# Creating a Performance Culture:

# Anxiety, Climate and Performance Management Reform

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In recent decades, policy reformers and researchers have turned to performance management reform as a mechanism to improve the quality and efficiency of public organizations. Intended to improve government service through the publication of performance data and a realignment of incentives around organizational outcomes, such reforms have gained traction in a wide range of policy domains, from public health and international development to local government services.

This approach has recently gained traction in public schools, as education leaders seek to find ways simultaneously to free up schools from burdensome regulations and hold them accountable for their performance, whether through market mechanisms, governmental oversight, or both. Such is the case in England, where autonomous "specialist schools" have replaced traditional high schools overseen by local education authorities, and in Australia and New Zealand, where school choice and the tracking of student outcomes is common practice(Destler & Jochim, 2008) And such reforms have begun to take hold in the United States, whether through the introduction of charter schools, public schools run by independent providers, or through high-stakes accountability measures established at the district or state level.

Despite its popularity as a reform strategy, the preliminary evidence about the effects of performance management reforms such as school choice and high-stakes accountability is mixed(Carnoy, Jacobsen, Mishel, & Rothstein, 2005; Corcoran, Jennings, & Beveridge, 2010; Firestone, Mayrowetz, & Fairman, 1998; Hanushek, Kain, Rivkin, & Branch, 2007; Honig & Rainey, 2011; Jacob, 2005). Moreover, studies of performance management in other sectors where it has been more fully developed suggest that even high-profile reforms often result in few changes in practice or outcomes on the front lines(Moynihan, 2008; Radin, 2006). A key reason for this is that performance reforms demand not just changes in formal oversight systems (e.g. data collection and public mechanisms and formal outcome-based accountability systems) but also on changes in culture

and values on the front lines. And as such, performance management is a potent case for studying the dynamics of school culture change.

Drawing from institutional and organizational theory, this paper goes beyond the question of "whether" performance management works to ask under what conditions it works. Using data from a large urban school district, New York City, that underwent dramatic performance management reform starting in 2007, it presents and tests two theories of organizational culture change, one rooted in external incentives and one that sees culture change as largely the product of internal capacity and climate. Specifically, it asks:

What is the role of external incentives (in the form of organizational survival anxiety) and organizational climate in the espousal of performance management values and the adoption of performance values-in-use in scholols?

By looking at both espoused values (stated organizational beliefs) and values-in-use (beliefs as revealed through teachers' and principals' behavior), this paper seeks to determine the conditions under which teachers and principals not only proclaim to value innovation and high performance standards but also put those values into practice by engaging in data-based decision making and continuous improvement processes. In doing so, it both fills gaps in the existing literature on performance management and school accountability and contributes to a larger conversation about administrative reform and organizational change.

# High Stakes Accountability and Trends in School District Reform

After decades of focusing educational reform efforts on macro issues such as school funding discrepancies and micro issues such as curricular decisions and instructional reform, public education policy in the United States has turned its focus to the structural incentives for organizational improvement. As a result, we see initiatives at the district, state and federal level seeing to hold teachers, schools and even school districts accountable for student achievement.

While the specifics of these reforms differ according to geographical and political context, there has been a growing attention to reforms at the school district level. The emphasis on *school districts* as a context for education reform was emphasized by presidential candidate Barack Obama in his initial public statements on American education policy, and by President Obama through the bolstering of Department of Education funds (e.g. Teacher Incentive Fund grants) targeting school districts themselves. This shift reflects, in part, an effort to move funds closer to the point of service delivery and also a recognition that the United States' education problems are not evenly distributed across the country but are instead concentrated in certain school districts, particularly those with large populations of poor and minority students.(Lankford, Loeb, & Wyckoff, 2002).

Reform approaches have varied across districts, even among those who have chosen a high-stakes approach. While some cities, like Seattle, Washington and Washington, D.C., have sought to improve student outcomes though careful alignment of instructional and organizational practice across schools, others, while emphasizing accountability and common standards, have also increased school-level autonomy. This approach, labeled a "portfolio school district" by scholars at the nexus of political science and education (e.g. Hill et al 2012; Henig and Bulkley 2010) combines parental choice, decentralization of decision-making, the tracking of performance data, and accountability for results—including the closure of chronically-failing schools. Proponents of portfolio reform suggest that the best way to improve student outcomes is for school district officials to step away from day-to-day decisions about school operations, thus allowing school leaders and teachers to tweak organizational instructional decisions to fit local context, and hold schools accountable for outcomes. As part of this accountability, school districts are responsible for making decisions about when to close schools and actively recruiting new schools to replace them.

While new in education, this approach holds much in common with broader trends in public administration found in "New Public Management" reforms and performance management more generally. In contexts such as human services, prison operations, the federal bureaucracy, and even national defense, for example, performance reforms have been in operation for over a decade. (Christensen, Lægreid, & Stigen, 2006; Hatton & Schroeder, 2007; McBeath & Meezan, 2009; Moynihan, 2008). For that reason, it is useful to turn to the lessons found on such reforms in an effort to understand the potential impact of similar reforms in education.

## Performance Management Reform and its Discontents

I define performance management reform as a set of policies that require the collection, analysis and dissemination of performance information and hold organizations formally accountable for performance. This reflects the working definition of the National Performance Management Advisory Commission, which describes performance management as "an ongoing, systematic approach to improving results through evidence-based decision making, continuous organizational learning, and a focus on accountability for performance"(National Performance Management Advisory Commission, 2010). While relatively new to public education, such reforms have taken root in a variety of settings, including public health, prison administration, human services and international development. Despite their prevalence, prior research on the efficacy of performance management reforms suggests that the outcomes of these reforms are, at best, mixed. While their proponents (e.g. Behn, 2003; Hatry, 1997) highlight the ways in which attention to specific performance data can align organizational incentives and facilitate outcome-oriented organizational decision-making, critics point out that performance management reforms are all too often driven by questions of political expediency rather than actual organizational performance(Moynihan & Pandey, 2010; Radin, 2006). Policymakers enact performance management reforms to show that they are

going to battle "wasteful bureaucracies" but often fail to track and analyze the data that performance systems produce or adjust policy on the basis of that analysis (Radin 2006; Moynihan 2008). The impact of performance management reform on the front lines can be similarly political in nature, as mid-level managers either symbolically comply with reforms or tweak performance measures without serious regard to overall organization performance, such as by narrowing their focus to "teach to the test" or by focusing on "bubble" clients—those near passing thresholds and thus most likely to affect overall ratings (Corcoran et al., 2010; Heinrich, 2007; Heinrich & Marschke, 2010; Jacob, 2005; Jennings & Haist, 2004). The mixed nature of these findings point to the need to go beyond questions of whether performance management reforms work to the more nuanced questions of how and under what conditions performance management reforms work (Moynihan, 2008; Moynihan & Pandey, 2010; Moynihan et al., 2012).

The extant literature suggests that performance management reform is shaped by both formal and informal factors. Based on a cross-state and cross-agency study of performance management reforms, Moynihan (2008) found that successful performance management reforms depend on four formal policy features: managerial discretion, valid and reliable performance information, accountability for performance, and learning forums (organized systems to help individuals make sense of performance information). However, a change in formal policy features is not, in and of itself, sufficient to catalyze changes in organizational behavior. This is because performance management reform is itself premised on a new set of values and assumptions, values and assumptions that often run counter to existing the norms and behaviors of organizations that must implement the reforms. In their account of institutional change in education, Kerchner et al. (2008), for example, articulate the ways in which the norms of many newly-reformed school systems, guided by a logic of "consequences", differ from the norms that have traditionally underlay public sector organizations oriented around relationships and a logic of "confidence" in certified experts.

(Boyd, Kerchner, & Blyth, 2008). In essence, Kerchner et al. argue, the explicit focus on performance incentives found in many current school reform initiatives represents a dramatic change from prior reforms that focused on having the right people and structures in place with less attention to formal rewards and sanctions.

Moynihan's subsequent work has begun to explore the cultural dimensions of performance management reform. With Pandey (2010), for example, he finds that a "developmental culture"—one with an emphasis on risk-taking and innovation—increases the likelihood that public managers will use performance data. A subsequent study has found evidence that transformative leaders, in fact, use organizational culture as a lever by which to encourage performance information use(Dabady, 2003; Fryer Jr & Levitt, 2004; Stiefel, Schwartz, & Gould Ellen, 2007). Looking at the link between culture and program outcomes, Childress, Higgins et al. (2011), in a study of New York City school reform, find that "psychological safety", composed of organizational trust and support, and an "accountability culture" are both associated with improved student achievement.

These studies affirm the importance of culture to organizational performance and also suggest directions for future research. The Childress study, for example, acknowledges outright the need to consider both *how* psychological safety and an accountability culture shape organizational outcomes and *how* those two organizational characteristics emerge in the first place. These studies also point to a methodological challenge. Both Moynihan and Childress's studies use self-reports to measure organizational culture. Doing so is an effective way of capturing *esponsed* values, but it may not adequately capture deeper, often-tacit assumptions or the realities of organizational practice (Schein 2006). Moreover, recent scholarship has raised concerns about relying heavily on a single survey, arguing that this practice, while common, may contribute to severe common source bias (Meier & O'Toole, 2011).

This paper builds on the work of both Moynihan and Childress in two ways. First, it uses third-party accountability data to document organizational behavior as a means to minimize common source bias. Second, it explicitly articulates and empirically tests two theories of how and under what conditions performance management reform changes culture and practice on the front lines.

# Conceptual Framework: Competing Paths to Cultural Change

Scholars in a variety of disciplines and policy domains have acknowledged the importance of values, norms and culture to individual and organizational behavior, even if they have struggled to find a way to systematically identify their impacts (D. B. Tyack & Cuban, 1995). However, the evidence about cultural *change* is comparably sparse. Many works to date that explicitly address organizational culture fall into one of two camps. The first treats organizational culture as a static feature, either enabling, or more often, inhibiting organizational change efforts from the outside (Gormley & Weimer, 1999; Moynihan & Pandey, 2010). The second presents organizational culture as a managerial tool, suggesting that values and norms are the uncomplicated product of strong leadership (Kotter, 1996; Rainey & Steinbauer, 1999; Senge, 1990). Neither camp fully examines the process of cultural change.

Existing literature on institutional and organizational dynamics suggests two potential paths to instill changes in school (and particularly, faculty) culture: external incentives and internal dynamics (climate). I will discuss each in turn.

The influence of external incentives on organizational behavior is well established in prior literature (Eisenhardt, 1989; Moe, 1991; Pratt & Zeckhauser, 1985). From this perspective,

<sup>&</sup>lt;sup>1</sup> Part of the challenge is that scholars coming from different theoretical traditions use distinct terms that nonetheless have considerable overlap in concept and practice. For example, in discussing tacit organizational assumptions, for example, management theorists may refer to theories-in-use (Schein, 2006), which have a close resemblance to the "scripts" of new institutionalism (e.g. Meyer & Rowan, 1977) and the conceptual schema identified by those within a cognitive strand of policy study (Spillane, Reiser, & Reimer, 2002).

organizations respond and adapt to external signals and, particularly, changes in the external environment. Changes in outside demand or the external authorizing environment lead to changes in organizational mission, practice, and culture. Hartmann and Khademian, for example, conceptualize organizational culture as a set of commitments, which "depend on the incentives people face for action, and the consequences of those actions over time" (2010). These incentives can be positive—e.g. the awarding of recognition or additional bonuses for exceptional outcomes—or they can be negative, as with high-stakes penalties for low performance. At their strongest, negative incentives can provoke what Edgar Schein has termed "survival anxiety"—external threats to organizational health or wellbeing, which could include the prospects of school closure altogether (Schein, 2006), or as has become more common under No Child Left Behind, school reconstitution, under which school leaders and/or a large number of faculty members lose their positions. The prospect of closure or reconstitution can, from this perspective, act as a wakeup call, highlighting where school culture and practice are misaligned with the external environment (see also Kotter, 1996). In such cases, anxiety may be a strong motivator for change.

Survival anxiety is both technical and political in nature. High stakes accountability reforms, by their very nature, seek to reward schools that demonstrate high student outcomes and penalize those with lower levels of student achievement. For that reason, a school that can boast of high student performance levels is likely to face fewer pressures from a performance management or accountability reform, even if those student outcomes are due to factors outside its control. But political considerations also matter. For example, even as formal performance expectations shift, some schools may benefit from a loyal and parent community that disregards formal performance ratings and continues to support principals and teachers that they know and trust; in extreme cases,

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<sup>&</sup>lt;sup>1</sup> It is well established in the prior literature that educational outcomes are the product not only of school or district processes (e.g. curriculum and school oversight mechanisms) but also of pre-existing student characteristic that reflect broader socioeconomic trends.

these parents or community members may even protest to keep them open or free from sanctions. By contrast, relatively low performing schools, especially when lacking in support from parents and/or community members, are more likely to face both increased scrutiny and severe consequences for their performance. A second way in which survival anxiety is political is that reforms themselves are subject to political forces. Beyond their own organizational performance, school teachers and principals may also assess, tacitly or explicitly, the strength of the governing coalition behind the reform, (Jennings & Haist, 2004; Orr, 1999; Patashnik, 2008; Stoker, 1989). Both individuals and organizations are less likely to invest time and effort to respond to a reform that they perceive as tenuous and/or subject to reversal. In other words, before investing in dramatic changes in behavior, school personnel are likely to ask themselves whether the reform itself is likely to stick.

If organizational behavior is primarily the product of external incentives, there are clear implications for the impact of performance management reform on individual schools. Specifically, this perspective suggests that schools with higher levels of survival anxiety, because they face the greatest incentive to improve, will be more likely to espouse and adopt performance values subsequent to the start of reform. Thus, the external incentive perspective leads to the following hypothesis:

H<sub>1</sub> Higher levels of school-level survival anxiety will lead to a higher adoption of performance values in subsequent years.

Not all theories of organizational change prioritize external incentives, however. Prior research on organizational change (Sandfort, 1999) highlights the difficulty of changing practices that are deeply engrained. Hence, even if individuals support a reform's underlying idea, or perceive a need for change, organizational inertia can be strong. Thus, this second perspective on organizational change

focuses not on external pressures but on internal conditions, suggesting that certain organizations are, all else equal, more "ready for change" than are others(Hou, Moynihan, & Ingraham, 2003).

From this perspective, improving organizational performance is more a matter of investing in workers' capacity over the long term than it is of structuring the perfect inducements (Fernandez & Moldogaziev, 2011; O'Toole & Meier, 2009); capacity building, moreover, depends on a supportive organizational climate (Austin & Ciaassen, 2008). Previous scholarship, for example, has confirmed the importance of psychological safety and social trust (Childress et al., 2011; Park, 2012; Schein, 2006; Senge, 1990; Smylie & Evans, 2006) in enabling an front line workers to innovate and to undertake the risk of unlearning old habits and learning new ones. Similarly, changes in practice are more likely in a cultural context that prioritizes risk-taking or innovation(Childress et al., 2011; Moynihan & Pandey, 2010; Schein, 2006). From this perspective, school culture change is most likely when teacher and principals are ready to work together and openly share differences. This will allow them to better examine pre-existing assumptions and explore potential inconsistencies within a school's values-in-use—the beliefs and values that that faculty exhibit through their behavior (Argyris & Schön, 1974,1977; Coburn, 2001; Schein, 2006; Senge, 1990).

By arguing that culture change is a product of internal organizational characteristics rather than external pressure, the internal dynamics perspective posits that informal organizational characteristics such as climate will strongly predict an school's response to performance management reform. More specifically, it suggests that a strong organizational climate will increase the espousal and adoption of performance management values. This leads to a second hypothesis:

H<sub>2</sub>: An organizational climate characterized by psychological safety, perceptions of support and norms of collaboration will lead to a higher adoption of performance values by schools in subsequent years.

While presented as products of competing organizational theories, these two hypotheses need not be mutually exclusive. It is possible that external incentives and organizational climate both matter, or that one matters more in the presence of the other. For that reason, this paper not only tests each hypothesis on its own but also includes an interaction effect to capture the joint impact of organizational climate and external incentives. In the pages that follow, I present findings from this test, using multiyear data from a large urban school system.

# School Reform as a Context for Studying Performance Management Reform

U.S. public education has both theoretical and methodological advantages as a context in which to study organizational culture change under performance management reform. While performance management reforms have around for decades, their approach is quite new to education; they are also fundamentally different from the status quo. On the one hand, school systems have traditionally had strong formal systems of centralized control, with curricular and managerial decisions made by a professional elite housed in central offices and passed down to individual schools. This is what David Tyack has called the "one best system" approach, premised in what Kerchner et al. have described as a "logic of confidence", in which political leaders delegate decision-making authority to technical experts in the district administration (Kerchner, Menefee-Libey, & Mulfinger, 2008; Tyack, 1974). At the same time, as a part of "loosely-coupled" systems, schools have simultaneously operated with substantial amounts of tacit autonomy; both school leaders and teachers themselves frequently make decisions that deviate from the mandates of official district policy(Lortie, 1975; Meyer & Rowan, 1977). These characteristics of both formal hierarchy and informal discretion are each at odds with a performance management regime's formal emphasis on both site-level discretion and accountability for outcomes. For that reason, some scholars have suggested that, for public education, the turn to performance management reform reflects an institutional shift (Boyd et al.,

2008; Kerchner, Menefee-Libey, & Mulfinger, 2008a). As one example, teachers and principals, rather than facing tighter scrutiny at the start of their careers in return for at least tacit discretion in their classrooms and schools, now find themselves asked to justify, often for multiple audiences, the rationale for each decision and its potential impact on student outcomes. This, in turn, accentuates the extent to which performance management reform requires a cultural shift on the part of both front-line workers (teachers) and managers (school principals).

Moreover, this institutional shift is quite new. In part because of the difficulties of measuring complex educational outcomes and isolating the influence of any one factor (e.g. a particular teacher or student), performance management reform has come later to public education than to other policy domains, with full-fledged performance management systems only emerging within the past decade. This gives researchers the opportunity to study performance management reform from its inception.

Finally, the structure of American school districts also offers a methodological advantage. Urban school systems, in particular, consist of many schools under a single governance authority. This allows researchers to compare reform outcomes across hundreds of sites within a single political, geographical and policy context, something less possible in other policy domains. The ability to control for political and geographical factors, in turn, increases the likelihood of drawing causal conclusions.

Within public education, New York City presents a "critical" or "most-likely" case for the study of performance management reform(Seawright & Gerring, 2008). The city's school system began a dramatic transformation in 2002 when newly-elected Mayor Michael Bloomberg dismantled the elected school board and took control. After a series of reform efforts focused on centralizing and standardizing decision-making, Bloomberg, along with his appointed chancellor, Joel Klein, decided to take a different approach: they transformed a once-hierarchical and vertically-integrated

school district into what scholars in education (e.g. Hill et al. 2012; Henig and Bulkley 2010) have labeled a "portfolio school district"—one characterized by parental choice, decentralization of decision-making to the school level, the tracking of performance data and accountability for results—including the closure of chronically-failing schools.

Under the new regime, established in 2007, principals became the "CEOs" of their schools, with enhanced budgetary authority and discretion in hiring and, to a lesser extent, curricular decisions. In return, schools now face greater accountability for performance. New York City's Department of Education has instituted a comprehensive school rating system based on quantitative measures of student outcomes, progress and enrollment trends and a qualitative school analysis, with inspections conducted annually for the lowest performing schools and biannually or tri-annually for higher-performing schools. These ratings have real consequences, as the Mayor and his Chancellors have worked aggressively to close schools they perceived as failing, even in the face of substantial community opposition.<sup>1</sup>

New York City's portfolio reform presents a critical case because it provides the purest instance of performance management reform of all school districts in the country. In contrast to other school systems, which have adopted some elements of performance management reform but not others, or who have applied performance management principles to some schools but not others, New York City's leaders have altered the formal institutions of oversight for each of its thousand schools. Importantly, the system's reform codifies four elements of performance management reform highlighted by Moynihan (2008) as critical to successful reform:

• Managerial Discretion—through school-based hiring and budgetary control;

<sup>&</sup>lt;sup>1</sup> Approximately 140 schools have closed, or been slated to close, since Bloomberg took office in 2002. These closures have been met with parent protests, community criticism, and, most recently, lawsuits sponsored by the NAACP and teachers unions.(Otterman, 2010; Powell, 2012; Taylor & Phillips, 2012)

- Valid and Reliable Performance Data—through annual analysis and publication of educational outcomes by the central office;
- Accountability for Results—by closing schools with chronically low ratings.<sup>1</sup>
- Learning Forums—through school-level "inquiry teams" in which both teachers and principals study student data and their relation to organizational outcomes.

The substantial changes in formal performance management systems suggest that if external reform can produce a performance culture at the school level in any educational context, it is most likely to do so in New York.

#### Data and Methods

This paper draws from annual surveys of teachers and parents in 2007, 2010, and 2011 and school accountability documents, all administered by the New York City Department of Education, to measure the relationships between organizational climate, survival anxiety and the adoption of performance values. Following the work of Argyris and Schön(1974, 1978) and of Schein (2006), it measures two levels of organizational values:

**Espoused Values:** Beliefs and ideals explicitly held by an organization and its front-line staff, often codified in organizational mission statements;

Values-in-Use: Implicit organizational beliefs and ideals revealed through organizational behavior.

Such values are important to consider in a policy and public management context because the response of front-line managers and workers to performance management reforms reflect not only formal systems but also the extent to which their beliefs align with the aims of the reform (Jennings

<sup>&</sup>lt;sup>1</sup> Decisions about which schools close when, while informed by student achievement statistics, are ultimately made by a committee appointed by the Mayor.

& Haist, 2004; Spillane et al., 2002). Moreover, the deepest organizational beliefs are often tacit; this means that even organizations that *espouse* values in line with a reform may fail make the deep changes in practice that that reform demands(Argyris & Schön, 1974; Schein, 2006; Senge, 1990). As a result, it is critical to also consider values-in-use, those values that are enacted and sustained by the behavior of organizational members.

More specifically, this paper examines the adoption of performance management values—those aligned with the underlying "logic of consequences" or incentive-based decision making upon which performance management reform is based (Kerchner, Menefee-Libey, & Mulfinger, 2008). Drawing from the work of Kerchner et al, and from the broader literature on performance management(Hatry, 1997; Osborne & Plastrik, 1997), I assess the extent to which schools espouse and use values consistent with a performance management regime by measuring the following two composite dependent variables:

Espoused Performance Management Values

- Priority placed on high learning standards for all students<sup>1</sup>
- Satisfaction with the governing regime
- Belief in innovation and autonomy

Performance Management Values-in-Use

- Organizational strategizing and goal-setting
- Attention to performance data
- Engagement in continuous improvement processes.

Thus, this research seeks to determine the conditions under which front-line teachers and principals not only explicitly value innovation and high standards for all students but also put those values into practice, by engaging in data-based decision making and continuous improvement processes.

Espoused values and values-in-use each represent composites of multiple indicators, which I list in Appendix A. Espoused value indicators come from teacher responses (aggregated to the

<sup>1</sup> To some extent teachers and principals have always prioritized the learning of their students. However, recent policy reforms, which emphasized performance indicators for underserved student populations and rhetorically argued for "No Child Left Behind", are arguably at odds with longstanding educational practices that sorted or tracked students according to aptitude and accepted differential achievement as inevitable.

school level) on the annual learning environment survey (response rate 82% in 2011)<sup>1</sup>. Measures of performance values-in-use come from the Department of Education's Quality Review inspections. Quality Reviews, which are conducted annually for the lowest-performing schools and every two to three years for higher-performing schools, rate schools in five categories: organizational and instructional coherence; data gathering and analysis; planning and goal-setting; capacity-building alignment; and monitoring/revision structures. These are particularly useful because they provide a third-party assessment of the school-level behaviors that reflect performance values-in-use. Given the absence of a single underlying latent characteristic, I combine these variables using principal component analysis.<sup>2</sup> Each of the variables is normally distributed.

A full list of descriptive statistics can be found in Table 1. Following the framework presented in the previous section, I estimate an organization's likelihood of espousing performance management values or adopting performance management values with the following equation:

$$PV_{st} = \alpha_0 + \alpha_1 A_{s(t-1)} + \alpha_2 C_{st} + \alpha_3 A_{s(t-1)} C_{st} + \alpha_4 F_{st} + PV_{s0} + \varepsilon_s$$

where PV (performance values) is the outcome for a school *s* in year *t*. A represents survival anxiety, C represents organizational climate, and F is a vector of formal school and leadership characteristics. I control for the school's values at the start of the performance management reform policy (2007). As noted above, this analysis enables me to measure not only the *independent* influence of survival anxiety and organizational climate, but also their *joint* impact, captured with an interaction term.

I conceptualize school-level survival anxiety as the composite of three characteristics, using both New York City Department of Education progress report ratings and parent responses to the annual learning environment survey:

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<sup>&</sup>lt;sup>1</sup> All teachers are expected to complete the learning environment survey, which plays a role in school accountability ratings. However, the responses on individual teachers are not tracked.

<sup>&</sup>lt;sup>2</sup> Eigenvalue for espoused values= 5.95; eigenvalue for values-in-use= 12.88

- School quality—as measured by Department of Education metrics (inverse indicator);
- Parental perceptions of school quality (inverse indicator);
- Parental support for reform.

In this conceptualization, survival anxiety represents not only "objective" school quality as measured by Department of Education metrics, but also parental perceptions of school quality and of the reform itself. This definition accounts for both the "technical" and "political" elements of survival anxiety detailed above. A highly active and supportive parent body is likely to protest actively against school closing or other high-stakes sanctions (Koval, 2007). Thus two schools may have equal quality ratings as measured by district or state assessments. But, if one school has an active and engaged parent body that thinks highly of the school and is hostile or suspicious of reform, it will likely experience lower levels of survival anxiety than another with parents that are disengaged, dissatisfied with school performance, or strong supporters of a performance management regime. Survival anxiety is captured using an additive index of standardized variables.<sup>1</sup>

I conceptualize a school's organizational climate as comprised of three key concepts:

- Psychological Safety—the extent to which teachers trust one another and school leaders;
- Perceptions of support—the extent to which teachers feel respected by stakeholders (parents and students) and respected and materially supported by district leaders;
- Norms of collaboration and open dialogue—the extent to which teachers work with one another and feel comfortable airing disagreements.

Each of these components reflects multiple indicators from teacher responses on the annual learning environment survey. High correlation between these indicators supports the theory that

theoretical constructs developed in this paper.

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<sup>&</sup>lt;sup>1</sup> The Cronbach's alpha for this variable is .43, which raises concerns about the additive index's internal validity. For that reason, I re-tested the model using an alternate model specification that disaggregated the survival anxiety into three subcomponents. The findings for that model were substantively the same as for the model presented in this paper. I include the aggregate survival anxiety variable because it better captures the

they reflect a single underlying latent characteristic. For that reason, I construct the organizational climate variable using factor analysis (eigenvalue=10.77).

In addition to organizational climate and survival anxiety, I control for a number of schoollevel characteristics and/or demographic controls. These are listed in Table 1. Five—eligibility for merit pay, prior participation in a voluntary performance management system (the "Empowerment" zone), the proportion of less-experienced (<4 year) teachers, affiliation with a partner support organization, and 2007 performance management values—are likely to have a positive correlation with the adoption of a performance management culture. A fifth—the proportion of highly experienced (15+ year) teachers—is likely to have a negative correlation with performance culture. Finally, four variables have ambiguous or unknown relationships: a peer index (used by the district to identify schools with similar demographics/conditions), school level (e.g. high, middle or elementary), stable school leadership between 2007 and 2010, and the number of full-time teachers (in order to control for school size). The ambiguity of the stable school leadership variable stems from the fact that, while the absence of new leadership voices may hinder the development of an alternate culture, prior literature in education(Branch, Hanushek, & Rivkin, 2009; Clark, Martorell, & Rockoff, 2009; White & Bowers, 2011) has found that stable leadership can contribute to school improvement.

This approach detailed above presents two serious methodological challenges: endogentity and self report/common-source bias. I discuss each in turn.

One challenge in measuring the relationship between these indicators is the substantial risk of endogeneity. For example, schools may improve their performance (and thus lower their survival anxiety) by adopting the performance-based practices encouraged as part of performance

<sup>1</sup> Factor analysis reveals two additional factor loadings with eigenvalues greater than one (1.86 and 1.12) respectively). However, both a scree test and the lack of clear unifying theory for the two additional factors justify the use of a single factor.

management reform. This would lead to a negative, but spurious, correlation between survival anxiety and performance values, since, in this case, decreased survival anxiety would be the result, rather than the cause, of increased performance management values. In an effort to reduce this risk (and to account for the time required for organizational change in response to incentives), I measure survival anxiety indicator in the year prior to the year that I measure performance-based practice.

The second challenge stems from the potential limits of self-reports and a finite number of sources. As noted above, self-report data can be unreliable, given that an organization's espoused values do not always reflect the reality on the ground. Moreover the potential for common source bias can be substantial (Meier and O'Toole, 2011). For that reason, when measuring performance management values-in-use, I use, in lieu of teacher responses on the learning environment survey, ratings from the New York City School System's formal Quality Review, a qualitative assessments of school-level practice conducted by independent observers following multi-day site visits. This approach reduces the correlation between organizational climate and values to 0.39. The downside, however, is that not all schools receive annual reviews. As a result, my sample size is lowered substantially, particularly in specifications that focus on determinants of change in schools with the lowest performance values in 2006-2007. For that reason, I experimented with alternate specifications, including those that incorporate self reports from the learning environment survey and those that incorporate a school's most recent quality review score, even if the review was conducted in a prior year (limiting the sample to schools that have had a quality review within the past three years). Neither approach substantively changed the findings.

### **Findings**

In this section, I report study findings for the predictors of espoused performance management values and performance values-in-use. In doing so, I look at two populations of interest: the full

population of New York City schools, and schools that, in 2007, exhibited low performance management values. This subpopulation is of particular interest because it represents organizations especially targeted by performance management reform—schools that did not engage in data-based planning or decision making (and therefore, those whose front-line behavior the reformers intended to change).

## Analysis 1: Espousal of Performance Values

Results from the first analysis can be found in Table 2. This analysis provides strong support for the internal dynamic hypothesis (H<sub>1</sub>), and somewhat weak support for the external incentive analysis (H<sub>2</sub>). As both column A and column B make clear, this analysis finds organizational climate to be a very strong predictor of espoused performance management values. A one standard-deviation increase in a school's organizational climate increases that school's espousal of performance values by 0.80 standard deviations. The survival anxiety variable is comparably weak, though significant; a one standard deviation increase in survival anxiety increases the espousal of performance values by approximately 0.04 standard deviations. The differences in findings between the two populations are not very dramatic, though survival anxiety did appear to play a larger role for schools that, in 2007, espoused few performance management values. The survival anxiety coefficient in column B is twice that of column A. The discrepancy between the two populations supports the theory that performance pressure would provide an incentive for schools without a performance management culture to reassess and change their beliefs.

Few of the formal characteristics have a significant impact on the espousal of performance values. This suggests that organizational climate and survival anxiety are more influential than are structural features in predicting the espousal of performance values. Some evidence suggests that leadership consistency and exposure to new ideas contribute to the espousal of new values. For low-

espousal schools, affiliation with a partner support organization was positively correlated with the espousal of performance values, and stable leadership was positive in both school populations.<sup>1</sup> Finally, one of the formal controls raises questions about the second hypothesis. In the full sample specification, schools with more advantaged student populations (as measured by the peer index) were *more* likely to espouse performance values. This is counterintuitive, since schools with a high peer index, which typically post greater student achievement scores, should experience lower survival anxiety than do schools with a low peer index. One explanation for the positive impact of peer index is that espoused values such as high academic standards and a focus on school improvement efforts were more likely to be supported by external stakeholders, such as parents, within a more affluent context.

The R<sup>2</sup> value suggests that the model is a very good fit—and may, in fact, be *too* good a fit.

Of particular concern is the high correlation between organizational climate and the dependent variables (approximately 0.76). This lends support to some of the aforementioned concerns about common source bias, and raises additional concerns about the discriminant validity between organizational climate and espoused values. Fortunately, these concerns are mitigated in the second model, which focuses on performance values-in-use, measured using a second data source.

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<sup>&</sup>lt;sup>1</sup> There are some surprising findings among the control variables. For example, the proportion of longstanding teachers is positively correlated, and, in the full population of schools, the proportion of new teachers is negatively correlated, with the espousal of performance value. Given this section's focus on the *espousal* of beliefs, this finding may simply reflect veteran teachers' greater ability to adapt their rhetoric to the prevailing political winds. Also surprising is the negative and significant coefficient, in the full sample of schools, for affiliation with the empowerment network—the voluntary performance management system that preceded system-wide reform—and for the proportion of new teachers. One explanation for the latter finding is that schools in the empowerment zone that had not developed a performance culture by the start of the broader reform were less likely to do so than were schools that had not already encountered performance management reform. In other words, a school affiliated with the empowerment zone prior to 2010 might have already undergone a period of cultural change—thus, the impact of the system-wide performance management reform may have been smaller as a result.

While important as a first take on culture, espoused values may offer a superficial and even inaccurate picture of the core beliefs within a school. For that reason, it important not just to rely on teachers' stated beliefs but also to measure school values as revealed in practice.

Table 3 reports findings from the analysis of organizational climate and survival anxiety's impact on performance management values-in-use. The findings are striking. As in the prior model, this analysis provides strong support for H<sub>1</sub>, the internal dynamics hypothesis. A one standard deviation increase in organizational climate is correlated with a 0.25 increase in the adoption of performance management values. However, this analysis not only fails to support H<sub>2</sub> but also provides strong evidence to refute it. The survival anxiety variable is both **negative** and significant, with a one standard deviation increase in survival anxiety leading to a .22 to 0.25 **decrease** in the adoption of performance values-in-use. This suggests that performance pressure, rather than providing an incentive for the development of a performance management culture may, in fact, impede it.

As in the first analysis, few of the control variables have a statistically significant impact. This reflects, in part, low sample size, and in part, perhaps, the fact that formal factors shape performance management behavior through organizational culture as a mediating variable (for more on this theory, see Moynihan et al., 2012). Stable leadership is negatively correlated with the adoption of performance values, suggesting that the presence of new leadership may facilitate a school's culture change; however, this variable is only statistically-significant for the full population of schools in the study.<sup>1</sup>

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<sup>&</sup>lt;sup>1</sup> School size and level matter somewhat, with size of faculty having a positive correlation with the adoption of performance values, and high schools having a negative correlation. Given that high schools are typically the largest schools in the school system, I tested for multicollinearity by running the model with and without faculty size. The high school coefficient was still positive and significant, though slightly smaller, when the number of teachers variable was excluded.

#### Discussion

This paper began with the question of how external incentives, on the one hand, and internal dynamics, on the other, facilitate and impede changes in school culture. Taken together, the findings lend strong support to the internal dynamics theory and seriously question the external incentive perspective. While organizational climate—psychological safety, perceptions of support and norms of open dialogue—is a strong predictor of both espoused performance management values and performance values-in-use, survival anxiety, which reflects performance pressure and incentives, has only a small impact on espoused values. Moreover, increased survival anxiety has a negative impact on performance values-in-use.

The negligible or negative impact of survival anxiety is robust across multiple specifications. It is worth noting that the negative impact of survival anxiety comes through most strongly in the most conservative of the models—the one that avoids common source bias through the use of third-party assessments of organizational behavior. Alternate non-linear specifications of the model do not change the substantive findings For example, the negative impact of survival anxiety holds true even with categorical variables for high and low anxiety, and even when excluding cases with the highest levels of survival anxiety. Furthermore, the one formal variable that captures a school's positive incentive to improve—eligibility for a school-wide merit raise—was inconsistent across the models. This casts even more doubt on the role tangible incentives play in organizational change.

To the extent that these findings hold true across other political contexts, they raise serious questions about the potential efficacy of high-stakes accountability and formal incentives as policy levers to spur school improvement. Findings from New York suggest that performance pressure, even when raised to a level that provokes real survival anxiety (in the form of outright school closure), is not sufficient to provoke changes in teachers' and principals' behavior. This finding can

help to explain why performance management reforms in other domains have not had their intended effects.

Conversely, organizational climate is a strong and significant predictor of the adoption of performance values throughout both analyses. Environments characterized by psychological safety and organizational trust, as well as those where front-line workers felt supported by their school leaders, fellow teachers, and members of the community, were more likely to exhibit performance values five years into the reform.

These results should be interpreted with caution, given the methodological challenges discussed above and the fact that they consider only one city over a limited period of time.

However, it is important to consider further both *why* climate appears to matter so much and why performance pressure appears to matter so little.

One explanation for the strong and positive impact of the organizational climate is that organizational change is *difficult*. Moynihan makes this point specifically in his study of the dynamics of performance management reform, arguing that organizational learning is a necessary intermediate step if such reforms are to lead to improved student outcomes. This point is supported by the broader literature on organizational culture and change. Both Senge (1990) and Schein (2006), following Lewin(Lewin & Lewin, 1948), have emphasized the fact that the adoption of new organizational behaviors depends on not just the learning of new behaviors but the *un*-learning of old behaviors. This *un*-learning is both particularly important and particularly challenging in contexts where pre-existing professional norms run counter to the mandates of a reform(Sandfort, 1999).

This is certainly the case for performance management reform in education. Given the newness of high-stakes assessment and data management tools, it is unlikely that many teachers in the New York City School System would have received training on data-based decision-making as part of their pre-service training. Moreover, the fact that for many teachers, education is an art

rather than an exact science, makes the focus on hard indicators off putting and even alienating. Taken together, this suggests, following Schein, that the learning anxiety associated with the development of a performance management culture would be high.

In the face of high levels of learning anxiety, as Schein notes, survival anxiety is unlikely to have the intended effect. Rather than spurring organizational change, survival anxiety, if accompanied by high learning anxiety, is more likely to lead to a panicked response, perhaps followed by superficial changes in organizational behavior. This would help to explain why, in the case of performance management education reform, there is little support for the external incentive hypothesis. While low scores on performance indicators may signal to schools that their performance is inadequate and that their survival is at risk, the low scores themselves do not offer an easily-followed path to organizational improvement.

In such a context, it makes sense that organizational climate would be an essential prerequisite for changes in school culture. Scholars in both education and organizational studies more generally emphasize the importance of intraorganizational trust in helping individuals to rethink existing assumptions and try out new modes of practice(Bryk & Schneider, 2002; Coburn, 2001; Schein, 2006; Senge, 1990; Smylie & Evans,, 2006). Moreover, to the extent that teachers within a school feel generally supported both by internal stakeholders (e.g. parents) and by the school system administration, they may have a greater sense of organizational efficacy that enables them to take on the new practices demanded by performance management reform.

This findings of this paper suggest that incentives alone are not likely to catalyze change in teachers' and principals' behavior. To the contrary, this study found that those schools that appeared to have the greatest incentive to improve were less likely to change their deeper organizational values-in-use, either because teachers and principals were unwilling to change their practice even in the face of existential threat or because they lacked the capacity to do so. To the extent that these

findings hold true in other policy contexts, it raises substantial questions about incentive theory generally (and the extent to which a logic of consequences drives organizational behavior) and has significant implications for school reform. In particular, these findings suggests that policymakers and district and school leaders alike would do well to consider not only the formal systems in place to reward high-level school performance but also the informal and formal institutions necessary to achieve them. The latter has been all too often downplayed in the current climate of high-stakes accountability.

All too often, formal mechanisms designed to heighten school performance incentives and spur a rapid response—such as repeated school report cards—force a timeline for change that is unrealistic. Unrealistic expectations, in turn, have the potential to breed cynicism about performance management reform and a superficial response on the ground, as teachers and principals seek out quick fixes and blame one another for a school's failings. The end result is performance management reforms that bring about few changes in behavior in the schools that may need change the most. Instead of focusing on tangible rewards and sanctions, this paper suggests that policymakers would do well to consider collaborative approaches that engage those responsible for implementing reforms and help them develop the internal capacity to improve.

#### Conclusion

This paper, echoing Moynihan's (2008) and Radin's (2006) prior findings in other policy domains, finds that performance management is not the clean route to improved school performance advocated by its strongest proponents, and, drawing from multiple sources of specific data about organizational behavior in a large urban school district, helps to explain *why*. In contrast to much of prior theory and practice, this paper finds that successful performance management reform in schools depends not on clear organizational incentives but instead on a set of softer organizational

indicators: psychological safety, perceptions of support and norms of open dialogue. This finding raises serious questions about the role of incentives in organizational behavior and highlights the need for researchers to consider more deeply both the reasons *why* formal incentives have not had their intended effects and the strategies that policymakers and school leaders alike can use to foster positive organizational climates in schools.

One should be careful about over-generalizing from these findings, which come from a single city. Nonetheless, these findings have considerable implications for future research and future school reforms in New York and other contexts.

Further research is needed to examine why survival anxiety is not a better predictor of organizational culture change. Given the overwhelming importance of organizational climate, it is also worth examining the behaviors of public leaders more carefully to consider what strategies are most likely to contribute to psychological safety and perceptions of support. This will require, first, more qualitative inquiry to track school change on the ground, and second, quantitative or mixedmethod studies to test alternate theories. Next, as suggested above, further research should examine this framework in other school districts, in order to determine whether survival anxiety impedes school culture change in other contexts. To the extent that it does, these findings suggest a need to re-think the emphasis on high-stakes accountability that has come to dominate school reform in many contexts and to pay closer attention to organizational capacity and other cultural predictors of reform. To some extent, attention to school capacity and climate may complement formal incentives for teacher and school improvement. This could take the form of offering additional financial resources, school improvement strategies and organizational support to boost climate in the highest-need areas. However, to the extent that sanctions impede, rather than facilitate, organizational development, policymakers may find that policies focused on organizational capacity have an even greater effect absent high-stakes accountability.

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**TABLE 1**DESCRIPTIVE STATISTICS

| Variable                               | Obs  | Mean  | Std. Dev. | Min   | Max   | Cronbach's α |
|--|------|-------|-----------|-------|-------|--------------|
| Dependent Variables                    |      |       |           |       |       |              |
| Espoused Values <sup>a</sup>           | 1639 | 0     | 1         | -3.07 | 1.88  | 0.92         |
| Values-in-Use <sup>b</sup>             | 517  | 0     | 1         | -4.13 | 3.51  | 0.97         |
| Informal Characteristics               |      |       |           |       |       |              |
| Organizational Climate <sup>c</sup>    | 1638 | 0     | 0.99      | -3.28 | 2.51  | 0.94         |
| Survival Anxiety <sup>d</sup>          | 1438 | 0     | 1.00      | -8.39 | 3.16  | 0.43         |
| Survival Anxiety*                      |      |       |           |       |       |              |
| Organizational Climate                 |      |       |           | -     |       |              |
|  | 1431 | -0.17 | 1.54      | 21.50 | 6.15  |              |
| Formal Control Variables               |      |       |           |       |       |              |
| Eligible for merit pay in 2007         |      |       |           |       |       |              |
| (dummy)                                | 1644 | 0.12  | 0.33      | 0     | 1     |              |
| Peer Index (used by district for       |      |       |           |       |       |              |
| accountability purposes                | 1570 | 26.44 | 26.12     | 0.88  | 76.52 |              |
| Part of Empowerment Zone               | 1686 | 0.26  | 0.44      | 0     | 1     |              |
| Affiliated with Partner Support        |      |       |           |       |       |              |
| Organization                           | 1644 | 0.11  | 0.31      | 0     | 1     |              |
| Proportion of <4 yr teachers           | 1639 | 16.62 | 17.17     | 0     | 100   |              |
| Proportion of 15+ yr teachers          | 1639 | 23.07 | 15.60     | 0     | 100   |              |
| Stable leadership <sup>e</sup> (dummy) | 1680 | 0.76  | 0.43      | 0     | 1     |              |
| Elementary Schoolf (dummy)             | 1658 | 0.37  | 0.48      | 0     | 1     |              |
| Middle School(dummy)                   | 1658 | 0.17  | 0.38      | 0     | 1     |              |
| High School(dummy)                     | 1681 | 0.23  | 0.42      | 0     | 1     |              |
| Number of full-time teachers           | 1644 | 36.28 | 25.78     | 1     | 244   |              |
| Values in 2006-2007                    | 1265 | 0.01  | 0.85      | -6.88 | 2.30  |              |
| Values in 2006-2007                    | 1265 | 0.01  | 0.85      | -6.88 | 2.30  |              |

<sup>&</sup>lt;sup>a</sup> The espoused values measure is derived from principal component analysis of survey responses in three categories: high standards for students, satisfaction with the governing regime, and belief in innovation/autonomy.

<sup>&</sup>lt;sup>b</sup> The value-in-use measure is derived from principal component analysis of variables from external quality review reports in three categories: organizational strategizing and goal-setting, attention to performance data, and engagement in continuous-improvement processes.

<sup>&</sup>lt;sup>c</sup> The organizational climate is derived from factor analysis of survey responses in four categories: trust among teachers, trust of leadership, perceptions of support and norms of collaboration/honest dialogue.

<sup>&</sup>lt;sup>d</sup> The survival anxiety measure derived from an additive index of three variables: parental satisfaction with the school (inverse measure), parental support for reform, and school progress report score (inverse measure), all measured in prior school year.

<sup>&</sup>lt;sup>e</sup> Same principal in 2007 & 2011.

<sup>&</sup>lt;sup>f</sup> The reference group for this category includes k-8 and non-leveled schools.

 TABLE 2

 CORELATION BETWEEN ORGANIATIONAL CHARACTERISTICS AND ESPOUSED VALUES

|                             |  | Espoused Values 2010-2011 <sup>a</sup> |  |  |
|-----------------------------|--|--|--|--|
|                             |  | All Schools                            | Low <sup>b</sup> 2007 Value<br>Schools |  |
|                             |  | (A)                                    | (B)                                    |  |
| Informal<br>Characteristics | Organizational Climated                      | 0.80***<br>(0.02)                      | 0.86***<br>(0.03)                      |  |
|                             | Survival Anxietyd                            | 0.04***<br>(0.01)                      | 0.07***<br>(0.03)                      |  |
|                             | Survival Anxiety* Organizational Climate     | 0.05***<br>(0.01)                      | 0.01<br>(0.02)                         |  |
| Formal Characteristics      | Eligible for merit pay in 2007 (dummy)       | 0.05<br>(0.04)                         | -0.03<br>(0.07)                        |  |
|                             | Peer Index (District Measure)                | 0.01***<br>(0.00)                      | <0.001<br>(0.00)                       |  |
|                             | Part of Empowerment Zone                     | -0.16***<br>(0.03)                     | -0.08<br>(0.07)                        |  |
|                             | Affiliated with Partner Support Organization | 0.04<br>(0.05)                         | 0.22**<br>(0.09)                       |  |
|                             | Proportion of <4 yr teachers                 | -0.004***<br>(0.002)                   | 0.002<br>(0.004)                       |  |
|                             | Proportion of 15+ yr teachers                | 0.01**<br>(0.00)                       | 0.01**<br>(0.01)                       |  |
|                             | Stable leadership <sup>e</sup> (dummy)       | 0.003**<br>(0.001)                     | 0.01**<br>(0.002)                      |  |
|                             | Elementary School <sup>f</sup> (dummy)       | 0.02<br>(0.04)                         | 0.13*<br>(0.07)                        |  |
|                             | Middle School (dummy)                        | 0.04<br>(0.04)                         | 0.1<br>(0.08)                          |  |
|                             | High School (dummy)                          | 0.06<br>(0.06)                         | -0.06<br>(0.13)                        |  |
|                             | Number of full-time teachers                 | -0.25***<br>(0.06)                     | -0.11<br>(0.13)                        |  |
|                             | Values in 2006-2007                          | -0.05**<br>(0.02)                      | -0.02<br>(0.08)                        |  |
|                             | Intercept                                    | 0.00***<br>(0.001)                     | 0.00**<br>(0.001)                      |  |
|                             | $n$ $R^2$                                    | -0.13*<br>(0.08)<br>1,240              | -0.33*<br>(0.18)<br>300                |  |

<sup>&</sup>lt;sup>a</sup> The espoused values measure is derived from principal component analysis of survey responses in three categories: high standards, satisfaction with the governing regime, and belief in innovation/autonomy. Values are standardized.

b "Low" indicates schools at the bottom quartile in performance values within the city.

<sup>&</sup>lt;sup>c</sup> The organizational climate measure is derived from a factor analysis of survey responses in four categories: trust among teachers, trust of leadership, perceptions of support, and norms of open and honest dialogue.

d The survival anxiety measure is an additive index of three variables: parental satisfaction with the school (inverse measure), parental support for reform, and school progress report score (inverse measure), all measured in prior school year.
c Same principal in 2007 & 2011.

<sup>&</sup>lt;sup>e</sup> The reference group for school level includes k-8 and non-leveled schools.

<sup>\*</sup> p<0.10;\*\* p<0.05; \*\*\* p<0.01

TABLE 3
CORELATION BETWEEN ORGANIATIONAL CHARACTERISTICS AND VALUES-IN-USE

|                             |  | Values-in-Use 2010-2011a |  |  |
|-----------------------------|--|--------------------------|--|--|
|                             |  | All Schools              | Schools with low <sup>b</sup> values in 2007 |  |
|                             |  | (A)                      | (B)  |  |
| Informal<br>Characteristics | 0 101 101                                    | 0.25***                  | 0.35***                                      |  |
|                             | Organizational Climate <sup>c</sup>          | (0.05)                   | (0.11)                                       |  |
|                             | Survival Anxietyd                            | -0.25***                 | -0.23**                                      |  |
|                             | Survival Alixiety                            | (0.04)                   | (0.09)                                       |  |
|                             | Survival Anxiety* Organizational Climate     | 0.05                     | -0.03  |  |
|                             |  | (0.04)                   | (0.08)                                       |  |
|                             | Eligible for merit pay in 2007(dummy)        | -0.16                    | 0.05   |  |
|                             |  | (0.11)                   | (0.21)                                       |  |
|                             | D I 1 (D' ( ' ( M ) )                        | <0.001                   | -0.003                                       |  |
|                             | Peer Index (District Measure)                | (0.00)                   | (0.01)                                       |  |
|                             | D of CE                                      | 0.04                     | -0.19  |  |
| Formal Characteristics      | Part of Empowerment Zone                     | (0.09)                   | (0.20)                                       |  |
|                             | Affiliated with Partner Support Organization | -0.09                    | -0.12  |  |
|                             |  | (0.13)                   | (0.27)                                       |  |
|                             | Proportion of <4 yr teachers                 | 0.002                    | 0.01   |  |
|                             |  | (0.005)                  | (0.01)                                       |  |
|                             | Proportion of 15+ yr teachers                | -0.004                   | -0.01  |  |
|                             |  | (0.004)                  | (0.01)                                       |  |
|                             | Stable leadership <sup>e</sup>               | -0.19*                   | -0.04  |  |
|                             |  | (0.11)                   | (0.23)                                       |  |
|                             | Elementary Schoolf (dummy)                   | 0.12                     | 0.19   |  |
|                             |  | (0.12)                   | (0.33)                                       |  |
|                             | Middle School (dummy)                        | -0.17                    | -0.57  |  |
|                             |  | (0.17)                   | (0.39)                                       |  |
|                             | High School (dummy)                          | -0.81***                 | -0.91**                                      |  |
|                             |  | (0.18)                   | (0.38)                                       |  |
|                             | Number of full time tooch one                | 0.18***                  | 0.02   |  |
|                             | Number of full-time teachers                 | (0.05)                   | (0.13)                                       |  |
|                             | Values in 2006-2007                          | 0.001**                  | 0.004  |  |
|                             | v aiues III 2000-2007                        | (0.002)                  | (0.01)                                       |  |
|                             | Intercept                                    | 0.47**                   | 0.41   |  |
|                             | mercept                                      | (0.22)                   | (0.50)                                       |  |
|                             | n  | 426                      | 108  |  |
|                             | R <sup>2</sup>                               | 0.388                    | 0.359  |  |

<sup>&</sup>lt;sup>a</sup> The values-in-use measure is derived from principal component analysis of variables from external quality review reports in three categories: organizational strategizing and goal-setting, attention to performance data, and engagement in continuous-improvement processes. The variable has been standardized

\* *p*<0.10;\*\* *p*<0.05; \*\*\* *p*<0.01

b "Low" indicates schools at the bottom quartile in performance values within the city.

<sup>&</sup>lt;sup>c</sup> The organizational climate measure is derived from a factor analysis of survey responses in four categories: trust among teachers, trust of leadership, perceptions of support, and norms of open and honest dialogue.

<sup>&</sup>lt;sup>c</sup> The survival anxiety measure is an additive index of three variables: parental satisfaction with the school (inverse measure), parental support for reform, and school progress report score (inverse measure), all measured in prior school year.

<sup>d</sup> Same principal in 2007 & 2011.

<sup>&</sup>lt;sup>e</sup> The reference group for school level includes k-8 and non-leveled schools.

### Appendix A

# Measures of Organizational Culture and Values (drawn from 2011 Teacher Survey unless otherwise noted)

### **Dependent Variables:**

## Espoused Values (Eigenvalue = 5.95)

Prioritization of high learning standards for all students as measured by performance indicators

- Meeting targets for student progress is a priority.
- Helping students meet targets for mastery of important skills & content is a priority.
- School has high expectations for all children.
- Priority to help students find the best ways to achieve their learning goals.
- Teachers recognize and respect most effective teachers.

### Support for the governing regime

- Level of satisfaction with the performance of the **citywide panel** for educational policy on oversight, curriculum, progress in student achievement (three distinct survey questions).
- Level of satisfaction with **Chancellor** with regard to oversight, curriculum, progress in student achievement.

#### Focus on Innovation

• Teachers here respect teachers who take the lead in school improvement efforts.

# Values-in- Use (Eigenvalue= 12.88) all drawn from 2011 Quality Review Ratings Organizational strategizing and goal-setting

- Quality Statement 1: Instructional and Organizational Coherence
  - o Rigorous and engaging curriculum
  - o Effective Instruction
  - O Aligned resource-use to support instructional goals that meet studetns' needs
- Quality Statement 3: Plan and set goals
  - o School level theory of action and goals shared by the school community
  - o Teacher team and classroom level learning goals
  - o Tracking of progress to make adjustments and provide feedback
  - o Communication of clear and high expectations with supports

## Attention to performance data

- Quality Statement 2: Gather and Analyze Data
  - o School level assessment data analysis
  - o Classroom level analysis of assessment practices to inform curricula and instruction
  - o Use of grading policies and data tools to analyze student performance
  - o Family engagement in student progress ad school decision-making

# Engagement in continuous improvement processes

- Quality Statement 4: Align Capacity Building
  - O Support and evalution of teachers through a research-based framework
  - o Teacher teams engaged in collaborative practice using the inquiry approach
  - Professional learning aligned to school goals that promote leadership and instructional capacity
  - Supports for meeting child/youth development needs for family, students and staff
- School-level score on Quality Statement 5: Monitor and Revise (Quality Review)
  - Regularly evaluate instructional and resources decisions with a focus on Common Core standards
  - o Regularly evaluate assessment and data systems with a focus oncommon core standards
  - Regularly evaluate planning and goal setting systems

o Regularly evaluate adult capacity building systems

## **Organizational Climate**

Psychological Safety

Trust among teachers

- To what extent do you feel supported by your fellow teachers?
- Teachers trust each other.
- Adults often disrespectful to students (inverse indicator).

# Trust of leadership

- I trust the principal at his word.
- Principal places the learning needs of children ahead of other interests.
- To what extent do you feel supported by your principal?
- To what extent do you feel supported by your assistant principal?

# Perception of Support

### Material Support

- Prof development provided me with teaching strategies to better meet the needs of my students.
- I have sufficient materials to teach my classes.
- How satisfied are you with the performance of the citywide panel for educational policy on resources?
- How satisfied are you with the performance of the Chancellor on resources?

#### Psychological Support

- Principal has confidence in the expertise of the teachers.
- Order and discipline are maintained.
- I can get the help I need to address student behavior/discipline problems.
- Students treat teachers with respect.
- Parents treat teachers at this school with respect.

### Norms of Honest and Open Dialogue

- School leaders provide time for collaboration among teachers.
- People in this school are eager to share information about what does and doesn't work.
- People in this school are usually comfortable talking about problems and disagreement.
- In this school, it's easy to speak up about what is on your mind.
- School leaders encourage open communication on important school issues.

#### Survival Anxiety (Additive Index of factors listed below)

- (-) Assessed School Quality (standardized)
  - School Progress report
- (-) Parental perception of school quality (from parent survey) (factor, standardized)
  - My child is learning what he/she needs to know to succeed I later grades or after graduating from high school.
  - O How satisfied are you with the following things about your child's school:
    - Quality of your child's teachers this year
    - Education your child has received this year
- (+) Parental support for Reform (factor, standardized)
  - Which one of the following improvements would you most like your school to make: % responding...
    - o More preparation for state tests
    - o More hands-on learning (inv. indicator)
    - O Less preparation for state tests (inv. indicator)