using feedback effects from past experiences



The principals very often shared their past experiences as reasons they put a particular leadership practice on top. These experiences could be success or failures. If they had positive experiences from engaging in a practice in the past, then they described their current behavioral beliefs in a positive light. In contrast, when they did not have success in the past, they would describe that as the reason they put a practice to the bottom of the frequency list.

Feedback effect from the past might be a feature of the context school principals operate in. The findings suggest that school principals consider past successes many times. In fact, their prioritization might be governed by their context. Contexts have a huge influence on what principals prioritize to devote their time to. Regardless of a principal's type of mindset, what the context allowed was critically important. A principal with a growth mindset might enter a new space with fresh ideas and be bold enough to experiment with effective leadership practices. However, over time, only those practices that are supported by the context would remain. For example, in the context of Principal Phillip in the rural area, he identified that teachers needed to develop and then

started to engage teachers in peer classroom observations. Teachers were responsive and engaged. The positive outcomes, such as teachers starting to have more frequent conversations with each other, fueled the principal to stay on track and invest in this leadership practice. However, if the context was not conducive (e.g., if teachers completely backed off and left the school), the principal would stop encouraging teachers to observe each other's classrooms. The way the context reacts has huge implications for effective leadership. The more the school context is conducive to principals' growth mindset leadership practices, the more school principals will likely sustain these effective leadership practices.

Summary of Findings

In the section below, I summarize the findings in relation to each of the research questions. The first research question addressed the average frequency rankings of GMA leadership practices. The second research question focused on the TPB-based reasons principals considered when ranking frequencies for GMA practices. Although I used behavioral beliefs, normative beliefs, and control beliefs in my analysis, for the purpose of summary, I present the findings under the three key TPB constructs: attitudes, subjective norms, and perceived behavioral controls. Finally, the third question dealt with reasons not covered by TPB, which are presented as findings from my inductive analysis.

RQ1. What are the most and least frequently engaged GMA practices of school principals with a growth mindset?

Finding 1. Most frequent and least frequently engaged practices.

The most frequently engaged practices were providing feedback based on my observations and recognizing quality teaching. These two practices received the highest ranking regardless of context: in the past 12 months, or in an ideal world. These findings suggest that the school principals were able to engage in the leadership practices that they valued the most. Next practice was supporting struggling teachers. This practice did not receive as many high rankings in the ideal world as it did in the past 12 months. The primary reason was that principals did not anticipate that they would have struggling teachers in the ideal world scenario. However, in the past 12 months the principals reported that they engaged in supporting struggling teachers frequently.

RQ2. What are principals' attitudes, subjective norms, perceived behavioral controls toward GMA practices?

Finding 2. Principals had strong attitudes, strong subjective norms and strong perceived behavioral controls associated with the most frequently engaged GMA leadership practices.

Principals were more likely to form positive intentions to engage in practices that had many supporting factors outlined by the Theory of Planned Behavior. The principals reported that they

engaged in providing feedback to teachers and recognizing quality teaching most often. The three TPB components associated with the most frequent GMA practices were found to be strong. Principals expected many positive outcomes because of providing frequent feedback to teachers and recognizing quality teaching, such as helping them develop and grow their confidence. Principals also had strong expectations of these practices from many stakeholders, including district superintendents and teachers, and most importantly, this expectation was embedded in the teacher's evaluation system in the state. Associated with these practices, the principals had many facilitators who allowed them to engage in those practices. Together, attitudes, norms, and controls contribute to strong intention formation, which in turn is likely to influence actual engagement in the most frequently engaged GMA practices.

Finding 3. Principals engaged in a practice even with weak perceived norms. However, strong attitudes and strong perceived behavioral controls must be present.

The principals engaged in leadership practices even if they did not have strong expectations associated with this practice. The main influence came from principals' attitudes, which is the favorableness of the practice. Principals believe that supporting struggling teachers will help them gain confidence and improve their skills. This was the main driver of their frequency. Despite the absence of strong expectations regarding this practice, the principals reported that they frequently engaged in it. Perhaps the principals had sufficient facilitating factors to support struggling teachers, such as extra staff in the district. In the absence of such factors, principals are likely to not engage in supporting struggling teachers.

Finding 4. Principals had weak attitudes, weak subjective norms, and weak perceived behavioral controls for the practices they engaged in at least often.

The practices that principals engaged in the least frequently also had the weakest TPB factors. Regarding attitudes, they were not comfortable implementing feedback in their own practice. They did not expect positive outcomes if they engaged in more budgeting activities. In addition, there were low expectations from others regarding these practices. In fact, there was a converse expectation regarding financial activities. School budgeting was often responsible for central office responsibilities. They did not have sufficient support for these practices. Together, these three factors do not contribute to positive intention formation.

Finding 5. Principals had mixed attitudes, mixed perceived norms, and weak perceived behavioral controls toward encouraging teachers to see old problems in new ways.

Strong positive attitudes were not sufficient for school principals to engage in GMA practices. The way school principals ranked the practice "encouraging teachers to see old problems in new way" is an example of how intentions do not always translate into reality. In an ideal world, principals rated this practice as one of the most likely to engage practice. However, in the real world, this practice was usually at the bottom of principals' priority list. TPB factors help explain this inconsistency. Principals shared only a handful of positive outcomes associated with this practice. Most of the time, however, there are many barriers to engaging in it. For example, teachers would not expect principals to encourage them to see old problems in new ways. Many principals did not know how to engage with this practice. Furthermore, in reality, teachers would not change and support this practice. Principals often valued relationships and did not want to add tension to relationship-building. Since inviting teachers into difficult conversations was perceived as damaging to building good relationships, principals preferred not to engage in encouraging them to see old problems in new ways. Overall, the combination of TPB factors was not strong enough for principals to form positive intentions regarding this practice.

RQ3. What are the other factors that influence principals' intentions towards GMA practices?

Finding 6. Principals also considered personal values and vision, personal norms, dilemmas, and contexts.

Besides the factors outlined by the TPB, principals also considered factors such as vision and values, personal norms, dilemmas, and contexts when thinking about GMA leadership practices. In some cases, principals did not consider specific outcomes associated with a leadership practice. Subjective norms did not have to be external; they could be created by principals themselves as a sense of obligation. There were a few cases when principals did not feel any social expectations regarding GMA practices. Dilemmas and instant emotions added complexity to principals' decision-making, as dilemmas and emotions are often unpredictable and can sway principals in any direction. Finally, contexts such as need, geography, and perception of opportunity versus barrier also played an important role

Finding 7. Principals considered past experiences most of the time.

Interestingly, principals very often shared that they considered their prior experiences with a practice. In fact, 22% of the instrumental beliefs were based on prior experiences. This percentage was even higher when they talked about the likelihood of these experiences happening (65%). Past

experiences influenced the current emotional beliefs 82% of the time.

CHAPTER 5: DISCUSSION

In this final chapter, I present the conclusions, discussions, implications, recommendations, and limitations. In the Conclusion section, I provide conclusion on the overarching research question. In the Discussions section, I describe how three principals considered different reasons to engage in a common leadership practice. In the Implications section, I discuss the relevance of the dissertation findings to broader literature. Subsequently, I provide recommendations for practice, policy, and research. I then present several limitations and suggestions on how to address them. The chapter concludes with reflections and a summary of the chapter.

Conclusion

The goal of this dissertation was to explore the extent to which the Theory of Planned Behavior (TPB) could explain why school principals engaged or did not engage in the growth mindset associated (GMA) leadership practices. The overarching research question was: To what extent does the Theory of Planned Behavior explain why school principals with growth mindsets engage or do not engage in growth mindset-associated practices? Overall, the TPB was able to explain most of the reasons why school principals engaged or did not engage in growth mindset-associated practices.

The key findings suggest that school principals with growth mindsets consider diverse factors when engaging in GMA practices. These factors can either contribute to or divert school principals from engaging in actual behavior. In most cases, these factors are supported by the TPB. However, the findings suggest that the TPB framework with a feedback loop explains principals' choices more holistically than my initial assumption that the linear nature of belief influences principals' intentions.

Discussions

I base my discussions around three principals who participated in this study. I describe how they use different reasons but arrive at the same prioritization of one leadership practice. Below, I illustrate how different combinations of TPB factors manifest in the high prioritization of a GMA practice. The purpose of this illustration is to demonstrate that school principals could have a diverse set of reasons that influenced their intention formation. What was most important for schools was the actual behavior of school principals. What might have been less important was how school principals arrived at their decision to engage in GMA leadership practices. However, it was important to understand what factors influenced this so that PD and policymakers could create various venues for school principals to maximize the chances that principals would engage in

practices associated with increased student learning. First, I describe each principal separately using the lens of the TPB. After that, I provide a summary of the various reasons that contributed to their intention to engage in recognizing quality teaching.

Based on the practice of recognizing quality teaching, this practice looked different for every principal. Principal Brian perceived this practice as part of classroom observation and feedback. For Principal Greg, it was sending teachers handwritten words of encouragement. For Principal Deb, it was giving strength-based feedback to teachers. Despite perceiving them differently, they all rated this practice, "recognizing quality teaching," as the most frequently engaged practice in the last 12 months. Principals Brian, Gregory, and Deb were the cases discussed.

Case 1: Principal Brian, suburban elementary school, around 200 students, 13 years of experience

Principal Brian was deeply committed to building positive relationships with teachers. He engaged in the practice of recognizing quality teaching to show care and support to teachers. He also recognized quality teaching because it was part of gathering information about teaching. On the emotional side, acknowledging quality teaching also felt good. It made the principal's day meaningful and fulfilled the mission of leadership. This was the practice that resulted in teachers thinking and reflecting, which encouraged the principal.

Principal Brian felt that the central office expected him to recognize quality teaching as part of the overall push toward instructional leadership. This had been a recent shift he observed in the past several years of his leadership. He also felt that parents expected him to be in the classroom often.

Some of the common barriers included student discipline and the search for substitute teachers. However, the frequency of these challenges was often correlated with school size. Since his elementary school was smaller than average schools, Principal Brian had had more opportunities to be in classrooms and recognize quality teaching. Another factor that helped this principal was having an instructional coach.

However, the twist was that this principal made use of this resource and actually had a personal meeting with the coach to learn more about recognizing quality teaching. This might have spoken to the growth mindset stance of maximizing available resources. This principal had a proactive stance toward seeking out resources. He stated that instructional coaches had always been in place; however, the principal had to take the first step. This was not the case when he was a younger administrator. He had 13 years of experience at the time of the interview. Principal Brian:

> Because when I was younger in administration, um, I struggled a lot with confidence and. I would think by me doing things like what I'm doing now would be perceived as me being weak, me being an inadequate principal or an inadequate educator. And I so I was yeah, I was not confident and I was afraid to do things like that because I would be afraid that they would think I'm not a good principal, and they'll go tell my superintendent on me and stuff like that. But that was a very toxic way of thinking, and it's taken me a long time to, to, to hurdle that, um, and be at this place where I feel comfortable with myself to do these things.

And actually in this regard, Principal Brian was acting against the norms. It was not quite an expectation that a principal would approach an instruction coach. However, Principal Brian did:

> Because the instructional coaches typically, uh, work with the teachers. Uh, um, like, when I talk to my instructional coach, she says you're the only one that schedules time to meet with me to talk about instruction. You know, the other coaches are sitting around waiting for the teachers to schedule something, but the principals never schedule anything with us. And I say, well, I just thought that that's what I'm supposed to do, you know?

Notably, the context of Principal Brian was conducive to being in classrooms often, as his building was a small elementary school. The small school allowed him to be in classrooms almost every day, and he received joy from that experience. What also added to his level of capacity was receiving training on elementary-level literacy and building skills around instruction.

Case 2: Principal Greg, Rural middle school, around 550 students, 2 years of experience.

Principal Greg had two years of experience and was a principal in a rural middle school (with around 550 students). Greg also recognized the teachers to show that he cared about them. In return, he received verbal thank-you's from his teachers. He also had an overall vision of what a good leader should be doing. This practice aligned with the vision that a good leader should have a personal approach in relationships with teachers.

When Principal Greg was a teacher, he experienced two distinct ways of leading the school. One was a supportive leader who created a positive school climate. However, the other was rigid to the extent that teachers felt uncomfortable and decided to leave the school. When he was a teacher, he used to receive handwritten notes from his principal, which he really appreciated. He also received some from parents, so this might have been a community cultural thing. There was also a strong push from the professional organization that he was part of. During conferences, he often heard more accomplished principals share that giving personal notes encouraged teachers to continue doing great things. The school had around 12 teachers with approximately 20 years of teaching experience. The school's small size felt comfortable for the principal to engage in personal practices like recognizing quality teaching. Feedback from parents and teachers often came in the

form of verbal thank-you's for the handwritten cards. This would likely have continued even in the absence of parents acknowledging it.

Case 3: Principal Deb, suburban elementary school, around 440 students, 17 years of experience.

Principal Deb's goal in this practice was to increase teacher confidence by noting the strong aspects of their teaching. For her, recognizing quality teaching was the most rewarding part of Principal Deb's job. Teachers in her school were so used to the principal's strength-based feedback that they expected the principal to engage in this practice often. One source of a perceived social norm was a trainer at a conference. The trainer shared that recognizing quality teaching was effective. In Principal Deb's daily routine, a lot of unexpected things happen, which she shared were the main barriers to recognizing quality teaching. Despite these barriers, Principal Deb continued to intentionally engage in this practice, because observing teachers' growth as a result of receiving recognition for quality teaching was rewarding and felt fulfilling.

Summary of Cases

Overall, these scenarios exemplify diverse paths to forming intentions around a particular leadership practice. In these examples, principals engaged in recognizing quality teaching in different ways. Different components of the Theory of Planned Behavior (TPB) carried varying levels of influence.

For example, at the attitude level, which focuses heavily on expected outcomes, Principal Brian identified many potential outcomes: showing care, building positive relationships, gathering information about classroom instruction, and supporting teacher growth. He focused primarily on the instrumental aspect of the practice. In contrast, Principal Deb emphasized the affective aspect of recognizing quality teaching. For her, it was the most rewarding part of her work, giving her leadership deep meaning. Principal Greg, however, did not report many expected outcomes beyond viewing it to show care.

At the perceived norms level, these principals again drew on different sources of influence. For instance, in Principal Brian's case, he perceived a strong expectation that principals should engage in instructional leadership. He believed that recognizing quality teaching was part of a district-wide expectation. In Principal Greg's case, there was no expectation from the central office for him to recognize quality teaching. Instead, his motivation came from professional conferences and his personal vision of good leadership. In his view, good leadership involves investing in personal relationships. For both Principals Brian and Greg, external influences—such as district

directives and conferences—were key motivators. In contrast, for Principal Deb, the main source of normative influence was teachers' expectations. Interestingly, her own prior efforts to recognize quality teaching had shaped teachers' expectations in her school.

Perceived behavioral control factors also varied. Principals Brian and Deb faced similar obstacles, such as dealing with student discipline and finding substitute teachers. However, all three principals worked in smaller schools, which tended to have fewer issues requiring principal attention. Principal Greg did not mention any significant obstacles, likely due in part to having highly experienced teachers with around 20 years of experience. When it came to resource-seeking, Principal Brian stood out. He was proactive in reaching out to instructional coaches to learn how to provide feedback based on teachers' strengths. This behavior reflected his growth mindset and demonstrated it in action.

Regarding feedback, Principal Brian did not report any noticeable effects. However, Principals Greg and Deb shared positive outcomes from recognizing quality teaching. Principal Greg received verbal thank-you's from teachers, which motivated him to continue the practice. For Principal Deb, she observed that teachers grew and developed as a result of recognition, and the experience was emotionally fulfilling—feeding back into her attitude toward the practice.

These scenarios show how different motivations and contexts can lead to similar intentions to engage in a practice. Despite differences in personal values, expected outcomes, perceived social norms, and contextual challenges, all three principals prioritized recognizing quality teaching. These examples highlight the complexity of decision-making among school leaders when choosing to engage in effective instructional leadership practices.

Implications

This study has implications for three bodies of scholarly literature. The first is the literature on general growth mindset. I discuss how TPB complements the theory of growth mindsets. Second: Growth Mindset Interventions. I provide specific examples of how TPB can be used to design growth-mindset interventions. Finally, for school leadership. I compare the applicability of growth-mindset theories to business leadership with school leadership.

TPB for Growth Mindset Theory

Growth mindset theory suggests that individuals with a growth mindset approach various situations more effectively than those with a fixed mindset (Dweck, 2006). These situations include challenging circumstances, approaches to learning, and supervising subordinates (e.g., Blackwell et al., 2007; Heslin et al., 2005). The assumption is that there is a linear and proximal relationship

between what individuals believe and what they do. Although many studies have shown that this can be true, numerous other studies have failed to demonstrate this consistency (e.g., McNamara, 2023). This inconsistency may partly stem from weak theorization of the link between human beliefs and behaviors. A Theory of Planned Behavior (TPB) approach to growth mindset theory can provide a more nuanced perspective on the complex relationship between beliefs and actions.

For example, consider the practice of persevering during challenging situations, which is commonly associated with a growth mindset. From an attitude standpoint, an individual with a growth mindset also needs to have a positive attitude toward perseverance in difficult situations. Breaking this down into components: First, positive outcomes must be associated with perseverance. Will persevering actually lead to beneficial and emotionally rewarding outcomes? Is there a high likelihood of positive outcomes? What value does an individual place on the expected outcome? All of these small yet crucial components determine the formation of positive attitudes towards a behavior.

The TPB also suggests that, along with attitudes, an individual must have positive subjective norms and sufficient autonomy and capacity to persevere. Finally, individuals must possess actual behavioral control to translate their intention into practice. When all these TPB components align positively, the likelihood increases that the individual will engage in behaviors associated with a growth mindset (e.g., persevering and providing more feedback).

Thus, the TPB suggests that the likelihood of observing growth-mindset practices among individuals, including school principals, is context dependent. The impact of context on individuals with growth mindsets was partially addressed in the early theories of implicit theories (Dweck & Leggett, 1988). They propose that individuals are sensitive to contextual cues. A growth-mind-conducive environment can encourage growth-mindset behavior in individuals with a growth or fixed mindset. Similarly, an environment conducive to a fixed mindset is more predictive of fixed mindset behaviors. This is a key consideration. TPB addresses this influence by distinguishing four factors: attitudes, norms, perceived control, and actual control factors. Each of these factors can either support or hinder an individual's engagement in behaviors aligned with their mindset.

TPB for Growth Mindset Interventions

Growth mindset interventions can benefit from integrating the TPB's approach. A recent intervention for teachers by Hecht et al. (2023) provides evidence that a value-based approach to growth mindset pedagogy can be more effective than traditional intervention designs, which assume a linear relationship between beliefs and actions. Hecht et al., (2023) study introduced teaching

strategies aligned with teachers' pedagogical values, showing greater effectiveness compared to strategies lacking this alignment. Future interventions should integrate normative aspects and perceived behavioral control into intervention designs.

Growth mindset research has expanded its framework to include various contextual characteristics that contribute to successful intervention. Walton and Yeager (2020) analyzed growth mindset interventions and found that growth-mindset interventions for students were more effective in environments that supported growth mindset principles (e.g., classroom norms and school systems). These interventions were particularly beneficial for at-risk students and those already inclined to adopt a growth-mindset. While this theory addresses the normative aspects of TPB, the mindset and context framework can be further enhanced by incorporating attitude and control factors. Sustained growth mindset effects require individuals to develop positive attitudes (i.e., recognizing positive outcomes, values, and expectations) and the necessary skills to act on their beliefs. For example, in mathematics learning, introducing a growth mindset concept is insufficient. Students must also be taught effective learning strategies to ensure that they have the tools to apply their growth-mindset beliefs. Additionally, feedback plays a crucial role in the TPB. The environment in which individuals operate should be responsive to behavioral changes that align with a growth mindset. Applying multiple TPB components makes growth mindset interventions more effective in the long run, rather than relying on short, "light-touch" interventions, where effects often fade over time (Yeager et al., 2019).

TPB for Growth Mindset and School Leadership

Prior research on the relationship between a growth mindset and business leadership practices has shown positive outcomes (e.g., Han & Stieha, 2020). Leaders who reported having a growth mindset engaged in effective leadership behaviors more frequently, such as employee coaching, resilience, and reduced bias (Kouzes & Posner, 2019; Heslin et al., 2005). However, these findings have not been consistently supported in the educational leadership literature (e.g., D'Anca, 2017). The Theory of Planned Behavior (TPB) offers insights into why a growth mindset may be less effective for school principals than for business leaders. This could be explained by the TPB feedback mechanism. The business sector is characterized by an entrepreneurial leadership style that closely aligns with growth-mindset principles. For instance, mistakes in business are often viewed as opportunities to learn, shape context, and receive feedback. When business leaders apply growth-mindset behaviors, they tend to observe tangible positive outcomes, such as increased revenue or higher employee and customer satisfaction.

However, this feedback loop is not as strong as in educational leadership. The education system operates within a highly bureaucratic and hierarchical structure where many actions are regulated by laws and policies (Tyack & Cuban, 1997). Public schools must adhere to local, state, and federal regulations, leaving little room for creativity in leadership practice. In contrast to business leaders, school principals have fewer opportunities to experiment with growth-mindset behaviors, as their actions are often bounded by institutional requirements. This restricts the extent to which principals with a growth mindset can differ in behavior from those with a fixed mindset. Having a growth mindset can still be beneficial, but school leaders also require additional support mechanisms to effectively implement growth mindset-based leadership practices and improve student learning.

Recommendations

I offer several recommendations based on this dissertation findings for (a) professional development, (b) policy, (c) recommendations for both professional development and policy, and (d) research. I offer recommendations using the three groups of beliefs of the Theory of Planned Behavior: behavioral beliefs, normative beliefs, and control beliefs.

For Professional Development

I offer recommendations for professional development using three factors of TPB: attitudes, norms, and controls. Viewing recommendations based on these factors is practical.

Behavioral Beliefs. An implication for professional development (PD) is that it needs to address the components of attitudes, that is, behavioral beliefs, values, and expectations. Dissertation findings suggest that school principals prioritize the practices that they have strong attitudes about. In other words, if school principals like practice, there is a higher chance that they will engage in it. To ensure that school principals have positive attitudes toward practices, professional development designers should address the building components of those attitudes, namely behavioral beliefs, values, and expectations of success. Behavioral beliefs, which can be deeply rooted in school principals' psyche, are crucial, and emotions play a significant role. The values that principals associate with practices are also critical. Principals need to place value even on small wins.

In sum, the Theory of Planned Behavior (TPB) can help customize both professional development and policies for specific groups of school principals and leadership practices. Professional development can tailor training materials to a diverse set of attitudes and their associated components. Traditionally, professional development has focused on improving skills

related to leadership practices. More importantly, professional development designers should focus on the components of attitudes such as behavioral beliefs, values, and expectations.

Normative Beliefs. PD can utilize norms in two ways. First, they could target interventions for a wider sample of educators who engage in practice. For example, school principals should not only be trained in effective practices but also district leaders and school staff. District leaders who learn a new leadership approach have congruent expectations of this practice from school principals. Additionally, schoolteachers need to meet the expectations of school principals. This can be achieved by teaching teachers congruent practices from the teachers' perspectives.

For example, in this study, principals shared that they wanted teachers to give formative feedback to students in the same way that they gave feedback to teachers. To increase the likelihood that principals engage in this type of feedback, it can be helpful to increase teachers' understanding and expectations about a specific type of feedback. Thus, having more people who accept a leadership practice creates higher expectations from staff or district leaders. As a result, there is greater normative pressure for school principals to engage in specific research-based leadership practices.

Control Beliefs. Controls refer to the specific skills associated with practice. Many professional development activities cover the substance of leadership, that is, content knowledge of leadership practices (e.g., Darling-Hammond et al., 2007). These professional development activities answer the "what" of effective leadership. However, what principals need is not just the "what" but the "how" of effective school leadership. That is, school principals need to know how to implement leadership practices. These findings suggest that principals require specific strategies to implement leadership practices. For example, when providing feedback to teachers, principals need to know what specific words to use to make feedback more impactful.

Findings of this study also resonate with Kegan and Lahey's (2001) research on "immunity to change." In their work, Kega and Lahey focus on identifying deeply held beliefs associated with a behavior that often prevent an individual from engaging in it. They refer to these barriers as immunity to change. By offering a step-by-step framework, Kegan and Lahey encourage individuals to reflect on and recognize these subtle associations. After identifying them, Kegan and Lahey invite individuals to form positive associations or beliefs, which in turn allow them to engage in long-avoided practices. Although there may be numerous deeply held beliefs that prevent school leaders from engaging in a behavior, the Theory of Planned Behavior (TPB) suggests a limited set of influencing factors—primarily three. Focusing on these three categories allows for a more targeted

approach to professional development, which may enhance school principals' learning and leadership.

Customization of Professional Development for School Principals

The TPB suggests that there is no one-size-fits-all approach to intervention components. Every practice has a different set of associated attitudes. By first identifying the TPB components of a specific leadership practice, and then focusing on those components, a more focused and effective approach can be developed to ensure that school principals engage in these effective practices. Diverse TPB components should be investigated using a sample of the affected principals. Professional development should tailor their programs and policymakers should tailor their policies to specific TPB components. Thus, a holistic approach to implementing effective leadership practices can take place.

For Policy

Behavioral Beliefs. Policies must be created to increase the likelihood of positive outcomes. Policies can address this by contributing to the expectation that desired outcomes will occur. For example, when providing frequent feedback to teachers, school principals referred to past successes as a result of engaging in feedback. These past experiences have positively contributed to expectations of future success. As past success can rely on policies already in place in schools, it is essential to create policies that contribute to the success of achieving good outcomes. Policies should encourage teachers to adopt feedback-oriented practices.

Normative Beliefs. Findings suggest that principals engage in practices embedded in policies that surround specific leadership practices. School principals engage in feedback because they are often required by the state or district, or because they can be easily integrated into the current teacher evaluation system. Other practices, such as implementing feedback in their own instructional approach, are not part of an established system and can be a major impediment.

School districts should encourage principals to participate in professional associations. School principals often cite professional associations as key sources of external norm formation. People in the association may not explicitly instruct principals to engage in specific practices (injunctive beliefs) but they serve as models that engage in those practices (descriptive normative beliefs). Additionally, it is important for school principals to build good relationships within these associations, as this increases the value of these norms and strengthens their influence.

School principals can also be encouraged or taught to create internal norms in their schools. Schools can be places with low external influence, so it is often beneficial for principals to engineer

norms within their schools. For example, principals can collaborate with teachers to create a mission that focuses on student engagement through feedback. This initiative would motivate school principals to visit classrooms frequently and provide feedback on teachers' activation of their student engagement. Without such norms, principals might prioritize other tasks; however, when they create norms around classroom instruction, they face external social pressure to engage in this practice.

Control Beliefs. Policies can impact the autonomy of perceived behavioral control (PBC). The TPB suggests that, even if there are positive attitudes toward a practice, the intention to engage in it is unlikely to form if the PBC is low. While professional development can address the personal capacity and self-efficacy aspects of PBC, policies should ensure that barriers are reduced, and facilitators increased for specific practices. For example, budgeting practices may be attractive to school principals and the central office may expect principals to engage in them. However, without facilitating factors, the principals are unlikely to do so. Specific regulations should encourage school principals to engage in budgeting practices to ensure that their intention leads to action.

For Professional Development and Policy Alignment

Professional development and policy should go hand in hand and be laser focused on the specific links between practices, professional development, and policies. Applying the Theory framework to the implementation of effective leadership practices can ensure that school principals engage in these practices. Principals' leadership practices are extremely influential on student learning. Leadership researchers and theorists have identified the most influential leadership practices that school principals must engage in to improve student learning (e.g., Murphy et al., 2007). To ensure that principals engage in effective leadership practices requires a dual approach.

To illustrate how the Theory of Planned Behavior (TPB) can support effective leadership practices, budgeting can serve as a useful example. Simply teaching school principals budgeting skills is insufficient; policies must also empower schools to make proactive financial decisions. Likewise, even if policies support budgeting practices without professional development to build technical skills, these practices are unlikely to occur. Every component of the TPB should be addressed from both personal (e.g., perceptions and skills) and external (e.g., norms, policies, and autonomy) perspectives. Addressing TPB components in leadership practices can significantly increase the likelihood of successful implementation and ultimately benefit student learning.

For Research

This study suggests that TPB components are important predictors of school principals' leadership choices. Future studies employing interventions for school principals might include TPB

components and test the effectiveness of interventions that address changes in those components. Prior intervention (Hecht et al., 2023) has utilized values to test a growth-mindset intervention for teachers. Similarly, intervention designers for school principals can incorporate TPB components into learning materials and explore whether interventions with TPB components are more effective than regular ones.

For Leadership

The findings of this study open a new avenue for research on educational leadership decision-making. Numerous leadership frameworks have been developed over the last century, many of which share leadership practices associated with student learning. However, current research does not fully explain how school principals think about leadership practices. Visible practices that happen start in principals' minds. By exploring the attitudes, norms, and controls that school principals hold regarding research-based practices, future research can identify specific triggers that can help maximize the likelihood of principals engaging in those practices.

Educational leadership literature has emphasized that context is a crucial predictor of school principals' practices (e.g. Hallinger, 2016). However, the current literature does not explain *how* context affects school leadership practices. The TPB offers a window into the specific components of the context and mechanisms through which school principals interact, resulting in leadership practices.

Limitations and Future Research

Sample Size and Type

These findings were based on a sample of 13 public school principals in the midwestern state of the US. The sample consisted of principals who knew each other and were part of a professional organization. The inclination to engage in practice can be partly explained by organizational norms. Future studies should recruit a more diverse set of school principals who work in different work settings and are members of different professional associations or maybe not members. In addition, these principals worked in different types of buildings, ranging from elementary to high schools. Future studies could focus on just one level of building to better account for building characteristics and focus more on the variability that can be attributed to personal beliefs rather than building characteristics.

Reported vs. Actual Engagement in Leadership Practices

I grounded my analysis in the frequencies of practices that principals reported engaging in. Reported engagement may differ from actual engagement; therefore, these frequencies might not

accurately reflect true engagement levels. Although it would have been ideal to observe how principals actually engaged in leadership practices, this was not feasible. However, it was sufficient to ask about the reasons for their prioritization using a Q-sort activity, as my purpose was to understand the reasoning behind various prioritization decisions.

Q-sort Technique

While I adopted a Q-sort technique to ask for school principals' decision-making reasons, I was not able to fully use the utility of the Q-sort technique. Ideally, Q-sort is used with a larger sample of at least 50 participants. I was not able to recruit 50 principals and therefore did not analyze the data in accordance with the Q-sort tradition. Q-sort rankings were used to group practices according to the mean frequencies reported by principals. Future studies can use the Q-sort technique to group school principals according to frequency patterns and then explore whether TPB can explain the differences between groups of school principals.

Present vs Anticipated Practices

The Theory of Planned Behavior aims to explain and predict human behavior. While in this dissertation, TPB was able to *explain* why school principals engaged or did not engage in GMA leadership practices, these findings should not be used to *predict* school principals' behavior. In medicine, TPB questionnaires are usually distributed to patients before they engage in health-related behaviors (Fishbein & Ajzen, 2010). After the surveys are collected, they are given the surveys once more as a follow-up to learn if they engaged in each behavior. In my dissertation, the school principals described the practices as part of their daily leadership routine, in contrast to anticipating engagement in leadership behavior. This distinction is important because these findings might not be suitable for determining the reasons for anticipated leadership practices. In my dissertation, school principals referred to behavioral, normative, and control beliefs because of their engagement in these practices in the past. Thus, context could have been a major component of school principals' attitudes, norms, and controls. Future research should explore the use of TPB by aspiring school principals before they engage in real practice. In this way, future studies could control environmental factors and will be able to accentuate the role of growth mindsets and TPB components as predictors of effective leadership practices.

Compare with Principals with Fixed Mindsets

In the current study, I interviewed school principals with only growth mindsets. Future studies should also interview school principals with a fixed mindset. Interviewing school principals with a fixed mindset will allow the comparison of responses in decision-making patterns and the

exploration of the variability of decision choices attributable to school principals' mindsets, rather than contextual factors. Ideally, future studies should employ a comparative case study approach and recruit school principals working in nearly identical school and demographic contexts so that the only difference between the principals is their mindset. Through interviewing and possibly shadowing, researchers could gain more insights into differences in decision-making patterns and explore the role of mindsets in more detail. This approach will provide more solid evidence around the valence of holding a specific type of mindset and its utility in the school leadership domain. Currently, it is still not clear if growth mindsets can help school principals become effective leaders for students' learning.

Background School Factors

Note that various contextual factors can influence principals' reported prioritization of leadership practices. For example, in a middle school, teacher feedback is typically conducted at the departmental level by subject leaders. In this type of school, principals may engage in providing feedback to teachers less frequently than principals in elementary schools, where the number of teachers is smaller.

However, the purpose of my dissertation was not to identify a single most common factor that influences prioritization. Rather, I was interested in how school principals discussed their reasons for different prioritizations of leadership practices. Any possible explanation of these reasons would fall under one of the components of the Theory of Planned Behavior (TPB), such as attitudes, norms, or perceived behavioral control.

For example, if a common barrier to providing feedback to teachers was the school level (e.g., middle school versus elementary school), then this factor would fall under the perceived behavioral control component, as a contextual barrier. Therefore, I did not aim to sample principals and control for all possible influencing factors. In fact, those background factors were important for illustrating the applicability of the TPB framework in explaining different patterns of prioritization in leadership practices.

Reflections

Linear to Mixed

I used to have a linear understanding of the mindset's impact on human behavior. I used to think that a growth mindset could help individuals, including school principals, engage in practices that would lead them and their organizations to better outcomes. My theory of change was straightforward: If a school principal had a growth mindset about the nature of human abilities, then

they would encourage teachers to learn by, for example, providing more frequent feedback and being okay with minor mistakes. I also believed that a principal with a growth mindset would be keen to implement feedback from others in their own practice because they would see learning as an indispensable part of their life. However, through this dissertation, I learned that this is not always the case.

Inclusivity in Perspectives

The Theory of Planned Behavior (TPB) served as a valuable mental exercise for me to develop inclusivity toward others' perspectives and behaviors. TPB has allowed me to consider an infinite number of reasons for human behavior. In the past, when I had a linear view of the belief-behavior link, I drew quick conclusions about human intentions, and even about their beliefs. All of them fed into my judgment of others' intentions and perspectives. This is not a good thinking habit. The first exercise that helped me become more open to others' perspectives, and thus helped me avoid making instant conclusions, was Argyris's Ladder of Inference (Argyris, 1982). Argyris argued that every person goes through several mental steps in their mind before engaging in behavior or making judgments about others. Once we understand that everyone carries their own ladder of inference, it allows us to be more understanding, and thus more inclusive, of others' perspectives.

TPB has expanded my initial view of mental maps to a broader level, where I now see every person's decision-making process as a more complex system with various components, sometimes even beyond those outlined by TPB. Some say that qualitative study makes one a better person. I hope that this exercise of applying TPB to the practice of school principals has made my perspectives on others' views more inclusive and, in turn, helped me become a better human.

Personal Life

As I was writing my dissertation, I often reflected on my previous experiences as a school principal. I was trying to understand the degree to which the changes I initiated in my school were rooted in the idea of a growth mindset. At the beginning of my doctoral program, I had a firm belief that the growth mindset alone is sufficient to help a school leader become more growth-mindset oriented and engage in growth-mindset associated practices such as providing more frequent feedback and recognizing quality teaching. What I missed was the extent of the contextual friendliness of these types of leadership practices. The school that I used to serve as principal was a highly progressive school where innovations were welcome. My supervisors and staff were open to change; in fact, the purpose of creating this school was to explore the best educational practices and changes. I worked in this kind of culture of change. Through this dissertation journey, I learned that

the contexts of school principals are crucial, and I came closer to understanding how these contexts interact with school principals' beliefs about intelligence.

Overall, this has been an incredible journey that has allowed me to develop as a person. I hope that this small contribution to the complex job of school principals will help improve student learning. This is something I always wanted to be. To be part of something useful.

Chapter Summary

In this chapter, I summarized the findings and discussed how they relate to the broader literature on growth mindset, growth mindset interventions, and school leadership. I also provided recommendations for professional development program designers, central offices, and policymakers to ensure that school principals are better equipped to engage more frequently in leadership practices associated with increased student learning. Finally, I outlined the limitations of this study and offered suggestions for future research.

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