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## RAYMA HARCHAR OUTSTANDING RESEARCH PAPER AWARDS

### **The Development of the School Reform Model and the Reform Readiness Survey**

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#### **Abstract**

Reform is a common tool used by policymakers to increase student achievement, yet some reform efforts are more successful in some schools and not others. This study looks specifically at the following constructs related to both student achievement and reform: school culture, school climate, teacher efficacy, and collective efficacy. The overarching question explores the relationships among school culture, school climate, teacher efficacy, and collective efficacy and their impact on reform movements. In order to assist leaders when implementing organizational change, the newly created Reform Readiness Survey, which addresses culture, climate, efficacy, and leadership, is validated and found to be a reliable measure.

*Keywords:* school culture, collective efficacy, and reform

#### **Introduction**

Reform is nothing new for educators. Education in the United States has been in a constant state of reform since President Bush signed the No Child Left Behind Act of 2001, which called for increased accountability for schools and districts by using school performance scores. Districts across the nation urgently sought new ways to increase test scores, which were often tied to funding. This put more pressure on school leaders and teachers to use data and other resources to increase student performance. In 2012, Race to the Top was enacted, which required states to commit to a national set of standards and overhaul their current teacher evaluation systems in order to receive a sizable amount of federal dollars (Boser, 2012).

Even though student achievement was positively affected in some areas, the United States still has failing schools and struggling districts. Many states are working to overcome teacher shortages (Gardner, 2015). In fact, in Louisiana, during the first two years of reform in compliance with Race to the Top, the state experienced a 24% increase in teacher retirees—more than 7,500 teachers retired from Louisiana public schools. This number does not include teachers who left to pursue other careers (Shuler, 2013). Obviously, reform itself is not the only key to student achievement or school improvement.

Many reform efforts have cost districts and states inordinate amounts of money, time, and personnel, and unfortunately, many have not been successful and/or sustainable. Fullan (2006) suggests that reform movements are only successful for those who understand theories of change as well as educational theories. Although reform itself is not the key to increasing student achievement, research has demonstrated that school culture, school climate, teacher efficacy, and collective efficacy affect student achievement (Bandura, 1997; Cavanaugh & Dellar, 1997; Cohen, Fegé, & Pickeral, 2009; MacNeil, Prater, & Busch, 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). This study seeks to integrate these concepts for the purpose of proving theoretical and practical contributions to the educational research field.

While numerous variables are at play during reform, several of which are school- and district-specific, school culture, school climate, teacher efficacy, and collective efficacy are constructs which are often unaccounted. District leaders and school principals need additional support before and during the implementation of reforms, especially those involving second-order changes. This study explored the literature

regarding the possible effect that school culture, school climate, teacher efficacy, and collective efficacy have on reform movements.

The purpose of this study is to (1) assess the latent structure of the newly designed Reform Readiness Survey; (2) determine the relationship between school culture and reform; (3) determine the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy; and (4) determine the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change. The overarching question for this study is: *What is the relationship or impact of school culture, climate, and collective efficacy on reform movements?* Three other questions also guide this study. *First, what is similar and contrasting among the constructs? Second, how are the constructs interrelated? Third, in what ways can these constructs impact school reform efforts?* Hence, this study explores school culture, school climate, teacher efficacy, collective efficacy, and change as well as the subcomponents of these constructs in an effort to determine the nature of the relationships among them. Little research has been conducted that links comprehensive research on each of the aforementioned constructs including the possible impact that these constructs have on school reform efforts.

This study endeavors to ascertain the nature of the interaction among the following variables: school culture, school climate, teacher efficacy, and collective efficacy by using quantitative methods. Data were collected from surveys representing each construct and were aggregated and subjected to statistical analyses in order to answer the research questions and hypothesis. The following measures were used in this study to determine strengths of correlations among constructs: the Revised School Culture Elements Questionnaire (RSCEQ), which measures perceptions of culture; Organizational Climate Index (OCI), which measures perceptions of school climate; Teachers' Sense of Efficacy Scale (TSES), which measures teacher efficacy beliefs; Teacher Efficacy Beliefs Scale- Collective (TEBS-C) which measures collective efficacy; and the newly created Reform Readiness Survey (RRS) which measures change readiness. Correlations among each subscale in the measures were conducted as well as factor analyses on the newly created measure, the RRS.

The sample population for this study is a large school district in central Louisiana, and includes 46 schools, grades pre-kindergarten through 12th. Data were collected through SurveyMonkey, an online program designed for survey research and data analyses. Data were then exported to IBM SPSS Statistics in order to conduct further statistical analyses.

## School Culture

Although the concept of culture is deeply rooted in anthropology, the term *school culture* is commonly used to describe an organization's unique personality that encompasses shared norms and values, traditions and rituals, behaviors, purpose, and operational frameworks. The culture of an organization can shape people's perceptions, and conversely, these perceptions shape the culture of the organization. Practically, school culture "influences everything that goes on in schools: how staff dress, what they talk about, their willingness to change, the practice of instruction, and the emphasis given on student and faculty learning" (Peterson & Deal, 1998, p. 28).

Over the last 50 years, research concerning school culture has significantly increased due to the findings about the impact school culture has on school effectiveness (Van Houtte, 2005). School culture is described as encompassing layers, or levels of abstraction (Hoy & Hoy, 2003; Schein, 2010). These levels are characterized by their nature of visibility. Researchers agree that the first level, which is most visible, is the easiest to change; the last level is the most difficult to change (Schein, 2010). The most abstract level is the most complex, and is characterized by Hoy and Hoy (2003) as encompassing the tacit assumptions or deep-seeded beliefs that organizational members possess.

Fiore (2001) used an analogy that inspired the conceptual framework. He likened culture to the part of an iceberg that furtively lies below the surface of the ocean, providing the structure and support for the top of the iceberg, which represents school climate. Culture remains stable and is difficult to change. School climate, much like the top of the iceberg, is more easily perceived among outsiders and members of the organization, yet

it is easily affected by environmental factors, such as wind and waves. Van Houtte (2005) explains, “Climate researchers measure how organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves” (p. 75).

School culture and climate affect the school in similar ways—both can affect the way outsiders view the school and both can impact student achievement (Cavanaugh & Dellar, 1997; Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). Both are used to describe the atmosphere or the character of a school. However, practitioners should have an understanding of the differences between the constructs in order to transform schools.

## **School Climate**

The National School Climate Council (2007) views school climate as “the quality and character of school life” (p. 5). The National School Climate Council (2007) also stated, “It [school climate] is based on patterns of school life experiences and reflects norms, goals, values, interpersonal relationships, teaching, learning and leadership practices, and organizational structures” (p. 5). School climate reflects the norms, goals, and values that are deeply rooted in the culture of a school. Five elements comprise school climate: safety, relationships, teaching and learning, institutional environment, and process of school improvement (Thapa et al., 2012).

Research has demonstrated that a positive school climate is essential to academic achievement and school success (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004). The following are themes of common effects of school climate found in the literature: promotes academic achievement, fewer discipline problems, less anxiety and depression, high attendance rates, and helps teachers feel successful in the classroom (Cohen et al., 2009; MacNeil et al., 2009; National School Climate Council, 2007; University-Community Partnerships, Michigan State University, 2004).

## **Teacher Efficacy**

Bandura’s (1977) foundational research concerning self-efficacy is at the heart of teacher efficacy. Self-efficacy refers to a person’s beliefs about his or her ability to accomplish a task with competence or effectiveness in a specific domain. The level of self-efficacy a person possesses may inhibit or enhance the performance of a person. Bandura (1993) explains that self-efficacy influences each of the four major processes—cognitive, motivational, affective, and selection.

Teacher efficacy operates similarly, with the exception of specificity of the domain—which is student learning. Hoy and Hoy (2003) define teacher efficacy as such: “a teacher’s belief that he or she can reach even difficult students to help them learn” (p. 129). Teacher efficacy is also influenced by the four sources of efficacy beliefs outlined by Bandura (1977): mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. Just as a person with a high sense of self-efficacy tends to be more motivated, highly efficacious teachers persist despite negative interactions with difficult students. These individuals hold strong beliefs in themselves and their students (Hoy & Hoy, 2003).

One of the many effects of efficacious teachers is an increase in student achievement (Bandura, 1997; Berman, 1977; Dembo & Gibson, 1985; Goddard et al., 2000; Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2001; Ware & Kitsantas, 2007). Surprisingly, teacher efficacy has a greater effect on achievement than student socioeconomic status (Bandura, 1993; Goddard et al., 2000). Teachers with strong efficacy beliefs tend to be more willing to change and see to the success of the change (Berman, 1977).

Tschannen-Moran et al. (1998) worked to conjoin foundational conceptual frameworks by several researchers, including Bandura (1993) and Gibson and Dembo (1984), by analyzing the methodologies and psychometrics of their measures, later resulting in the measure used in this study.

## Collective Efficacy

“Collective efficacy is the shared perception of teachers in a school that the efforts of the faculty as a whole will have a positive effect on student learning” (Hoy & Hoy, 2003, p. 296). Collective efficacy plays a powerful role in the school setting because teaching is performed in a group context. Individual efficacy for a teacher impacts only his or her classroom; conversely, collective efficacy impacts the school as a whole.

Bandura (1997) explains that collective efficacy is not simply the compounding of each individual’s efficacy levels. Collective efficacy is one aspect of a group’s emergent property. However, the sociocognitive determinants—mastery experiences, vicarious experiences, verbal persuasion, and psychological factors—operate the same way for a group.

Collective efficacy is also an important aspect of school culture and climate (Bandura, 1993, 1997; Berman, 1977; Dembo & Gibson, 1985; Tschannen-Moran et al. 1998; Ware & Kitsantas, 2007). In fact, much like culture and climate, school faculties that have developed a strong sense of collective efficacy can raise student achievement (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, et al., 2012).

## Change Theory

The two types of change that Marzano (2005) describes are first-order change and second-order change. First-order change is usually surface-level, gradual, and incremental. These changes are typically guided by past experiences. Second-order change, however, is more drastic, and requires a change of mindset. Second-order change solves problems by using innovation instead of past thinking (Marzano, 2005). Since second-order change is more complex, it requires a change in culture for an organization. If a reform is supported by the culture of the school, the change is more likely to sustain. In fact, Allen et al. (1998) submits that without a supportive culture, change is sustained less than one year. Researchers generally refer to the stages of change as a three-part process: initiation, implementation, and sustainability (Fullan, 2007). This study focuses on organizational readiness for reform.

## Development of the Reform Readiness Survey

The RRS is an assessment designed to determine the current status of schools concerning the domains of culture, climate, teacher efficacy, collective efficacy, and change research, before embracing reform. The RRS was birthed from the conceptual framework for this study. After extensively reviewing the literature, the researcher discovered evidence linking four variables—school culture, school climate, teacher efficacy, and collective efficacy—and change. Furthermore, the success of reform in schools was linked to the strength of the perceptions of said constructs. Therefore, the RRS was created in order to evaluate the readiness of organizational reform.

The researcher wrote each item in the measure by synthesizing the literature concerning the study’s constructs. The measure assesses the perceptions of teachers about themselves, their school faculties, and administrators. Teachers were asked to read each statement carefully and select the scale point that best reflects their personal degree of agreement with each statement. The RRS used a six-point Likert scale ranging from 1 = *Strongly Disagree* to 6 = *Strongly Agree*.

After a series of factor analyses, a total of 40 items were retained within the four components that comprise the RRS: Teacher Efficacy in Relation to Reform (Component 1), Culture and Climate in Relation to Reform (Component 2), Change Leadership (Component 3), and Collective Efficacy in Relation to Reform (Component 4). These four components account for 70.5% of the variance.

The Cronbach’s alpha reliability for the entire measure is .976. All four components are found to be highly reliable. For each subscale, the reliability coefficients are as follows: Teacher Efficacy in Relation to Reform (.940), School Culture and School Climate in Relation to Reform (.954), Change Leadership (.940), and Collective Efficacy in Relation to Reform (.946).

## Research Questions and Hypothesis

The following research questions were addressed by quantitative analyses: (1) *What is the latent structure of the newly created Reform Readiness Survey?* (2) *What is the relationship between school culture and reform?* (3) *What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy?* (4) *What is the nature of the interaction among school culture, school climate, teacher efficacy, and collective efficacy in relation to change?* The following hypothesis was also addressed by quantitative analysis: *There is a statistically significant, positive relationship between teachers' perceptions of school culture and change.*

## Methodology

Quantitative research methods were used in order to test the hypothesis and answer the research questions regarding the variables in the study. Data were collected from a sample population, which includes 46 brick-and-mortar schools, K-12, located in a large centrally located Louisiana district. These schools are representative of state demographics, including school grade configuration and school performance letter grades. Some schools are located in rural areas and others in the inner city. A total of 1250 teachers submitted responses; however, 1155 usable surveys met the criteria for analysis. Data analyses includes descriptive statistics and demographics for the sample, descriptive statistics for each item, factor analyses of the Reform Readiness Survey, inter-item correlations for the RRS, reliability analyses for the RRS as well as factored subscales of the RRS, and bivariate correlations among all subscales of each measure. The following section outlines the research questions and hypothesis as well as the major findings, conclusions, and implications of the study.

## Major Finding Number One

*The Reform Readiness Survey developed for use in this study to assess the readiness of organizational change demonstrated satisfactory psychometric qualities (validity and reliability).*

The Cronbach's alpha reliability for the RRS is .976. All four components of the RRS were also found to be highly reliable. For each subscale, the reliability coefficients are as follows: Teacher Efficacy in Relation to Reform (.940), School Culture and School Climate in Relation to Reform (.954), Change Leadership (.940), and Collective Efficacy in Relation to Reform (.946). Therefore, the RRS is purported to measure that which it was designed to measure. The factored subscales of the measure loaded as expected, with four major components explaining 70.5% of the variance. Very few items double-loaded or triple-loaded after the initial factor analysis, and no items double- or triple-loaded after the second factor analysis. The measure was reduced from 42 items to 40 items.

## Major Finding Number Two

*School culture and school climate, although two discrete constructs, are perceived by teachers to be similar and/or one in the same.*

During the creation of the measure and the pilot stages of the measure, the researcher assumed that after the exploratory factor analysis, five factors would emerge, with school culture and school climate loading as separate components. However, the initial factor analysis, intended for item reduction using the pilot survey data, revealed that teachers view school culture and school climate similarly. These two constructs loaded on the same factor. However, all other constructs in the study, teacher efficacy, collective efficacy, and change leadership loaded on separate factors. In the subsequent factor analyses for this study using the sample population, school culture and school climate loaded on the same component as well. This confirms the research regarding the strong relationship between school culture and school climate (Fiore, 2001; Hoy & Hoy, 2003;

Van Houtte, 2005). However, although researchers conceptualize the terms separately, teachers view the constructs as the same.

### **Major Finding Number Three**

*Of all the constructs in this study, school culture has the strongest relationship with reform.*

All subscales of the RSCEQ are strongly correlated with the subscales in the RRS. In fact, of all the correlations among constructs, the strongest correlations occur between school culture and reform. School climate does not correlate as strongly with reform as school culture did. This affirms research by Allen et al. (1998) and Fullan (2007, 2009), who assert that in order for change to be successful and sustainable, one must address school culture. Furthermore, Wagner et al. (2012) discuss the importance of school culture in systematic thinking when approaching reform for educational organizations. Reform requires a shift in culture.

### **Major Finding Number Four**

*Collective efficacy is significantly related to reform, culture, and climate.*

Collective efficacy is significantly correlated with school culture, school climate, and reform, with slightly stronger correlations occurring between collective efficacy and school culture. Overall, the Pearson's correlations generally range from .600 to .750. The results from this study support Bandura's (1997) assertion that collective efficacy affects the whole school. Furthermore, Tschannen-Moran et al. (1998) confirm that collective beliefs are an important factor in the school's culture. This study supports these findings. Hoy and Hoy (2003) define collective efficacy as shared beliefs among organizational members, just as culture and climate are said to embody a shared belief system. The researcher did not expect that collective efficacy would be so strongly correlated with change; however, when considering the close relationship among collective efficacy, school culture, and school climate, this should not be surprising.

### **Major Finding Number Five**

*Although collective efficacy is related to reform, culture, and climate, it is not as significantly related to teacher efficacy.*

Although collective efficacy and teacher efficacy share the same cognitive and behavioral sources: mastery experiences, vicarious experiences, verbal persuasion, and psychological factors (Bandura, 1997), collective efficacy does not have a strong correlation with teacher efficacy. This is likely due to the emergent properties of groups and the lack of the compounding of individual efficacy of group members, as Bandura (1997) explains in his research. In other words, this study corroborates the idea that a highly efficacious teacher can have a low sense of collective efficacy due to the number of inexperienced or weak faculty members. Or, conversely, a teacher with a low sense of self-efficacy can have a strong belief that his faculty can positively impact student learning, which translates to a high sense of collective efficacy.

### **Major Finding Number Six**

*Teacher efficacy is not significantly correlated with reform.*

The sixth major finding of this study was surprising to the researcher, and challenges the original conceptual framework. Although teacher efficacy is correlated with reform, the correlations are not strong, only weak to moderate. This may be due to the crux of self-efficacy, which is *self*. Individual's perceptions of himself or herself correlate less with reform than do whole-group constructs, such as culture, climate, and collective efficacy. Few studies explicitly correlate teacher efficacy to reform. Many researchers agree that teacher efficacy is increased with professional development (Bruce, Esmonde, Ross, Dookie, & Beatty, 2010; Goddard, et al. 2000; Klassen & Chiu, 2010; Tschannen-Moran & Johnson, 2011; Tschannen-Moran &

McMaster, 2009); however, professional development does not always indicate that true reform is taking place in the classroom or school-wide. Tschannen-Moran et al. (1998) describe highly efficacious teachers as being more willing to implement changes within their classrooms without grumbling. Perhaps this supports the slight correlation with reform in this study.

## **Discussion and Implications of Major Findings**

This quantitative study is considered important because it offers a model for addressing organizational reform. This study tests the relationship among constructs found in the literature that are related to both student achievement and reform. Although many studies have addressed each construct separately, the researcher has yet to find a study addressing all of the constructs in relation to reform. Furthermore, the Reform Readiness Survey is unlike any other measure that determines organizational readiness for reform in that it addresses all major constructs in the model that can affect student achievement as well as reform: school culture, school climate, teacher efficacy, and collective efficacy.

### **A New Framework for Reform Readiness**

The Framework for Reform Readiness, as shown in Figure 1, presents culture and climate as a triangle, reflecting Fiore's (2001) metaphor, because the data supports the strong relationship among the constructs. However, the constructs are seamlessly related. In other words, there is no distinct line that separates the two constructs. Although they are distinctly important, they overlap in the minds of practitioners. Therefore, the line visually separating the two is a dotted line, representing the fluidity of the constructs in practitioners' minds. Separation can be recognized due to the actions and behaviors related to climate, which stems from the beliefs and feelings related to the foundational culture. Though it may not be vital to an organization to distinguish every characteristic of an organization as a manifestation of culture or climate, leaders need to have knowledge of both culture and climate in relation to first- and second-order change. This will be discussed in a subsequent section.

The data analysis also reveals that collective efficacy plays a major role in the reform process and is more closely related to school climate and school culture than previously expected. Collective efficacy and teacher efficacy are not as strongly related as previously thought. Teacher efficacy is focused on self, much like locus of control. Collective efficacy addresses the whole organization or group. If a teacher implemented a reform only within his or her classroom, teacher efficacy would play a more substantial role. However, this model is more focused on organizational reform; therefore, school culture, school climate, and collective efficacy are more influential on the organizational effectiveness of the reform. Teacher efficacy is not quite as influential, although it does have a positive relationship with reform, which supports Berman's (1977) research that claims that teacher efficacy can impact teacher change.

Reform is at the center of the model, represented as a non-shape to demonstrate the complexity and problematic-nature of change. Because the RRS did not differentiate between first-order change and second-order change, these two types of change will not be discretely represented.

Overall, the model is a representation of previous literature and current empirical evidence that supports the relationships among the five constructs: school culture, school climate, teacher efficacy, collective efficacy, and reform.

## School Reform Model

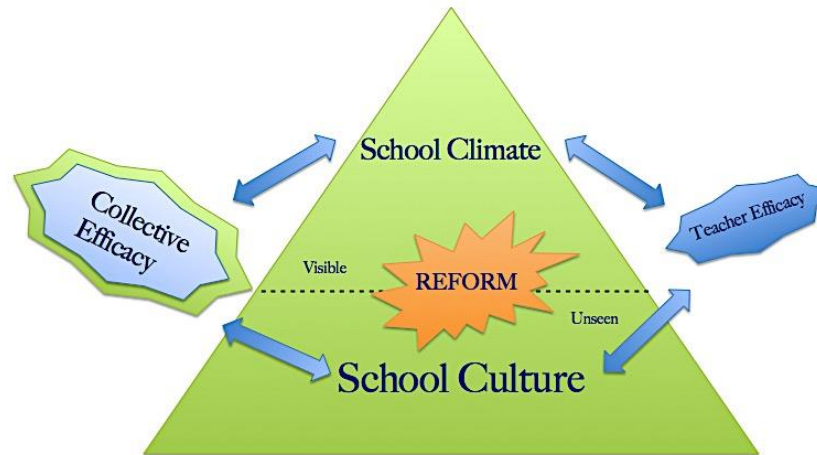


Figure 1. School Reform Model

### Implications Related to Conceptual and Theoretical Concerns

The research conducted regarding school culture affirms several findings from other researchers, particularly concerning reform. The amount of research concerning school culture had increased exponentially over the last 50 years due to the strong link between school culture and school effectiveness (Van Houtte, 2005). In particular, school culture has been shown to affect student achievement (D'Alessandro & Sath, 1998; Stolp, 1994). Although this study does not address student achievement directly, it is found that school culture does indeed have a strong relationship with reform, which confirms research by Allen et al. (1998), Fullan (2007, 2009), and Wagner et al. (2012).

According to the correlations in this study, Shared Leadership, a subscale of the RSCEQ, is most strongly related to Collegial Leadership (OCI), and Change Leadership (RRS). These subscales are not only connected because of the leadership factor, but because culture is very strongly related to both climate and reform. Therefore, it can be noted that strong leadership, which is shared and collegial among faculty members, is indeed related to strength of culture. In the review of the literature, the researcher brought out several elements of culture among foundational research. The following studies were noted: Cavanaugh and Dellar (1997); Fyans, Jr. and Maehar (1990); Hongboontri and Keawkhong (2014); Hoy and Hoy (2003); and Olivier (2001). Only two of the studies, Cavanaugh and Dellar (1997) and Olivier (2001) list leadership as being an essential element of school culture. This study finds that leadership is indeed an element of school culture.

School culture is also highly correlated with collective efficacy (.720, .699, .728). In fact, of all the subscales that are correlated with collective efficacy, the strongest correlations occur with the subscales referring to school culture. This indicates that collective efficacy is strongly related to culture. The nature of the relationship was not assessed in this study.

Concerning the relationship between school culture and school climate, this study draws from research by Fiore (2001), Hoy and Hoy (2003), and Van Houtte (2005) who assert that school climate is a product of school culture. School culture is the foundation upon which school climate is manifested. However, this study asserts that, although school culture and climate are two separate constructs, they are conceptualized by teachers as being one in the same. Van Houtte (2005) asserts, "Climate researchers measure how organization members perceive the organizational climate, while culture researchers look for what members think and believe about themselves" (p. 75). However, when using Likert-type measures, researchers solicit respondents to assess their own perceptions about the topic. Therefore, it would be easy for teachers to perceive their schools to be very similar in school culture and school climate.



Teacher Professionalism, a subscale of the OCI, highly correlated with all subscales in the RSCEQ and the TEBS-C. Although it is apparent that school culture and school climate are closely related, an addition to the research on school climate would be that collective efficacy is highly correlated with school climate. In fact, all subscales of the OCI, with the exception of Institutional Vulnerability, are strongly correlated with collective efficacy. Therefore, collective efficacy is closely related to both school culture and climate. This corroborates research that states that collective efficacy is an important aspect of school culture and climate (Bandura, 1993, 1997; Berman, 1977; Dembo & Gibson, 1985; Tschannen-Moran et al., 1998; Ware & Kitsantas, 2007).

In reference to Bandura's (1997) work concerning collective efficacy, this study confirms that collective efficacy is a group attribute, not a compounding of individuals' efficacious beliefs. Collective efficacy does not have a strong relationship with teacher efficacy.

However, this study provides further insight into the collective efficacy construct. As stated earlier, collective efficacy has a strong relationship with school culture, school climate, and reform. The strongest relationship with collective efficacy is with school culture. Because of the relationship between school culture and school climate, it is no surprise that collective efficacy is related to both. Bandura (1997) explains that although collective efficacy is not an additive process relating to teacher efficacy, it does share the same sources for efficacy: mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. Group members assess others' strengths and weaknesses when determining their perceptions concerning the efficacy of the group. This study asserts that when teachers are asked to measure their perceptions of culture and climate, they answer questions concerning collective efficacy much the same because they are measuring their perceptions of the group. This is also true of the Reform Readiness Survey. Teachers are asked to determine their perceptions of the group. One must remember, however, that although teachers are measuring perceptions of the whole faculty, the constructs previously mentioned are discrete.

Perhaps the most significant contribution to research concerning the five constructs in this study is that teacher efficacy does not have a strong relationship with reform. Hoy and Hoy (2003) define teacher efficacy as "a teacher's belief that he or she can reach even difficult students to help them learn" (p. 129). According to Tschannen-Moran et al.'s (1998) research, the four sources of efficacy are filtered through the cognitive process of the teaching task, which is related to the culture of the school. Furthermore, highly efficacious teachers persist to overcome difficulties in the classroom and are more likely to embrace new practices (Hoy & Hoy, 2003). These characteristics of efficacious teachers would seemingly impact reform. However, the relationship between teacher efficacy and reform is weak. Although efficacious teachers are more willing to incorporate new practices and support innovation, the strength of the reform is more related to whole-faculty efficacy, or collective efficacy.

One of the foundational elements of reform is culture. If the culture does not support the reform, it will not be sustainable. Allen et al. (1998) and Fullan (2007, 2009) assert that leaders must understand school culture when implementing reform. Reform, particularly second-order change, requires reculturing. This study supports the research concerning the strong relationship between culture and reform.

Another finding that affirms Fullan's (2001, 2005) research concerning change theory is the impact that leaders have on change. This study finds high correlations among subscales addressing change within several constructs, such as culture, climate, and reform. Leadership is an element that permeates almost every aspect of the school, in particular the culture and climate of the school. Although leaders have influence on individual teachers, the correlations among leadership subscales and teacher efficacy subscales were relatively low, especially in comparison with the other constructs in the study.

In addition to the findings concerning the impact of reform, this study finds that collective efficacy also has a strong relationship with reform. In particular, the researcher submits that collective efficacy is likely more impactful on the success of second-order reform rather than first-order reform. Just as second-order change requires reculturing of schools, second-order change can possibly be more successful with a strong sense of collective efficacy.

Lastly, this study augments research on reform by providing a reliable and valid measure that districts and states can use in order to determine organizational readiness for reform.

## Implications for Practicing Educational Leaders

The following section provides implications for leaders at both school and district levels.

**School leaders.** As many school leaders know, reform itself is not the key to creating high-achieving schools. Furthermore, reforms that are not implemented correctly are usually not sustainable. Badly implemented reforms can cost districts inordinate amounts of time, money, and even personnel. However, research has demonstrated that school culture, school climate, teacher efficacy, and collective efficacy affect student achievement (Bandura, 1997; Cavanaugh & Dellar, 1997; Cohen, Fege, & Pickeral, 2009; MacNeil, Prater, & Busch, 2009; National School Climate Council, 2007; Peterson & Deal, 2009; Stolp, 1994; University-Community Partnerships, Michigan State University, 2004). Just as Fullan (1999) asserts the importance of theories of change and theories of education working together, this study calls for the integration of the following constructs by school leaders and policymakers when considering reform: school culture, school climate, teacher efficacy, and collective efficacy.

This study affirms the strong connection between reform and culture. Ideally, a leader should work to create a strong culture and a positive climate before implementing a second-order change. This is called reculturing. Unfortunately, though, districts and states typically intend to implement reform as soon as possible in order to see more timely results and to save money. Therefore, it is the school leader's responsibility to continually be cognizant of the current school culture and work toward making it stronger. The stronger the school culture is, the easier it will be to implement second-order changes.

School leaders must understand the differences between culture and climate as well as first order and second order change. Reforms that address climate changes are typically first-order changes are visual, incremental, and surface level. Although climate changes may seem insignificant, these first-order changes are extremely valuable to school leaders. First-order changes can be administrative directives to which faculty members must adhere, such as dressing professionally, arriving at school on time, teaching from bell-to-bell, and working collaboratively to plan lessons. First-order changes pave the way to bring about attitudes, traditions, norms and values that affect the overarching culture of the school.

Although having a strong school culture makes second-order change easier, the nature of second-order change will always require the reculturing of a school in order to reach sustainability. Second-order change requires new ways of thinking. It is often complex, problematic, and takes much time and effort to accomplish. If the faculty already emulates shared leadership, professional commitment, and collegial teaching and learning, then second-order change will likely be easier to initiate, implement, and sustain.

Collective efficacy also proved to be a powerful construct highly correlated with reform as well as culture and climate. Schools can develop a strong sense of collective efficacy and raise student achievement in the process (Bandura, 1993, 1997; Hoy & Hoy, 2003; Moolenaar, Slegers, & Daly, 2012). In low socioeconomic schools, student achievement is powerfully affected by teachers' decreasing collective efficacy (Bandura, 1997).

Leaders should familiarize themselves with the construct and the four sources of collective efficacy: mastery experiences, vicarious experiences, verbal persuasion, and psychological factors. School leaders can be a source of high efficacious beliefs among faculty members. For instance, mastery experiences are personal experiences of success that the faculty experiences. As the teachers see student success—social, behavior, or academics—the principal can have teachers report the successes to faculty members. As the whole faculty observes their own impact on student learning, the collective efficacy increases. Principals can use every whole-faculty directive or initiative as an opportunity to name the successes that are seen.

Vicarious experiences occur when the faculty observes the success or failure of another faculty when tackling a similar proposed task. Faculty members who are able to observe other schools and the successes they experience with the same programs, types of students, and resources, will experience an increase in collective efficacy. Principals, however, must take time to view the practices of other principals and collaborate with them.

Verbal persuasion can occur at the school level or the district level. Verbal persuasion is simply hearing others confirm the group's abilities or the high expectations of that person for the group. Principals can provide this to their own faculties. District leaders can affirm positive expectations to school faculties. However, the credibility of the persuader can affect the faculty's response to the message.

The last source of efficacy is a bit more difficult for a principal or district leaders to apply. Levels of arousal and how the arousal is cognitively interpreted can explain psychological factors. Hoy and Hoy (2003) explain that psychological arousals, such as anxiousness and worry, can lower efficacy while excitement or energy increase efficacy. Whole-faculty psychological factors may be manifested through the climate at the school. If student behaviors are hindering teachers from teaching, they may experience stress and frustration, which would lower the efficacious beliefs for the faculty.

Although teacher efficacy did not prove to be significantly related to reform, leaders should not forget the impact teacher efficacy has on an individual teacher's classroom achievement (Bandura, 1997; Berman, 1977; Dembo & Gibson, 1985; Goddard et al., 2000; Tschannen-Moran et al., 1998; Tschannen-Moran & Hoy, 2001; Ware & Kitsantas, 2007). Teacher efficacy has an even greater effect on achievement than student socioeconomic status (Bandura, 1993; Goddard et al., 2000). The sources of efficacy are the same, and leaders can raise or lower a teacher's efficacy through verbal persuasion. Leaders should observe teachers and give them constructive feedback. Principals can also give teachers the opportunity to observe one another, which may contribute to an increase in teacher efficacy through vicarious experiences.

Lastly, school leaders can use the results of the Reform Readiness Survey to determine the strengths and weaknesses of the school in terms of culture, climate, collective efficacy, teacher efficacy, and leadership. Looking at practices that enhance and hinder the culture and the collective efficacy of the school is one place to start.

**District leaders.** Several of the constructs in this study are used in reference to school-level reform. However, whole districts create a culture and climate that also affects reform. A strong district-wide culture is expected to have a positive impact on the schools and the teachers. Just as individual schools create vision statements and goals, districts should do the same and communicate those statements and goals to the schools and the community. If schools perceive the entire district negatively, the community will also perceive the district negatively. A strong culture and a positive climate throughout the district will better prepare schools for reform.

Collective efficacy is a powerful construct that districts can use to increase achievement and prepare for reform. District leaders should understand and use the four sources of efficacy in actions and conversations with principals, whole faculties, and the community. Reforms too often receive negative attention from the community from frustrated teachers. However, if the practitioners in the district believe that the district positively impacts student achievement and can continue to positively impact student achievement, the initial problems that accompany second-order change will be more easily resolved. However, communication by district leaders to schools and the community is key, which leads to the next point.

District leaders must continually reflect on their own actions before and during the initiation of reform. Strong, transformational leadership is essential to all stages of reform. This study finds that effective leadership is also essential to a strong culture and a positive climate.

Lastly, the Reform Readiness Survey can be used to determine the readiness of schools for reform. Too often districts use the lowest performing schools to test the success of a second-order changes because of the immediacy of the problem and the extra funding available from grants or Title I. However, because low performing schools often have large amounts of teacher turnover, morale issues, negative climates, and toxic cultures, reforms often fail before the district allows other schools to take part in the reform process. The RRS was designed to assist districts in determining which schools are ready for reform. District leaders can initiate the district-wide reform in stages, beginning with the schools that are ready for the reform. During the first stage of reform, schools in which the reform is not being implemented can prepare for the reform by working to strengthen the culture and the collective efficacy of faculty members. This also gives these schools more time to

put structures in place as well as observe the implementation of the reform in other schools. The next set of schools will implement the reform during the second stage and so forth.

Although the RRS was created to determine organizational readiness for reform, school leaders and district leaders could possibly use the measure to progress monitor the implementation of the reform in reference to the effects on school culture, school climate, teacher efficacy, collective efficacy, and change leadership.

Although reform itself is not the key to increasing student achievement, by bridging the educational theories that have proven to raise student achievement, such as school culture, climate, teacher efficacy, and collective efficacy, and change theories, school and district leaders will be able to use reform to create positive changes for the future generations.

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## Appendix A

### Sample Items in the Reform Readiness Survey\*

	SD	D	SWD	SWA	A	SA
1. I believe I can implement changes in my classroom to increase student performance.	1	2	3	4	5	6
2. I am capable of implementing curricular changes due to reform efforts.	1	2	3	4	5	6
3. I believe I have the capability to implement reform.	1	2	3	4	5	6
4. I believe that I can positively impact learning while implementing mandates.	1	2	3	4	5	6
5. I believe that I am capable of successfully implementing new initiatives while teaching difficult students.	1	2	3	4	5	6
6. I am confident in my ability to manage difficult students during reform.	1	2	3	4	5	6
7. I am confident in my ability to teach what my students need to know despite policy changes.	1	2	3	4	5	6
8. As a member of my school staff, I believe I am vital in our efforts for school reform.	1	2	3	4	5	6
9. My successes in teaching contribute to my confidence in implementing reform.	1	2	3	4	5	6
10. I able to maintain my creativity while implementing mandates.	1	2	3	4	5	6

11. I am motivated to change my own classroom practices.	1	2	3	4	5	6
12. Teachers at my school are optimistic about state reform efforts.	1	2	3	4	5	6

Source: Stokes, E. W. & Olivier, D. F. (2016). *Reform Readiness Survey (RRS)*

*\*The entire RRS is comprised of 40 items. For use of the entire survey, please contact erin.stokes@rpsb.us.*