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Goals, Trust, Participation, and Feedback: Linking Internal Management With Performance Outcomes

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Abstract

Much recent work in the study of public administration has emphasized new challenges and relatively unusual aspects of management. However, it is likely that the core features of traditional public administration play a crucial role, particularly regarding the delivery of performance. The most venerable of these aspects of public management have to do with "internal" management. We focus here on a cluster of key, intertwined management practices: setting challenging but feasible goals, building trust through credible commitments, encouraging employee participation, and providing feedback. We examine the relationship between such internal management at the mid-level, as perceived by subordinates rather than the managers themselves, and educational performance for more than 1,100 schools in the New York City school system over a 3-year period. The results indicate that internal management matters, often sizably, for delivering educational outcomes. The findings are robust to autoregressive specifications and the purging of halo effects, and they hold across multiple performance measures. Managers' setting challenging goals appears to be especially important in generating educational results.

Public management matters for program performance. This basic proposition has been demonstrated in contexts as different as English local governments (Boyne and Walker 2006), Texas school districts (Meier and O'Toole 2003), US state governments (Jacobson, Palus, and Bowling 2010), Colombian local governments (Avellañeda 2009), and local law enforcement agencies (Nicholson-Crotty and O'Toole 2004). Much of the work, however, has focused on how managers deal with the external environment of the organizations (for instance, Agranoff 2007; Provan and Milward 1995). Substantially less work has focused how managers act within an organization to shape overall program performance. This gap is especially noteworthy given that public managers are frequently restricted in their use of monetary incentives and must rely on normative and solidary inducements to shape employee actions. This study examines how the actions of managers within the organization can generate greater levels of performance. The empirical evidence is drawn from an elaborate database from New York City schools. The study brings two methodological innovations to the scholarship on management. First, we rely on subordinates' views of what management does rather than managers' self-reports on their own behavior. Second, we deal with the halo effect of surveys, a measurement problem that results because individuals may respond to surveys in a biased manner that is related to their own views of the organization. After a brief

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summary of the existing literature, we craft a model of internal management that relies on four concepts—goals, trust, participation, and feedback. This model is then evaluated in the context of public education, and the implications of our findings for the study of public management are discussed.

The Public Management–Performance Nexus

Although the notion that what public managers do can shape the performance of public agencies has long been assumed, large-N empirical research on the management-and-performance question has been largely a product of the past dozen years or so. Early contributions were primarily theoretical (Lynn, Heinrich, and Hill 2001; O'Toole and Meier 1999), but empirical analyses followed quickly (see O'Toole and Meier 2011; Rainey 2014 for summaries). Some of these have been based on limited performance measures, such as perceptual assessments by managers themselves[1] or federal government–generated PART (Program Assessment Rating Tool) scores, but interesting analyses have also been conducted using archival measures of performance, particularly those recorded on a recurring basis and tapping outcomes of salience in the empirical setting. It has been shown that multiple aspects of public management contribute in a variety of ways to public services performance (Boyne et al. 2006; O'Toole and Meier 2011; Rainey 2014).

For all the welcome attention to management's influence on performance, nonetheless, a great deal of the theoretical and empirical work has dealt with only a portion of public management. Substantial work, for instance, has focused on networks and managerial networking, interorganizational and intergovernmental collaboration, and various other aspects of externally oriented management efforts (Agranoff 2007; Andrews et al. 2010; Jacobson, Palus, and Bowling 2010; Provan and Milward 1995). There has also been much promotion and critique of the so-called New Public Management (Barzelay 1992; Hood 1991; Kettl 2005; O'Toole and Meier 2009). Similarly, additional attention has been devoted to such management topics as the management of information technology, managing for results, or performance management (Ingraham, Joyce, and Donahue 2003; Moynihan 2008).

Relatively neglected in this upsurge of interest in estimating the effects of management on performance have been the tried-and-true functions of internal organizational management, what we might think of as traditional public administration. Of course, the POSDCORB-style elements of traditional public administration have not been completely ignored.[2] However, the effects of many internal management activities—particularly the relationships that managers develop with workers and how such relationships can shape performance—have yet to be explored with systematic data.

Attempting to analyze the performance-related effects of all such aspects of internal management would be a Herculean task. Our approach is to focus on a more limited set of managerial tasks—ones for which there is good reason to believe that there should be performance impacts—and estimate relationships. We focus on four core elements of public management that are interrelated but have received little rigorous empirical attention: managers' setting and communicating goals, their effort to build trust with employees, their enticing worker participation in decision-making processes, and their providing feedback to subordinates. These core elements of management envision a people-centered approach to management that relies more on intrinsic motivation than on monetary incentives. The aim of this article is to assess what effect—if any—these interconnected aspects of management have on organizational performance. We hypothesize that they positively contribute to that performance. We explore whether this is so in an innovative way by examining the behavior of mid-level managers in organizations devoted to public education, as reported by the managers' professional subordinates—in this case school teachers.

Goal-Oriented Core Elements of Internal Management

Observers have often commented upon the relatively limited ability possessed by public managers to influence what goes on in and through their organizations (for instance, Wilson 1990). Certainly such managers' opportunities to control material incentives are much more limited than in the private sector; and in

1 For analyses of the methodological problems associated with a reliance on managers' perceptions of their own organizations' performance as a dependent variable, see Meier and O'Toole (2013a, 2013b).

2 POSDCORB stood for Planning, Organizing, Staffing, Directing, Coordinating, Reporting, and Budgeting. The term was popularized by Luther Gulick (1937). Some of these functions have been incorporated into the work conducted under the aegis of the Government Performance Project (Ingraham 2007; Ingraham, Joyce, and Donahue 2003), but that Project did not actually seek to demonstrate a link between management and true organizational performance. Internal public management makes an appearance in the reduced form model of governance proposed by Lynn, Heinrich, and Hill (2001), but managerial effects on performance are not estimated. "Internal management" is also one of the key terms in O'Toole and Meier's (1999) model of management and performance, although much of their early empirical work focused on the external functions of public managers. Later empirical work made progress on some internal management activities, such as personnel stability, the general management of human capital, and buffering organizations from external perturbations (O'Toole and Meier 2011, 131–81).

the short to medium term, their control over structural features of their organizations is often constrained by law, regulation, and the influence of political principals. Public managers, as a result, need to rely more on normative inducements and on creating a work environment that encourages street-level bureaucrats (see Lipsky 1980; May and Winter 2009; Maynard-Moody and Musheno 2003; Riccucci 2005; Tummers and Bekkers 2014) to adopt the goals of the organization and enthusiastically pursue these goals. Although a theoretical argument can be made that public managers' influence over their organization's performance is different in predictable ways from that possessed by private sector managers, we can expect that the influence is nevertheless real (Meier and O'Toole 2011).

Some long-recognized features of internal management, in particular, would seem to offer possibilities in this regard. At the risk of oversimplifying some of the theoretical details, we specify four elements of management that are common to much of the extant theoretical work—goals, trust, worker participation, and feedback. We see these four aspects of management as closely interrelated and operating together to enhance organizational performance. Figure 1 summarizes the microfoundations of our theoretical argument linking these four elements of management to organizational performance. Each managerial action seeks to elicit a specific employee behavior. In addition to the primary effect each managerial action exerts on its corresponding employee behavior, each managerial element is also expected to exhibit a secondary effect on the other employee behaviors we have identified. This reflects the complementary, interconnected nature of the four sets of managerial actions, which we discuss in greater detail below. Our figure clearly suggests a set of interconnected relationships too complex to examine in a single study. As such, our empirical test estimates only the effects of the four managerial elements on organizational outcomes. Although we do not empirically model the intermediate employee behavior variables, we include them in our figure in order to help clarify the microtheory underlying our hypothesized relationship between internal management actions and performance.

How can managers encourage effective performance? That is, how does a given managerial action induce employees to engage in behaviors that improve productivity? First, setting clear, feasible yet challenging *goals* allows employees to understand what management expects of employees and permits employees to focus on efforts that can enhance organizational performance (Latham, Borgogni, and Petitta 2008). Challenging goals are those that require organization members to exert considerable effort to achieve; such goals clearly tap into employees' intrinsic motivation to perform well on the job and engage in interesting work. Clearly communicated goals should provide direction to employees wishing to improve their knowledge of topics relevant to performing their jobs, and employees can better contribute to policy decisions if they have clear goals that help indicate what input might be valued by managers. At the same time, public organizations sometimes have rather ambiguous goals, and ambiguity has been shown to impede performance (Chun and Rainey 2006). Even with ambiguous goals, managers frequently have the opportunity to communicate with their staff about operational versions of organizational goals, particular objectives to emphasize, and the importance of specific goals for the organization and its stakeholders. Such regularly used communication channels allow for some reduction in ambiguity and initiate a process to establish challenging goals in practice. Goal-setting theory, developed by Locke and coauthors, argues that challenging and specific goals generate better performance than easy and vague ones (for instance, Locke and Latham 1990), and evidence, mostly from the private sector, validates the argument (for instance, Latham 2007; Miner 2005; Pinder 2008).

Second, managers need to engage in actions that build *trust* among employees. One way to frame this action and the resultant employee behavior is the idea of *credible commitment* or managerial credibility (see Dull 2009): Managers as principals need to elicit support and cooperation from employees (Barnard 1938), and trust in a manager's word—belief in her ability and willingness to communicate clearly and follow through on what she says she will do—is central here. This credible commitment can be viewed as establishing the legitimacy of the manager and the manager's actions (Tyler 2006), which is designed to establish trust between management and employees; indeed, trust has been shown to be a crucial element of many institutional settings (Dirks and Ferrin 2002; Ostrom 2005). The need for such commitments is especially the case in terms of managerial reforms because managers are asking for changes in behavior, and employees may be hesitant to change unless they find the promises of the manager credible (Dull 2009, 261). The need for managers to deal with this issue has even been formally demonstrated in Gary Miller's (1993) influential rational choice study of the matter. If trust is established, employees are clearly more likely to believe what managers say, more likely to pay attention to the priorities that managers articulate and devote time and energy to them, and more likely to both contribute to decision making and be open to receiving feedback from above.

Third, all managers face the problem of information asymmetry. Employees have a great deal of knowledge

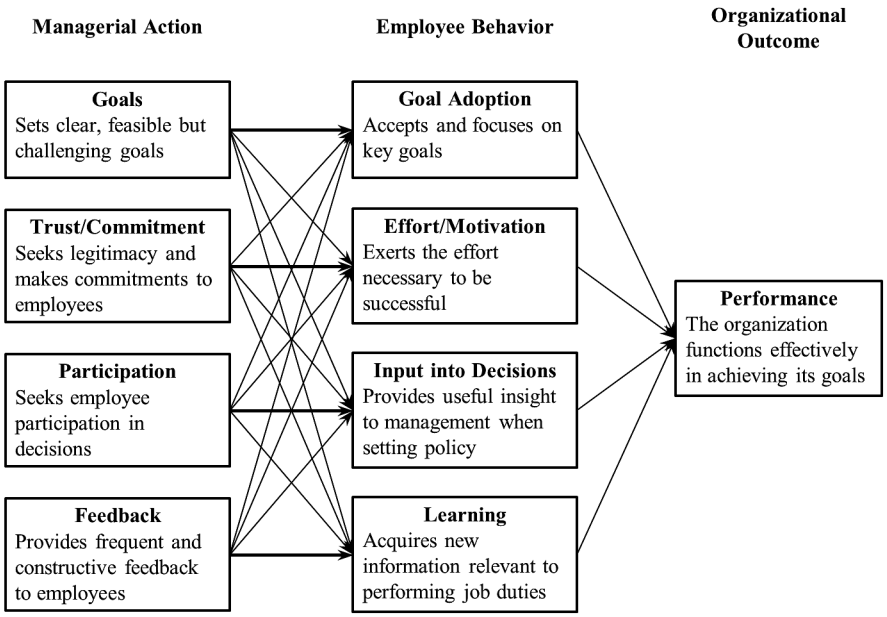

Figure 1. The links between managerial actions, employee behaviors, and organizational performance.

and experience that is valuable in organizational activities. Managers, as a result, need to take actions that elicit *participation* by workers in decision making in an organization. The potential importance of participation by public employees in organizational decision making has been another venerable theme in the public administration literature (for instance, Mosher 1967) and in some of the most influential studies in the human relations tradition (Argyris 1957). It has also been examined productively in the context of self-determination theory (Gagné and Deci 2005). Participation by employees in highly professionalized organizational settings is likely to be particularly relevant, given the likely value of the ideas and creativity of such workers in improving practices and finding ways to enhance outcomes (Huselid 1995; Miller and Monge 1986; Rodgers and Hunter 1991). Such participation can also improve the trust relationship between managers and employees (see Driscoll 1978; Lawler and Hackman 1969). When employees feel that they have a meaningful voice in their organization, they are more likely to be motivated in their work and to buy into organizational goals and learning initiatives.

Fourth, managers need to provide feedback to employees so that employees can receive information about how, and how well, they are contributing to key organizational goals. They can thereby learn to perform their jobs better and also to focus more on goals that are important to the organization. As Rainey indicates, "Difficult goals enhance performance by directing attention and action, mobilizing effort, increasing persistence, and motivating the search for effective performance strategies. Commitment to the goals and *feedback* about progress toward achieving them are also necessary for higher performance" (2014, 287, emphasis added; Hrabluik, Latham, and McCarthy 2012; Podsakoff and Farh 1989). These points, which touch upon goals and trust, also clearly indicate the importance of feedback between managers and workers (see also Graber 2003), and so we include this related aspect of management in the present study. Feedback that is both constructive and encouraging can serve not only to inform employees but also to motivate them by providing external validation of their successes and a social incentive to avoid shirking. Delivering helpful and effective feedback may also complement managerial efforts to build rapport with employees, increasing employees' willingness to approach management with their own ideas about how organizational policy or practices might be improved.

In short, a closely related cluster of internally focused managerial actions seek to change the behavior of employees so that employee efforts are focused on the goals of the organization, employees trust managers and are motivated to work hard, employees are willing to participate in organizational decisions, and employees can learn to perform their jobs better via feedback from management. These core aspects of internal management vary widely across managers and organizations and can be hypothesized to be positively related to organizational performance. Clear goals that are challenging but feasible generate more precise expectations for employees. Building trust among employees via managers' establishing credibility facilitates a climate encouraging cooperation and the exchange of ideas. The combination of clear

goals and trust encourages worker participation and enhances employees' willingness to receive constructive feedback. All these actions should contribute to more focused employees and a more productive work environment. This interrelationship of the various managerial actions and employee behaviors is foreshadowed in the work of Barnard (1938, 86) who notes that cooperation by employees and the acceptance of a goal are essentially a simultaneous activity; the same can be said for trust, participation, and feedback. In the field of public education, the setting we examine empirically in this investigation, the role of mid-level managers—school principals—is likely to be especially crucial.

The Research Setting

This study examines the performance of New York City schools between 2007 and 2009. New York City has the largest school system in the country with 1.1 million students, 80,000 teachers, and a $21 billion budget. During this time period, the New York City schools were undergoing a major reform led by Superintendent Joel Klein, who was being advised by management scholar William Ouchi (2009) among others. The reforms greatly expanded the authority of principals and significantly increased schools' accountability for performance. In addition to the generic reforms of high standards and accountability, the New York City reforms stressed parental involvement (including the establishment of annual citywide parent and student surveys) and the engagement of teachers. The latter is directly relevant to this study given our use of teachers' assessments of management. Although aspects of this reform are unique to New York City, virtually all urban school districts are undergoing major reform efforts, often repeatedly (Hess 1999).

Performance indicators and several measures of basic school traits are publicly available from city and state records (New York City Department of Education 2011b; New York State Education Department 2011; New York State Testing and Accountability Reporting Tool 2011). These records were merged with school-level results from an annual survey of teachers conducted each spring by the New York City Department of Education (2011b). All teachers in the school system were given the opportunity to respond to the survey, and the average response rate for the schools we examine was 63%. For the questions we analyze, the city aggregated the responses by calculating the average response in each school (strongly agree = 10, agree = 6.6, disagree = 3.3, and strongly disagree = 0). We consider data from 1,164 schools over these 3 years, yielding a total of 3,267 observations after dropping observations with missing values.[3]

The primary dependent variable is student performance on state standardized tests. For elementary and middle schools, we created an index based on 3rd–8th grade English and math scores. We first calculated the average scores as well as the proportion of scores that met proficiency goals for English and math. These four variables were standardized and then summed to form the elementary/middle school index. High schools do not administer annual English and math exams, but they require students to pass several exams, including an English exam and at least one math exam, in order to receive a diploma (New York City Department of Education 2011a). Using state records, we divided the total number of English and math scores that met Regents diploma standards by the schools' total high school enrollment. We then combined English and math into a single category by adding standardized versions of the two ratios we just produced. This gave us our high school performance index. We combined standardized versions of the elementary/middle school and high school performance indexes into a single variable.[4]

Several control variables aid us in isolating the unique effect of internal management on school performance. Student demographic characteristics indicate task difficulty and are important predictors of performance. City records provide data on the percentage of students who hold various racial/ethnic identities, are female, are recent immigrants, and are special education students. The percentage of Limited English Proficiency students can be found in state records. We measure socioeconomic status with four indicators that allow us to approximate different levels of economic hardship; the city supplies the percentage of students in temporary housing and below the poverty line, whereas state records offer the percentage of students

3 Our data set did not include special education schools, alternative schools, charter schools, early childhood schools, transfer schools, or Young Adult Borough Centers. Additionally, we excluded observations where fewer than three teachers or fewer than five parents responded to the survey. We also omitted observations when the variables derived from government records contained missing values or obvious data errors, such as percentages greater than 100. New York City records did not always distinguish between missing values and values of zero; in such cases, we assumed a value of zero was appropriate. We faced a choice between accepting any biases generated as a result of missing data versus seeking to engage in multiple imputation of the data for these cases. Because most of the omitted cases are so different from the average school (and do not really belong in our population), we felt that the distortion created by including them via imputation would be more problematic than the bias generated by omitting them.

4 Because multiple math exams were offered in some years, we had to sum the number of passing scores from each individual math exam to find the total number of passing math scores.

eligible for free lunch and reduced-price lunch. We also include dummy variables indicating whether or not the school serves elementary, middle school, and high school students (the categories are not mutually exclusive).

Research has shown that class size (Nye, Hedges, and Konstantopoulos 2000) and teacher turnover (Meier and Hicklin 2008) are also important predictors of student performance. A single measurement of class size was created that combines several state records of average class size for different grade levels and subject areas.[5] We replicated a measure of teacher turnover used by Favero and Meier (2013) for these data. The teacher turnover variable is one of three factor scores produced by a rotated factor analysis of several school-level measures of teacher characteristics (Supplementary Table A2). The turnover factor reflects both the turnover rate of all teachers and the turnover rate among teachers with fewer than 5 years experience. Finally, our models include fixed effects for years and standard errors clustered by school to deal with serial correlation and heteroscedasticity.

Measuring Management

As explained earlier, internal management of public organizations focuses heavily, of necessity, on the "human side" (McGregor 1960), simply because a variety of structural and incentive-focused elements in management are limited in the public sector (see Feeney and Rainey 2010). One problem with measuring these aspects of management via surveys of managers is that managers might bias their responses. These individuals are trained managers and have taken courses in the area; they are quite likely to know the literature well. As a result, their responses might be subject to social desirability bias as they seek to demonstrate to the researcher that they are adopting the best current practices in management. Even without social desirability bias, what managers think they are doing and what their subordinates think they are doing might be two different things. The manager might not be effective in communicating his or her behavior or might not be as consistent as the survey might indicate. For these reasons, measuring management actions by using the perceptions of the individuals who are being managed has the potential of generating more unbiased measures of management. All measures of management, as a result, rely on teachers' perceptions of how the school is managed. The use of teachers' perceptions of management has another advantage in that it incorporates the time lag that is likely to occur between managerial action and employee response. These perceptions of managerial action capture when an action has begun to have an impact on frontline employees (e.g., the level of trust increases) rather than when the manager initially took the action.

All organizations have *goals*, and clearly communicating goals is important if managers wish for employees to adopt these goals in a meaningful way. The content of these goals also matters, as explained earlier. In the substantive case being examined here, K-12 education, an extensive literature finds that student performance is enhanced by setting high expectations for all students, providing clear measures of performance, and focusing priorities on having students meet these high expectations; high expectations, in fact, might even be the overarching goal under which other goals of education are subsumed (Costrell 1994; Darling-Hammond and Ball 1998; Deci et al. 1991; McCombs and Whisler 1997; Mirel and Angus 1994; Owens and Valesky 2011). A goals measure is created by factor analyzing four items related to goals and high expectations; the survey items include adjectives like "high" and "challenging," thus linking well to the theoretical argument about challenging goals. This measure has an eigenvalue of 3.66, accounting for 91% of the total variance in these items (table 1). This measure does not explicitly tap goal feasibility, but it otherwise fits the theoretical argument well.

Trust is a concern in all principal-agent relationships. How do agents know that the principal will honor the commitments made to them, given that organizations are hierarchies and thus reflect inequities of power (Miller 1993)? The link between credible commitment by the manager and employee trust in organizations has three parts: the belief that the manager represents the interests of the organization, rather than his or her own personal interests; clear communication by the manager; and the development of trust in the manager by subordinates. Trust/commitment in our analysis is measured by a factor analysis of seven items (table 1)—two that relate to representing the interests of the organization (aligned curriculum and the needs of students), three that focus on clarity of communication by management, and two that deal with trust and effectiveness. The seven items load on a single factor with an eigenvalue of 6.10, accounting for 87% of the total variance in these items.

5 The state of New York provides a total of nine measurements of average class size: one for all elementary school classes and separate measurements of math, English, science, and social studies classes for both 8th and 10th grade. We converted the state measurements into *z*-scores within the nine categories. We then used the standardized values to calculate the 8th grade average and the 10th grade average across the four subject areas. Using these two averages along with the standardized elementary school class size, we calculated a final weighted average. The weights for the three variables were based on the share of students enrolled in elementary, middle, and high school grade levels at each school, as documented in state records.

Table 1. Factor Analyses for Management Measures

Survey Item	Factor Loading
Goals	
My school has high expectations for all students	0.94
My school has clear measures of progress for student achievement throughout the year	0.95
This school makes it a priority to help students develop challenging learning goals	0.97
This school makes it a priority to help students find the best ways to achieve their learning goals	0.96
Eigenvalue	3.66
Proportion	0.91
N	4,341
Trust/commitment	
School leaders communicate a clear vision for this school	0.96
School leaders let staff know what is expected of them	0.95
School leaders encourage open communication on important school issues	0.94
Curriculum, instruction, and assessment are aligned within and across the grade levels at this school	0.84
The principal places the learning needs of children ahead of other interests	0.95
The principal is an effective manager who makes the school run smoothly	0.96
I trust the principal at his/her word	0.94
Eigenvalue	6.10
Proportion	0.87
N	4,342
Participation	
The principal has confidence in the expertise of the teachers	0.94
School leaders invite teachers to play a meaningful role in setting goals and making important decisions for this school	0.96
School leaders encourage collaboration among teachers	0.94
Eigenvalue	2.69
Proportion	0.90
N	4,339
Feedback	
School leaders visit classrooms to observe the quality of teaching at this school	0.94
School leaders give me regular and helpful feedback about my teaching	0.95
School leaders place a high priority on the quality of teaching at this school	0.94
Eigenvalue	2.67
Proportion	0.89
N	4,339

Modern organizations rely on the enthusiastic cooperation of their members, a basic idea that is recognized by virtually all theories of management, ranging from the classic exposition of Barnard (1938) to the decision-theoretic work of Simon (1997) to the seminal studies in human relations (for instance, Argyris 1957). By encouraging *participation* by street-level bureaucrats (Lipsky 1980) in the management process, the manager benefits from the greater range of expertise and experience in the organization. Workers who feel their ideas and participation are valued are likely to make a greater commitment to the organization. Participation is likely to be especially important in decentralized, professionalized organizations such as public schools. Three items tap, respectively, whether teachers perceive that the principal has confidence in the expertise of teachers, whether teachers see themselves as playing a meaningful role in setting goals and making decisions, and whether teachers believe that school leaders encourage collaboration among teachers (table 1). A single factor with an eigenvalue of 2.69 accounts for 90% of the total variance in these items.

Feedback from managers to workers is an essential element of management. Feedback permits goal clarification, particularly in organizations that have multiple or imprecise goals. Three survey questions probe various aspects of feedback—classroom visits by managers, feedback about teaching, and the perception that managers place a high priority on quality teaching (table 1). The three items all load on a single factor with an eigenvalue of 2.67, accounting for 89% of the total variance.

Each of the four factors has strong internal reliability, as demonstrated by the large amount of common variance accounted for by the factors. Each has been presented as a separate dimension, and in theory, management might sometimes act on one or two of these dimensions but not all four. At the same time,

an internal management–focused theory would suggest that all of these intertwined factors need to be present to effectively manage employees. In support of this integrated approach, we should note that the four factors are highly correlated (the average correlation is .85 with a low of .78 between goals and participation and a high of .92 between trust/commitment and participation). To determine whether the individual factors might operate alone or if they have to be considered in concert, we create a separate overall measure of internal management by factor analyzing all 17 items. Again this factor analysis (Supplementary Table A1) produces a single factor with an eigenvalue of 13.63, accounting for 80% of the variance in all the items. Although this is an impressive set of loadings, the overall variance explained is less than what the four individual items explain. This result suggests that examining both the individual items and the overall item is a sensible approach. This analysis needs to proceed with some caution, since the high collinearity among the individual items can lead to misleading results. To verify the sets of results, the individual items will be used by themselves one at a time, in a single equation with all four, and also in an equation with the combined overall measure.

Findings

The second model in table 2 shows that the combined measure of internal management is strongly and positively related to student performance, as measured by test scores. Both variables are in standardized units, so a one standard deviation (SD) change in internal management is associated with 0.122 SD change in student test scores. Although this is not a massive change, over the full range of the data, the total impact could be as large as 0.73 SDs, a change that would be substantively very important. The assessment of the individual items illustrates the problem of collinearity among the internal management variables. Supplementary Table A3 shows that when each of the four variables (goals, trust/commitment, participation, and feedback) is included in the equation by itself, each is positively and significantly related to student performance. When they are all included in the same equation, as in Model 1 (table 2), the measures get no credit for their common variation, only their unique variation. This analysis is revealing, in that the impact of goals appears to have value over and above the other aspects of internal management by itself, while trust's unique aspect is negative and significant.

The control variables in our initial models in table 2 all behave as predicted, with the exception of the positive relationship for the percentage of students qualifying for reduced-price school lunches. That relationship is an interesting anomaly. It is not the result of collinearity but simply an indication that schools with many students in households with this modest income indicator actually outperform schools with students who are not eligible for reduced-price school lunches and those with more students on free lunch. Teacher turnover is set off from the other controls simply because management is likely to affect turnover (see below). It also provides an interesting comparison to the effect size of the management variable. When adjusted for its SD, the impact of teacher turnover is approximately half the size of the impact of management. This relative comparison provides another substantive interpretation of the effect size. Because our concern with including the control variables was to ensure that the model was well specified (our first two models explain between 71% and 73% of the variance in student performance), we will not discuss the individual relationships for these variables other than teacher turnover.

Autoregressive Models

To provide an even more rigorous test of the impact of internal management on performance, Models 3 and 4 repeat these analyses while also controlling for the school's performance in the previous year. Schools, like all bureaucracies, are highly autoregressive systems. Their processes and personnel change only slowly, and most of their students continue in the same school, year after year. As one might expect, the level of explained variance jumps dramatically when the lagged dependent variable is added to the model. Further, these estimations provide a tougher test for the impact of management on performance, since they control for past (last year's) performance. The combined measure of management remains positive and statistically significant. Although the size of the coefficient drops, this coefficient must now be interpreted as the impact of management on student performance this year over and above any impact last year; in brief, this is the short-term impact. At the same time, improvements in performance one year as the result of management then become part of the base level of performance the next year, so that the impact of management continues on into the future in what is known as a geometrically distributed lag (Pindyck and Rubinfeld 1991, 204–8). The long-term impact of a one unit change in management can be calculated by using the coefficient along with the coefficient for the lagged dependent variable.[6] When this is done, the long-term impact is estimated to be 0.16 or actually larger than the estimate in Model 2.

6 The long-run impact can be estimated by dividing the regression coefficient by one minus the coefficient for the lagged dependent variable.

Table 2. Models of Student Performance

	Model 1	Model 2	Model 3	Model 4
	b (SE)	*b* (SE)	*b* (SE)	*b* (SE)
Lagged student performance			0.811*** (0.009)	0.818*** (0.009)
Internal management		0.122*** (0.012)		0.029*** (0.004)
Goals	0.263*** (0.029)		0.061*** (0.010)	
Trust/commitment	−0.138*** (0.036)		−0.022 (0.012)	
Participation	0.021 (0.028)		−0.006 (0.009)	
Feedback	0.028 (0.027)		0.009 (0.009)	
Teacher turnover	−0.057*** (0.010)	−0.051*** (0.010)	−0.015*** (0.004)	−0.013** (0.004)
American/Alaskan native	−0.069*** (0.021)	−0.068** (0.021)	−0.010 (0.008)	−0.010 (0.008)
Black	−0.008*** (0.001)	−0.009*** (0.001)	−0.001* (0.000)	−0.001** (0.000)
Hispanic	−0.005*** (0.001)	−0.006*** (0.001)	0.000 (0.000)	0.000 (0.000)
Asian	0.004*** (0.001)	0.004*** (0.001)	0.001* (0.000)	0.001* (0.000)
Female	0.003 (0.002)	0.004* (0.002)	0.001 (0.000)	0.001 (0.000)
Limited English	−0.011*** (0.002)	−0.011*** (0.002)	−0.002*** (0.001)	−0.002*** (0.001)
Recent immigrants	−0.007 (0.006)	−0.008 (0.007)	0.001 (0.002)	0.001 (0.002)
Special education	−0.018*** (0.002)	−0.021*** (0.003)	−0.001 (0.001)	−0.001 (0.001)
Temporary housing	−0.004 (0.002)	−0.004 (0.003)	0.003* (0.001)	0.003* (0.001)
Poverty rate	−0.005*** (0.001)	−0.005*** (0.001)	−0.000 (0.000)	−0.000 (0.000)
Free lunch	−0.001 (0.001)	−0.001 (0.001)	−0.000 (0.000)	−0.000 (0.000)
Reduced lunch	0.006* (0.002)	0.007** (0.002)	−0.000 (0.001)	−0.000 (0.001)
Year 2008	0.179*** (0.011)	0.222*** (0.010)	0.091*** (0.010)	0.101*** (0.009)
Year 2009	0.487*** (0.018)	0.556*** (0.018)	0.185*** (0.011)	0.198*** (0.010)
Elementary school	0.410*** (0.047)	0.469*** (0.047)	0.016 (0.015)	0.025 (0.014)
Middle school	−0.163*** (0.030)	−0.187*** (0.031)	0.046*** (0.011)	0.041*** (0.011)
High school	0.059 (0.049)	0.006 (0.050)	−0.213*** (0.015)	−0.229*** (0.015)
Average class size	−0.002 (0.012)	−0.008 (0.012)	−0.010* (0.004)	−0.011** (0.004)
Constant	0.782*** (0.137)	0.834*** (0.137)	0.205*** (0.035)	0.210*** (0.034)
Adjusted R^2	0.725	0.713	0.944	0.943
N	3,267	3,267	3,267	3,267

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

The collinearity of the four individual management items evident before, of course, will affect the results in the autoregressive equations. Each of the individual items when entered by itself is positively and significantly related to student performance (Supplementary Table A4). This individual impact is clearly the result of the shared variance, as Model 3 shows that only the goal measure remains significant when all four are in the model, again suggesting that the stress on high expectations and goals contributes some unique elements to internal management.

Addressing the Halo Effect

We can go further in exploring the management-and-performance relationship by dealing with a measurement issue. Although employee perceptions of management are preferable to self-reported (i.e., manager-reported) measures in many ways, they are not perfect (there are no perfect measures). Employee perceptions can suffer from halo effects. In their simplest form, halo effects refer to the tendency of respondents' overall perceptions to influence assessments of specific traits (Cooper 1981; Thorndike 1920). In our case, employee assessments of management might be colored by their broader opinions about the organization and its performance.

To determine whether the findings in this study are the result of general biases generated by halo effects, we can control for such halo effects by, first, factor analyzing all survey questions answered by the teachers that relate to performance. The first common factor will yield a good indication of the teacher's overall perception of the school, including any halo effect (any positivity or negativity bias). It will also contain some real variation related to management, performance, and other important factors (Supplementary Table A5). Next, we purge the key management variables of the halo effect by regressing each one on the common factor and taking the residuals from these regressions as the new measures of management (Supplementary Table A6). We then substitute these halo-corrected measures of management into the regression equations we ran before. This test overcorrects and thus risks throwing away real variation in an attempt to eliminate the halo effect. Whereas the models with uncorrected measures may have overstated the effect of management on performance, the halo-corrected measures should understate this same effect. Therefore, the halo-corrected models make obtaining significant findings difficult; but whatever findings remain are unlikely to be spurious owing to the measurement bias of any halo effects.

Table 3 presents the halo-corrected results for management. When this adjustment is done for the overall measure, the findings are very similar to what they were in the previous analysis. Internal management is positively associated with performance both with and without including a lagged dependent variable. The halo correction does reduce the size of the coefficient so that its effect size is now approximately equal to the impact of teacher turnover. The clear conclusion for the overall measure, nonetheless, is that the results are not spurious owing to any halo effect from the survey. The individual items, when used simultaneously, generate similar results without the lagged dependent variable, but with the lagged dependent variable, the goals measure is now only significant when using a one-tailed test (the *t*-score is less than 1.96 but more than 1.65). When the four management measures are entered individually into the equation (Supplementary Tables A7 and A8), all relationships remain positive and statistically significant.[7]

The Interactive Effects of Management and Goals

The pattern of relationships for the overall (internal management) measure and the goals measure suggests that an effort be made to deal with the high collinearity of the two measures and to assess the relationships together. After all, one might expect that the combination of high standards for students and effective management more broadly might mean more in combination than either the high standards for students or effective management would produce separately. To avoid the problems of collinearity, we regress the goals index on the overall internal management index and take the residuals. These residuals capture the part of the goals measure that is independent of the overall internal management measure. Model 9 in table 4 shows that both measures are strongly positive in predicting performance; in fact, when one adjusts these coefficients for the differences in the variance of the two measures, they both have approximately the same effect size (0.13). Model 10 includes a term representing the interaction of goals and the remaining aspects of internal management, and it confirms the hypothesis that high expectations (goals) and good management have greater impact when both are present. To illustrate, at 2 SDs above the mean for goals, the impact of internal management doubles; at 2 SDs below the mean for goals, the impact of internal management is essentially zero. Internal management matters more when goals are challenging but contributes little to the attainment of easy goals. This finding is consistent with

7 As a final robustness check, we estimated the models using two-way fixed effects to control for any possible omitted variable bias. Although these models at times reduced the relative size of the coefficients, the models produced statistically significant results for both internal management and goals for all six performance indicators used in this analysis.

Table 3. Models of Student Performance (with halo corrections)

	Model 5	Model 6	Model 7	Model 8
	b (SE)	*b* (SE)	*b* (SE)	*b* (SE)
Lagged student performance			0.825*** (0.009)	0.826*** (0.009)
Internal management (halo corrections)		0.075*** (0.013)		0.015*** (0.004)
Goals (halo corrections)	0.132*** (0.030)		0.020 (0.010)	
Trust/commitment (halo corrections)	−0.106** (0.037)		−0.011 (0.012)	
Participation (halo corrections)	0.042 (0.029)		−0.002 (0.009)	
Feedback (halo corrections)	0.042 (0.028)		0.013 (0.009)	
Teacher turnover	−0.060*** (0.010)	−0.057*** (0.010)	−0.015*** (0.004)	−0.015** (0.004)
American/Alaskan native	−0.071*** (0.021)	−0.069** (0.021)	−0.010 (0.008)	−0.010 (0.008)
Black	−0.010*** (0.001)	−0.010*** (0.001)	−0.001** (0.000)	−0.001** (0.000)
Hispanic	−0.005*** (0.001)	−0.006*** (0.001)	0.000 (0.000)	0.000 (0.000)
Asian	0.003** (0.001)	0.004** (0.001)	0.000 (0.000)	0.000 (0.000)
Female	0.005* (0.002)	0.005* (0.002)	0.001* (0.000)	0.001* (0.000)
Limited English	−0.011*** (0.002)	−0.012*** (0.002)	−0.002*** (0.001)	−0.002*** (0.001)
Recent immigrants	−0.007 (0.007)	−0.007 (0.007)	0.001 (0.002)	0.002 (0.002)
Special education	−0.021*** (0.003)	−0.022*** (0.003)	−0.001 (0.001)	−0.001 (0.001)
Temporary housing	−0.004 (0.003)	−0.004 (0.003)	0.003* (0.001)	0.003* (0.001)
Poverty rate	−0.005*** (0.001)	−0.005*** (0.001)	−0.000 (0.000)	−0.000 (0.000)
Free lunch	−0.001 (0.001)	−0.001 (0.001)	−0.000 (0.000)	−0.000 (0.000)
Reduced lunch	0.007** (0.003)	0.007** (0.003)	−0.000 (0.001)	−0.000 (0.001)
Year 2008	0.273*** (0.009)	0.274*** (0.009)	0.112*** (0.009)	0.112*** (0.009)
Year 2009	0.618*** (0.017)	0.626*** (0.017)	0.210*** (0.011)	0.211*** (0.011)
Elementary school	0.469*** (0.048)	0.486*** (0.049)	0.022 (0.015)	0.024 (0.015)
Middle school	−0.195*** (0.032)	−0.202*** (0.032)	0.042*** (0.011)	0.040*** (0.011)
High school	−0.021 (0.051)	−0.029 (0.051)	−0.237*** (0.015)	−0.239*** (0.015)
Average class size	−0.014 (0.012)	−0.014 (0.012)	−0.013** (0.004)	−0.013** (0.004)
Constant	0.757*** (0.140)	0.811*** (0.140)	0.195*** (0.034)	0.201*** (0.034)
Adjusted R^2	0.705	0.701	0.942	0.942
N	3,267	3,267	3,267	3,267

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

Table 4. Models of Student Performance (with interactive term)

	Model 9	Model 10
	b (SE)	*b* (SE)
Management	0.150*** (0.012)	0.148*** (0.012)
Goals (residual measure)	0.296*** (0.036)	0.340*** (0.040)
Management × goals (residual measure)		0.076* (0.030)
Teacher turnover	−0.057*** (0.010)	−0.059*** (0.009)
American/Alaskan native	−0.068*** (0.021)	−0.067** (0.021)
Black	−0.008*** (0.001)	−0.008*** (0.001)
Hispanic	−0.005*** (0.001)	−0.005*** (0.001)
Asian	0.004*** (0.001)	0.004*** (0.001)
Female	0.003 (0.002)	0.003 (0.002)
Limited English	−0.011*** (0.002)	−0.011*** (0.002)
Recent immigrants	−0.007 (0.006)	−0.007 (0.006)
Special education	−0.018*** (0.002)	−0.017*** (0.002)
Temporary housing	−0.004 (0.003)	−0.005 (0.002)
Poverty rate	−0.005*** (0.001)	−0.005*** (0.001)
Free lunch	−0.001 (0.001)	−0.001 (0.001)
Reduced lunch	0.006* (0.002)	0.006* (0.002)
Year 2008	0.175*** (0.011)	0.174*** (0.011)
Year 2009	0.485*** (0.018)	0.483*** (0.018)
Elementary school	0.414*** (0.047)	0.408*** (0.047)
Middle school	−0.166*** (0.030)	−0.165*** (0.030)
High school	0.065 (0.048)	0.072 (0.048)
Average class size	−0.002 (0.012)	−0.001 (0.012)
Constant	0.795*** (0.138)	0.777*** (0.137)
Adjusted R^2	0.724	0.725
N	3,267	3,267

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

the idea that organizations should assign their best managers to the most challenging problems.

Alternative Measures of Performance

Organizations have multiple goals and multiple ways of assessing performance, and schools are no exception to this rule. The stakeholders of public school systems typically care about more than standardized examination scores, and so do those who manage the schools. As a final step in this analysis, we explore the relationship between internal management and some additional objectives. To investigate the impact of internal management on various other goals that the schools can be expected to pursue, we include five more output and outcome measures—parental satisfaction, student attendance, the official education progress report, a measure of school violence, and teacher turnover. Interestingly, these goals, along with schools' performance on the standardized tests, are not as highly correlated with one another as some might expect. The largest correlation (−.49) is between the measure of school violence and the test score measure, with numerous bivariate correlations between goals considerably lower than that. At most, therefore, these goal pairs share less than 25% common variance. We examine whether management contributes to these additional goals while using the same set of controls for these equations as we did for the earlier analyses.

Parental Satisfaction

New York City schools annually survey parents in the spring to ask them about their evaluation of the public schools that their children attend. These annual surveys have a response rate of 43% and ask a wide variety of performance questions. Using six survey indicators, we created a factor score that represented how favorably parents evaluated each school (Supplementary Table A9). The factor had an eigenvalue of 4.96 and accounted for 83% of the variation in the individual items. Table 5 shows that the measure of internal management is positively associated with parental satisfaction. Because this measure is also a factor score, the relative impact of management on parent satisfaction appears to be larger than the impact on student performance. The goals measure (the residuals-based measure) has a similar strong and positive impact on parental evaluations of the schools, and this effect is again much larger for parental assessments than for the test score measure. The interaction of the management and the goals variable

Table 5. Alternative Dependent Variables

	Parent Satisfaction	Attendance	Progress Report	School Violence	Teacher Turnover
	b (SE)	*b* (SE)	*b* (SE)	*b* (SE)	*b* (SE)
Management	0.363*** (0.018)	0.492*** (0.072)	0.176*** (0.019)	−0.186*** (0.019)	−0.095*** (0.019)
Goals (residual measure)	0.544*** (0.046)	1.846*** (0.196)	0.387*** (0.050)	−0.248*** (0.048)	0.155** (0.055)
Teacher turnover	−0.029 (0.015)	−0.122* (0.054)	−0.082*** (0.017)	0.070*** (0.017)	
American/Alaskan native	−0.022 (0.032)	−0.321** (0.104)	−0.066* (0.029)	−0.003 (0.032)	−0.014 (0.035)
Black	0.001 (0.001)	−0.010 (0.005)	0.002 (0.001)	0.002 (0.001)	0.007*** (0.001)
Hispanic	0.010*** (0.001)	0.001 (0.005)	0.006*** (0.001)	−0.005*** (0.001)	0.006*** (0.001)
Asian	−0.004** (0.001)	0.036*** (0.006)	0.008*** (0.001)	−0.006*** (0.001)	−0.001 (0.001)
Female	0.007** (0.002)	0.051** (0.019)	0.005 (0.004)	−0.010*** (0.002)	0.002 (0.003)
Limited English	−0.006** (0.002)	0.006 (0.010)	0.002 (0.002)	0.002 (0.002)	0.002 (0.003)
Recent immigrants	0.002 (0.006)	−0.039 (0.041)	0.001 (0.009)	−0.001 (0.007)	−0.003 (0.010)
Special education	−0.018*** (0.003)	−0.140*** (0.016)	−0.003 (0.003)	0.021*** (0.004)	0.013*** (0.003)
Temporary housing	0.004 (0.003)	−0.017 (0.013)	0.002 (0.004)	0.009* (0.004)	0.002 (0.005)
Poverty rate	0.000 (0.001)	−0.015* (0.007)	0.002 (0.002)	0.005*** (0.001)	−0.000 (0.002)
Free lunch	−0.001 (0.001)	−0.015*** (0.004)	−0.001 (0.001)	0.002 (0.001)	0.001 (0.001)
Reduced lunch	−0.002 (0.003)	0.046*** (0.013)	0.004 (0.003)	−0.004 (0.003)	−0.012*** (0.003)
Year 2008	0.538*** (0.023)	−0.258*** (0.071)	0.060* (0.030)	0.042 (0.025)	0.115** (0.036)
Year 2009	0.732*** (0.028)	0.602*** (0.110)	1.144*** (0.037)	0.137*** (0.034)	−0.026 (0.042)
Elementary school	0.357*** (0.061)	1.242*** (0.230)	−0.151* (0.059)	−0.418*** (0.068)	−0.383*** (0.065)
Middle school	−0.135** (0.043)	1.491*** (0.204)	0.103* (0.045)	0.304*** (0.048)	0.099* (0.046)
High school	−0.383*** (0.064)	−4.999*** (0.325)	−0.069 (0.067)	−0.376*** (0.068)	−0.186** (0.068)
Average class size	−0.082*** (0.017)	−0.148 (0.076)	−0.029 (0.017)	−0.032 (0.019)	−0.030 (0.019)
Constant	−0.787*** (0.166)	92.308*** (1.048)	−1.069*** (0.223)	0.068 (0.167)	−0.516** (0.180)
Adjusted R^2	0.583	0.660	0.442	0.380	0.154
N	3,267	3,267	3,267	3,267	3,267

Note: *$p < .05$; **$p < .01$; ***$p < .001$.

(not shown), however, is not statistically significant; together they contribute no more than they do individually. Because student performance is a strong predictor of parental satisfaction (see Favero and Meier 2013), it is also interesting to add student test score performance as another independent variable to this equation. When this is done, management has a positive impact on parental satisfaction, over and above its impact on student performance. Clearly, good management of schools influences parental perceptions, which are not completely driven by the results of standardized exams.

Student Attendance

Table 5 also shows that internal management is positively associated with student attendance and the official progress report and negatively associated with school violence and teacher turnover. The goals measure has a similar set of relationships. The positive relationship for attendance is intriguing but raises the issue of the process by which school management affects student attendance. Quite likely the relationship is indirect—working through teacher morale, student performance, and student safety. Similarly, the microfoundations of the goals' relationship is also interesting in that setting high standards for students appears to generate greater levels of student attendance. The actual processes behind these two relationships are beyond the scope of this study but should be the subject of additional research.

Official Evaluations

The progress report score represents the city's overall assessment of each school and is largely based on a value-added measure of student progress in the last year. The *Progress Report* score also takes into account measures of student performance and attendance.[8] Because the progress report includes these other factors and places a high priority on annual improvement, it should be sensitive to a variety of concerns aside from raw test scores. The positive relationships for management and goals hold even when controlling for student test scores (again the interaction, not shown, is not statistically significant). These results suggest that the positive relationship is the result of the progress report assessing elements of education that are not part of test scores by considering annual progress and adjustments for value added.

School Safety

School safety is a major issue based on both the commonsense notion that children need a safe environment in which to learn and also state and federal laws that focus on the issue. The New York annual School Violence Index provides an inverse measure of safety. This measure is created by taking a weighted sum of the number of violent incidents in a school and dividing this sum by the school's total enrollment (New York State Education Department 2011).[9] We created a logarithmic transformation of this measure and then standardized the values. Internal management has a strong negative relationship with the level of violence in the schools. This finding is a preliminary indicator that good quality management and ambitious goals are likely to have spillover effects—that is, they are likely not merely to influence performance on the primary goal of the organization but can also influence other outcomes that both contribute to overall success and are important in their own right (the interaction is again not statistically significant). Especially interesting is that a stress on high academic performance is associated with lower levels of school violence. Again, examining the microfoundations of this relationship is an interesting research topic.

Teacher Turnover

Finally, the equation on teacher turnover is presented to illustrate the relationship between quality internal management and employee retention. This positive relationship for management is not surprising, given the strong theoretical support for a linkage between management, employee morale, and employee retention. The results also suggest that the impact of internal management is larger than the results shown in the prior tables because management also reduces turnover which in turn improves performance. The previous tables only demonstrate the impact of management independent of any influence through reduced turnover. At the same time, the establishment of high standards increases turnover, a relationship that could result either from the additional stress that it places on teachers or a willingness of management to replace teachers who do not perform.

8 We made two changes to the city's *Progress Report* score for our study. First, the city's overall score also takes into account School Survey results. We recalculated the overall score using the same formula as the city except that we omitted the survey results, since our management variables are derived from the results of some of these survey questions. Second, the city evaluates elementary/middle schools and high schools separately, so we combined the two sets of scores into a single variable that reflects progress across both levels of schooling. To accomplish this, we standardized the two sets of scores and then took a weighted average of the two scores, using the number of students enrolled at each level of schooling (as indicated in city records) as the weight. We also combined elementary/middle school and high school attendance rates using a weighted average.

9 More severe incidents are given a larger weight. For example, forcible sex offenses are given a weight of 60, whereas weapons possession is given a weight of 15.

Conclusion

This article has offered four contributions. First, the study has specified a set of core activities common to most theories of public management and has found that they contribute to performance. All have to do with basic managerial practices often encouraged in the literature of the field, and all have often been linked theoretically to changes in worker behavior that lead to better performance in public organizations. Setting clear and challenging goals, engendering employee trust, encouraging participation by frontline workers in decision making, and providing feedback to those workers have long been staples of the literature, if not always in practice. Even in settings constrained by public sector limitations on management, there is good reason to expect to find positive relationships of these practices with performance. This expectation is validated in the analysis here and that is the key substantive finding of the study.

An important implication for policy makers and administrative leaders is to treat very seriously the importance of supporting this pattern—this virtuous circle of managerial practices—with procedures and routines that allow the managers to build and sustain such efforts. In urban school systems, incentives for professional advancement can be based in part upon mid-level managers' undergoing training on these issues and their demonstrating willingness to put such practices into action. Where such patterns can be shown to be functioning smoothly, it is sensible to buffer those organizations from shocks and perturbations that can disrupt the operations.

Second, and importantly in a methodological sense, we use the subordinates' assessments to measure managerial actions. The teachers are probably the most well-informed actors on the subject, since the managers themselves can be expected to be at least somewhat unreliable in reporting how they manage. Teachers, by contrast, have less reason to report inaccurately.[10] Whether the set of four related management practices are bundled together into a single overall measure of internal management, or whether the practices are kept empirically distinct, internal management is shown here to make positive contributions to school performance. The effect size of the contribution from internal management, furthermore, is substantively significant.

A practical implication for the public management research community, accordingly, is to look for more opportunities to tap managerial behavior in ways other than simply asking managers themselves about what they are doing. In particular, data from subordinates about their own managers and managerial settings can be valuable and highly revealing. It is certainly worthwhile to pay attention to managers' perspectives, and often surveys of and interviews with managers can provide crucial information. But alternative sources of managerial data, such as those tapped in this study, should be investigated more often.

Third, we conduct a variety of statistical tests to make sure our findings are robust. For the primary educational outcome analyzed, student performance in standardized exams, substantial additional analysis confirms the core finding. The use of autoregressive specifications continues to show that internal management boosts performance. The purging of halo effects shows findings that remain quite similar. There is little doubt, accordingly, that the positive effects of management in the New York City school system are real.

Of particular interest is the role of challenging goals, or high expectations, in generating better performance. We find that both goals and the other features of internal management contribute to performance, and the two in combination help more than the sum of the separable contributions of each. Strong internal management enhances the value of high expectations; or high expectations leverage more contribution from strong internal management. For those interested in improving performance in public education, it would seem that setting and communicating high expectations can be particularly important. Systematic attention to such goal setting in other kinds of public organizations is also worthy of serious attention. All these actions are within the control of managers, should they seek to employ them. Collectively they form a management style characterized by building effective teams to deal with organizational problems. It is a decentralized style that seeks to rely on the strengths of subordinates.

Fourth, the work examines a broad range of objectives for public schools. The internal management practices examined here are positively associated with a wide variety of outcomes, including student attendance and parental satisfaction with school performance. They also help schools achieve a variety of additional valued outputs and outcomes, even some—like reducing violence in schools—that would appear to be only slightly related to the core educational function. Although the correlations among all these goals are modest at best, internal management helps to achieve every one of them. In contemporary school systems, which are often beset by a wide variety of challenges and distractions, this finding is of particular interest.

The patterns reported here are encouraging with regard to the importance of some traditionally emphasized public administrative practices. Although they are restricted to one large public school system, one can expect similar patterns in other school systems. The

10 Teachers might have an incentive to report favorably on their principal, but the halo corrections that are applied should adjust for this.

findings may also hold in other highly professionalized organizations, where frontline workers are highly educated and regularly engage in discretionary actions. This possibility should be on the agenda of researchers interested in the relationship between management and performance.

This research demonstrates that mid-level public managers in the New York City school system are not helpless or irrelevant in the educational process. They and their managerial practices clearly shape educational outcomes. Students of the traditional literature on public administration would not be surprised at these findings, but many often-repeated ideas and claims in numerous fields of learning are eventually shown to be false. Examining the validity of such key ideas as those examined here remains important.

Supplementary Material

Supplementary material is available at the *Journal of Public Administration Research and Theory online* (www.jpart.oxfordjournals.org).

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