When Accountability Strategies Collide: Do policy changes that raise accountability standards also erode public satisfaction?

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Abstract (WORD COUNT = 120 words)

No Child Left Behind requires that two accountability strategies – raising standards and public pressure through publicizing performance data – be implemented simultaneously. However, when coupled, they may produce an unintended consequence for public opinion. The public may misunderstand the drop in achievement that occurs when the bar is raised and become dissatisfied with school performance. To examine this potential negative consequence, we analyze data from New York City. We find parent satisfaction declined when school performance grades dropped after the implementation of higher standards. This paper contributes to our understanding of how the public responds to school accountability data. Because public support for sustained and successful reforms is key, understanding how accountability policies may erode this much needed support is critical.

Keywords: accountability, school performance data, public opinion, No Child Left Behind
Introduction

One need not look far to find criticism of our public education system. In response, schools and districts today are often a flurry with reform initiatives (Tyack & Cuban, 1995; Hess, 1999). Previous works documented the volume of reform activity and its negative consequences (Bryk, 1993; Tyack & Cuban, 1995; Hess, 1999), however it is also important to examine whether specific combinations of reforms can also have negative consequences. While reforms may be effective when implemented alone, when coupled they may be less effective not only due to the sheer volume of reform, but policies may also interact to create unintended, negative consequences (Merton, 1936). Today, two common accountability strategies required by No Child Left Behind are raising achievement are 1) raising the bar for accountability standards and 2) public pressure through highly visible accountability data.

The first strategy is to publicize school accountability data. Because education is a public good, the public holds its schools accountable for their performance (McDonnell, 2000) and seeks information regarding progress and performance in order to make a judgment about how well this public institution is performing (Figlio & Loeb, 2011). In order to assist the public in this process, policy makers have increasingly called for more public information on school performance (e.g. Duncan 2010). Report cards, which are a “regular effort by an organization to collect data on two or more other organizations, transform the data into information relevant to assessing performance, and transmit the information to some audience external to the organizations themselves” (Gormley and Weimer 1999, p. 3), have grown in popularity over the last decade and are now widely available for nearly all schools. Making school accountability data publicly available enables citizens to become engaged, ask pointed questions about school performance and apply pressure on schools to improve (McDonnell, 2008; Mintrom, 2001;
Wong, 2008). Research indicates that this strategy appears to be working as parents use data to select schools and to apply pressure on schools of choice by exit or threat of exit when school quality is poor (Hanushek, Kain, Rivkin & Branch, 2007; Hastings, VanWeelden & Weinstein, 2007).

A second strategy involves setting rigorous achievement goals that are adjusted periodically. By raising the bar periodically, schools that reach their targets continue to strive for higher levels of achievement. This strategy to improve performance builds on a voluminous body of literature on motivation from industrial and organizational psychology (Locke & Latham, 2006), and has spurred school districts to set clear and rigorous targets for educational achievement that are adjusted periodically. Moreover, research suggests this strategy too appears to be working. Student achievement has been rising in response to higher standards (Carnoy & Loeb, 2002; Hanushek & Raymond, 2005; Dee & Jacob, 2011).

But in addition to impacting student achievement, it is plausible that the two above strategies result in an unintended consequence for public opinion. When the bar is raised, schools often experience a drop in achievement. When both strategies are implemented together, this decline is made highly public through accountability report cards and, quite possibly, the public may misunderstand the drop in achievement. This misunderstanding may erode public satisfaction with the public schools, ultimately hindering public support for future reform. Whether these policies, when implemented in combination, can have this negative feedback affect on public opinion is unknown, despite calls to expand the field’s understanding of how accountability policies influence public perception of schools (McDonnell, 2009).

The identification of possible negative feedback is necessary because satisfaction is an important predictor of the public’s willingness to increase funding (Glaser & Hildreth, 1999;
Simonsen & Robbins, 2003), and remain engaged in democratic participation (Lyons & Lowery, 1986). While both accountability strategies have proven effective when examined solely in terms of their impact on student achievement, we investigate whether when coupled, they can have an unintended impact on public perception of school quality.

To examine whether our suggested concern is warranted, we first describe the theoretical basis for each strategy and highlight key research findings that support each strategy being implemented individually. We include details regarding the specific implementation of each strategy in New York City (NYC). Then we explain the potential dilemma created by pursuing both strategies simultaneously by drawing upon public administration and political science literatures, which describe the unique role that public support plays in maintaining effective public institutions. We then use data from New York City to examine our hypothesis. We find that when NYC raised the bar on schools, which resulted in a drop in the highly public letter grades assigned to schools by their accountability system, parent satisfaction with school quality declined. Due to the negative consequences associated with declining satisfaction for public institutions, this finding is especially worrisome. Therefore, we conclude with a discussion of the potential implications for our findings and suggestions for future research. This paper makes an important contribution to our understanding of how the public responds to school accountability data.

**The Unintended Consequences of Pursuing Multiple Accountability Strategies**

As noted above, many school districts are working vigorously to implement multiple reform strategies aimed at improving student performance outcomes, often without consideration to how the strategies may have other consequences beyond the intended impact on school performance. The two strategies examined here include: 1) the strategy of public pressure or
making school accountability data highly visible to foster public accountability and 2) the
strategy of raising the bar or increasing target performance standards for schools to foster
continuous improvement.

**The Strategy of Public Pressure: Public Dissemination of Data.**

With U.S. school districts spending approximately $500 billion annually (U.S.
Department of Education, 2010), it is not surprising that the public wants to be informed about
how effectively schools spend this money. Since public education is a democratic institution, the
average citizen makes important decisions about whether, and to what degree, to support it.
Successful school reform often requires broad public support not only from students and
teachers, but also taxpayers, employers, and parents. Without this public support, schools may be
viewed as “institutions alien or hostile to local interests” (Plank & Boyd, 1994, p. 277).
Therefore, as Plank and Boyd (1994) argue, in order to be successful, policy makers must seek to
provide greater opportunities for the public to participate in school governance. To this end,
publicly available school report cards have become a critical component of school accountability
systems, often with the hope that such information will enable the people to apply greater
pressure on schools for improvement.

No Child Left Behind (NCLB) recognized this need for public information and required
schools to create and provide such data because without insight into a school’s performance, the
public often lacks the knowledge needed to make an informed judgment. With more information
about school performance, parents and other interested citizens can provide more active
oversight (Weiss, 1993; Mintrom, 2001; McDonnell, 2008; Wong, 2008). Whereas school data
once reached few and conversations about data remained mostly within academic and education
policy circles, accountability policies today, along with technological advancements, have made
school accountability data widely available (Peterson, 1995; Reese, 2005; Manna, 2007). School report cards have become widespread and can be quickly and easily googled by any interested citizen.

While researchers often examine how accountability data have impacted student performance, teachers and principals (e.g. Blanc, Christman, Liu, Mitchell, Travers & Bulkley, 2010; Booher-Jennings, 2005; Coburn, Honig & Stein, 2009; Diamond & Cooper, 2007; Heilig & Darling-Hammond, 2008; Thorn, Meyer, & Gamoran, 2007), a smaller set of research has begun to examine how the public responds to school performance data. For example, research shows that school accountability data positively influences housing valuations, pushing them higher in locations where measured school quality is high (Figlio & Lucas, 2004; Black & Machin, 2010). Further, families are attracted to, and retained by, higher performing districts (Figlio & Lucas, 2004; Black & Machin, 2010). People also use performance data when choosing schools for their children, often selecting schools with higher achievement levels (Hausman & Goldring, 2000; Holme, 2002; Hastings, Weelden, & Weinstein, 2007).

**Implementing the strategy of public pressure in New York City.** In keeping with this strategy for improvement, the New York City Board of Education reports each school’s performance every fall. The NYC Progress Reports, as they are known, combine multiple measures of school performance. Similar to letter grades that students receive to assess their performance in various academic areas, the New York City Progress Report provides letter grades – A through F – to evaluate each school’s performance. Schools receive an overall letter grade as well as an environment, student performance, and student progress grade. These Progress Reports are sent home with students and are available online through the NYC Board of Education website.
NYC’s Chancellor, Mayor and the Chief Accountability Officer have all been explicit about the “public information tool” role that Progress Reports play in their accountability system (Medina & Gebeloff, 2008, pg. 39). Indeed, as James Liebman, former Chief Accountability Officer for NYC schools stated when the first set of Progress Reports were released in 2007, “The purpose of grading these schools and making those grades public … is to generate pressure to get them [the schools] moving forward, to improve” (Finn, 2007, p. 4).

**The Strategy of Raising the Bar: Motivation and Goal Setting.**

In addition to the above strategy, NCLB requires clear and rigorous goals for schools that are periodically updated to foster continuous improvement. This strategy is built upon a large body of research from the field of industrial and organizational psychology where researchers were concerned with increasing workplace productivity. Beginning in the late 60s, researchers began to investigate the relationship between goal setting and increased productivity. “Developed over a 25-year period, based on some 400 laboratory and field studies” (Locke & Latham, 2006, p. 265), goal-setting theory is the dominant theory of employee motivation in the field of industrial and organizational psychology (Perry, Mesch & Paarlberg, 2006). Quite simply, the theory posits that drawing attention to a stated goal when trying to complete a task affects ones action (Locke & Latham, 2002). Research testing this theory in both experimental laboratory settings and in the field has demonstrated repeatedly the powerful, positive influence that goal setting has on motivation and productivity because goals direct the attention, effort and actions of the worker (Locke & Latham, 2006).

In particular, research on goal setting theory establishes the critical role that setting high (or challenging) goals can have on productivity and motivation. The primary finding highlighted in reviews of goal setting research is that “the more difficult the goal, the greater the
achievement” (Locke 1996). In experimental settings, participants who were told to “do their best” or those who were given no specific goal for a task were consistently out-performed by participants who were given specific and challenging goals (Perry, Mesch & Paarlberg, 2006). While there are certainly limits (goals must be reasonably attainable), the link between goals and performance becomes even more pronounced when goals are challenging (Locke, 1996).

Just as the above research in non-education settings documents the improved outcomes associated with setting clear and rigorous goals, research on school-level responses to accountability policies demonstrates that goal setting policies changed organizational behaviors and resulted in higher levels of student performance (Linn, 2008). Schools increased funding directed toward instructional and curricular reform activities (Chiang, 2009), lengthened the time devoted to instruction in key performance areas and focused specifically on low-achieving students (Rouse, Hannaway, Goldhaber, & Figlio, 2007). Individual teachers have also responded to higher standards by aligning their curricular plans and focusing more heavily on activities (like tests) that would improve outcomes measured by accountability policies (Firestone, Mayrowetz, & Fairman, 1998; Louis, Febey, & Schroeder, 2005). Cumulatively, these changes often lead to increased student performance because, as the theory suggests, individuals direct their efforts towards accomplishing the clear and challenging goal provided (Carnoy & Loeb, 2002; Hanushek & Raymond, 2005; Rouse, et al., 2007; Chiang, 2009; Dee & Jacob, 2011).

**Raising the bar in New York City.** In New York City’s case, policymakers utilized goal-setting theory to set clear goals for schools by laying out the requirements for receiving an “A” on their Progress Reports. Moreover, both New York State and NYC continue to revise their standards and goals to ensure they remain challenging. After 97% of schools earned top grades
(an A or B) in 2009, then Chancellor Klein announced that that city would raise the bar and revise their Progress Report grading formula to motivate school to achieve even more. Thus far, education leaders in New York City have been pleased with the results of this strategy. As former Chief Accountability Officer Mr. Lieberman noted in one press interview, “We’ve seen that the setting of targets or lines have a substantial effect on schools’ efforts to achieve outcomes with their students” (Medina & Gebeloff, 2008, p. 29).

**The Potential Problem: An Unintended Consequence for Public Perception**

In one review of goal setting theory, the authors note that goal setting “may face unique challenges in the public sector” and that “limited application of goal setting theory exists in empirical research on employee motivation in public settings” (Perry, Mesch & Paarlberg, 2006, p. 510). Reliance on public support is one unique challenge public institutions, such as education, face. Public institutions derive their legitimacy from the electorate making them particularly sensitive to public satisfaction and support. Unlike business settings where goal attainment data often remain internal to the organization, public education is accountable to the people thus making the data public has become a feature of accountability policies today. Public education is also unique in that it relies on the public for democratic oversight, while simultaneously developing future participants in that democracy (Gutmann, 1987; Author, 2009; McDonnell, 2009; Mintrom, 2009). As some have pointed out, it would be difficult to teach democratic behavior in a non-democratic environment (Mintrom, 2009). Clearly, public support and involvement in public education is important to the long-term health of our schools and our democracy.

Declining satisfaction is a major source of concern for the health of public institutions. While some public skepticism is healthy in democratically controlled institutions, low levels of
public satisfaction can place them at risk (Donahue & Miller, 2006). Extant research in the field of public administration demonstrates that satisfaction with government is an important predictor of support for increased funding (Glaser & Hildreth, 1999; Simonsen & Robbins, 2003). Similarly, Figlio and Kenny (2009) found that schools receiving low performance evaluations risked losing public donations. Satisfaction with public services also forms a basis for citizen trust in government (Van Ryzin, Muzzio, Immerwahr, Gulick, & Martinez, 2004). Lower levels of trust and satisfaction lead to negative consequences for democratic participation, such as individuals leaving a jurisdiction or feeling there is little point to participation (Lyons & Lowery, 1986). Because previous research has found that school grades are a significant predictor of parental satisfaction (Charbonneau and Van Ryzin, 2011), declining satisfaction may hold deleterious implications for schools’ ability, as a public institution, to build support both abstractly through citizen trust as well as in more concrete monetary ways for further reform and improvement.

In the following section, we utilize data from New York City to demonstrate how public opinion responds to public accountability data and to examine whether erosion of satisfaction is an unintended consequence. Using the letter grades assigned to public schools in 2009 and 2010 and corresponding parental satisfaction surveys, we examine whether raising the bar impacted satisfaction levels.

**Data**

We restrict our analysis to elementary schools in New York City with at least two of the three upper elementary grades that are tested annually (3rd, 4th and 5th). The initial sample included 590 schools. We excluded combined K-8 schools because satisfaction with middle schools may be different than satisfaction with elementary schools and their curricula are more
varied, thus potentially skewing the overall ratings of these schools. Further, because low response rates may be highly unrepresentative of actual satisfaction (Charbonneau & Van Ryzin, 2011), we excluded schools with a response rate lower than 30 percent in both 2009 and 2010. The average response rate for all schools in 2010 was 49% (New York City Department of Education, 2011c). These restrictions resulted in a final sample of 542 elementary schools with an average response rate of 66% in 2009 and 68% in 2010. For each of the elementary schools in our sample, school-level data were collected from public sources and these data are detailed below.

**Dependent Variable**

Ideally, we would like to assess public satisfaction. However, existing public data are representative of the larger city, not each school and therefore cannot be analyzed at the school level. The New York City Board of Education, however, began collecting parent, not public, satisfaction data on an annual basis in 2007. The NYC School Survey, which is administered by the accounting firm KPMG annually in the spring to all parents in the NYC school system, uses both a paper and online version to collect data (New York City Department of Education, 2011b). Parents completed the surveys between February and late April of each year and school-level data are made public each summer. Because individual level data are not available, our measure of parental satisfaction is an aggregate, school level measure. (New York City Department of Education, 2011a).

We use the survey question “How satisfied were you with the education your child has received this year” (4=very satisfied to 1=very unsatisfied) to assess parent satisfaction in 2009 and 2010 (for the full questionnaires, see New York City Department of Education, 2011a). As different parents may hold different goals for education, we selected this broad question to
maintain a focus on overall satisfaction with education rather than questions that focus on more specific school features such as the quality of school communication or their child’s specific teacher.

**Independent Variables**

In addition to our main variable of interest - Progress Report grades - we include several independent variables likely to impact parental satisfaction. We include variables known to impact parent satisfaction, but because this topic is generally understudied, we also include variables that are known to impact student achievement. Because we assume that student achievement influences parent satisfaction, including these additional variables that control for changes in student achievement are necessary as they serve as other potential competing explanations. Independent variables were culled from the NYC Progress Reports and the New York State Report Cards (See Table 1 for a complete list of data and their source).

**Variable of interest: New York City Progress Report letter grades.** While the Progress Report provides four different grades, which represent different aspects of school performance, we use the overall grade in this analysis because it represents the summary performance measure, is the most prominently displayed grade on the Report’s first page and is larger than the other grades listed (See figure 1 for example of NYC Progress Report Format). Because of its prominence and summative nature, it is most likely to influence parental perceptions of school quality.

[Insert Figure 1 About Here]

We analyze the impact of the overall grade using two different specifications. In the first model we transform all grades into the common four-point scale (A= 4, B= 3, C= 2, D= 1, F= 0) and treat it as a continuous variable. In the second, we created dummy variables to compare how
receiving each grade differed from a school that received an A letter grade, our omitted category. We combined the letter grade ‘D’ and ‘F’ due to small number of schools in each of those categories.

**Teacher characteristics.** Teacher characteristics are important predictors of student academic success (e.g. Kennedy, 2005; Beteille & Loeb, 2009; Foorman, 2009). Further, teachers are the most visible school characteristic and may influence parental satisfaction as parents interact with them frequently. As a result, we include two proxy measures for teacher quality within a school: the percent of students who are not taught by a highly qualified teacher and the percent of teachers with less than three years of experience teaching in the school. These characteristics are reported on the New York State Report Card.

**School demographic data.** A vast amount of research documents the relationship between socioeconomic status (SES) and academic performance (e.g. Coleman, et al, 1966; Coleman, et al, 1982; Schneider, et al., 1998) and therefore, we include several demographic variables in our analysis. New York State Report Cards report the percent of students that qualify for free or reduced-price lunch (FRPL), the percent of students that are limited English proficient (LEP), and the percent of students that are not white for each schools. The percent of students that are labeled special education (SPED) are available through the State Department of Education.

Research on the relationship between school enrollment and student achievement is not conclusive. Studies in South Carolina found that elementary schools with larger enrollments perform higher, on average, than schools with smaller enrollment (Caldas, 1993; Stevenson, 1996). However, other empirical evidence suggests no significant relationship between enrollment and achievement (McCathren, 2004). Thus, we included enrollment to investigate its
relationship with parental satisfaction and control for any possible influence on satisfaction levels.

**Response rates.** The response rates at the school level varied from 16 to 100 percent. Because a lower response rate may be unrepresentative of actual satisfaction levels (Charbonneau & Van Ryzin, 2011), we included response rates in our model.

[Insert Table 1 About Here]

**Empirical Method**

Before determining whether implementing the two strategies simultaneously has a negative, unintended consequence on perceptions of school quality, we first examine descriptive changes in letter grades and satisfaction scores for 2009 and 2010. In part two of our analysis, we use ordinary least squares (OLS) regression, with parental satisfaction as the dependent variable, to estimate whether Progress Report grades are significant predictors of satisfaction for each school year. We estimate the following three models for each year: 1) a controls only model, 2) a four-point grade scale combined model, and 3) a dummied grade model. The basic model is displayed in Equation 1:

\[
y_s = \beta_0 + \beta_1 u_s + \beta_2 v_s + \beta_3 w_s + \beta_4 y_s + \beta_5 z_s + \varepsilon_s
\]

where Y is the average satisfaction level for school s; U is the response rate for school s, V is the enrollment for school s, W represents a vector of all student demographics in school s, X represents a vector of all teacher demographics in school s, Z represents overall letter grade assigned to school s, and \( \varepsilon_s \) is a random error term representing individual variations by school. As noted above, overall grades are modeled as a continuous variable and as a set of dummy variables to explore whether particular grades have a significant influence on reported satisfaction levels.
In part three of our analysis, we examine whether the change in parental satisfaction was influenced by grade changes using a first difference model. This mitigates time-invariant aspects that bias coefficients while capturing the relationship between year-to-year changes in dependent and independent variables. The first difference model follows the form described above but uses the year-to-year change in each variable. We again represent grades both as continuous with possible values ranging from -4 to 4 and as a set of dummy variables representing schools whose grades rose, fell, or remain unchanged. In the model using dummy variables, the omitted category is schools whose grades remained unchanged year-to-year.

Results

Descriptive Changes in NYC Accountability Letter Grades, Parental Satisfaction and Student Achievement

After the policy change in 2009 that raised the bar, schools experienced dramatic changes in their Progress Report grades. In all, 71% of schools in our sample saw a decline of at least one letter grade. Thirty-four percent of schools in our sample saw a decline of two or more grades. This shock to the letter grades may have had a significant impact on parent satisfaction.

Simply looking at the satisfaction levels, we do see that there was a decline between 2009 and 2010. The average change in parent satisfaction from 2009 to 2010 was -0.15, or about a 4% decline. However, because this decline in satisfaction may have been due to actual declining achievement levels and not due simply to perceived change due to lower Progress Report Grades, we examined the scale score changes over the same period of time for 3rd, 4th and 5th grade math and English Language Arts.

The decline in grades assigned by the NYC accountability system and the corresponding decline in parent satisfaction contrasts the actual changes in achievement, which were more
mixed; average 4th grade mathematics, for example, did decline (5.1 points) but average 4th grade English Language Arts (ELA) actually increased (2.9 points). Overall, tests scores increased in 4th and 5th grade ELA and 3rd grade math while 3rd grade ELA and 4th and 5th grade math decreased (see Table 2). Because actual student achievement, as measured by test scores, was mixed, we are able to test whether perceived declines due to changes in report card grades had an impact on parent satisfaction. If parents are paying attention to the actual changes in student achievement (at least as measured by test scores), we would expect that changes in letter grades would have no relation to satisfaction levels as there is not a one-to-one relationship.

[Insert Table 2 About Here]

**Predictors of Satisfaction by Year**

Before examining whether the grade change impacts the change in parental perception from year-to-year, we analyze whether grades were significant predictors of satisfaction for each year. While previous research has found that grades were significant predictors of parent satisfaction (Charbonneau and Van Ryzin, 2011), the frequent criticism of overreliance on test scores for judging schools (Booher-Jennings, 2005; Hursh, 2005; Ravitch, 2010) may cause the public to disregard these measures. Additionally, we examine whether school-level demographic variables are significant predictors for each of the years examined here.

Table 3 presents the estimates from three models for each year. The baseline model shown in Column 1 and 2 includes only the controls for each year. Columns 3 and 4 include the accountability letter grades as a continuous variable while Columns 5 and 6 specifies the accountability letter grade as a set of dummy variables. The estimates shown in Table 3 indicate that our teacher characteristic variables are significant predictors of parent satisfaction in both 2008-2009 and 2009-2010. Of note, the teacher characteristics have an opposite relationship than
one may anticipate. The higher the percent of students taught by a non-highly qualified teacher, the higher the parent satisfaction. Similarly, these models indicate that the higher the percent of teachers with less than three years of teaching experience, the higher the parent satisfaction. Although outside our study’s focus, this finding is curious given previous work documenting that teachers with more experience are often more effective and thus, we would have expected that parents would be more satisfied with more experienced teachers (e.g. Clotfelter, Ladd & Vigdor, 2006; Harris & Sass, 2011; Kane, Rockoff & Staiger, 2006).

Table 3 also shows that the percent of limited English proficient students in a school is also a significant predictor of parent satisfaction with an increase in the percent of students who are classified as LEP being inversely related to reported levels of parent satisfaction. Similarly, school size was a strong predictor of parent satisfaction; as enrollment increases, satisfaction declines. Finally, the response rate variable is a significant predictor, but only in 2009-2010 with higher response rates predicting higher satisfaction levels.

With regard to our main variable of interest, model 2 (Columns 3 and 4) demonstrates that a school’s overall letter grade was a significant predictor of parent satisfaction, but for the 2009-2010 school year only. In this year, schools with lower overall grades also had lower levels of average parental satisfaction. Similarly, model 3 examines whether specific grades impacted parental satisfaction. For 2009-2010, individual letter grades had a significant and negative impact on parental satisfaction levels. A school receiving a letter grade of a B, C or a D and F (combined) had significantly lower reported levels of parent satisfaction than schools that received an A. Further, in the dummied model when all other factors are held constant, we see that the decline in satisfaction for schools that received a letter grade of C was larger than the decline in satisfaction for schools that received a letter grade of B.
While we find that grades were significant predictors in 2009-2010, our results suggest they were not in 2008-2009\(^1\). However, because grades are at least predictive some of the time, we had reason to investigate whether the change in grades was also significant for the change in satisfaction ratings.

**Change in Satisfaction: First Difference Models**

In Table 4, we present the findings from the first difference models. Similar to our base models, model 4 demonstrates that the change of the percent of students labeled limited English proficiency is a significant predictor of satisfaction. As the proportion of the student body that is limited English proficient grows, parental satisfaction falls. For this model, however, the relationship between teacher characteristics and satisfaction is different than in the individual years examined above. As the percentage of teachers with less than three years increases from year to year, parental satisfaction decreases. The change in response rate is highly predictive of the change in parent satisfaction; in schools where the response rate increased, there was a similar increase in the satisfaction levels. Enrollment was a significant predictor in both 2009 and the first difference model, but was not significant in 2010.

Models 5 and 6 include our variable of interest – change in letter grade. When the change in letter grades is treated as a continuous variable (from -4 to +4) in model 5, we find that it has significant impact on satisfaction; when Progress Report grades declined from one year to the next, the change in average parental satisfaction was also negative. This relationship confirms our hypothesis that when NYC raised the bar, which then affected the widely publicized school grades, there was an unintended and negative impact on satisfaction levels.

\(^1\) Footnote related to another work by this author that explains this finding in detail has been removed for blind review.
Further, when the change in letter grades is modeled using three dummy variables (Progress Report grade increased, Progress Report decreased, Progress Report remained the same), we find that a decrease in letter grade significantly and negatively influenced the change in satisfaction while a grade increase had no significant effect when compared to the omitted category – no change in Progress Report grade. This finding suggests that parents respond more powerfully to a drop in letter grade than to an increase.

[Table 4 about here]

**Discussion**

As many schools and districts pursue the multiple accountability strategies for school improvement as mandated by NCLB, we must consider whether the policies influence more than just the intended outcome – school performance. Because NCLB requires that states set high standards and public data dissemination, the results in this exemplar case study likely apply to a number of locales that are also pursuing similar strategies simultaneously.

While raising the bar has led to improved performance in many cases (e.g. Carnoy & Loeb, 2002), in the case of New York City, it also led to publicized accountability data that implied widespread decline in school performance. Therefore, we must be concerned about the possible unintended consequences for public perception of school performance. While policy makers and educational elites were likely aware of the artificial nature of the decline in performance, the public, which is notoriously less informed than many would like (e.g. Berelson, Lazarsfeld & McPhee, 1954; Converse, 1964; Delli Carpini & Keeter, 1991), was likely less aware that the decline resulted from a change in policy that raised the bar for achievement.

Since New York City has data available on parental satisfaction with school performance, we have been able to analyze whether declining grades did influence satisfaction levels. While
our data demonstrate that parents were not influenced by the letter grades in the 2008-2009 school year, previous research (Charbonneau & Van Ryzin, 2011) and our 2009-2010 analyses demonstrate that parents are influenced by these public data. This supports other research showing that people pay attention to accountability data (e.g. Figlio & Lucas, 2004; Figlio & Kenny, 2009).

Due to the highly visible nature of the performance data and the fact people do pay attention, if at least intermittently, we hypothesized that parent satisfaction would be related to school report card grades. Our research suggests that this is the case. When the policy change altered grading criteria to raise the bar on schools, we find that New York City parent satisfaction declined. Thus, pursuing a strategy of raising the bar when performance data about reaching the bar is highly visible has an unintended consequence and erodes satisfaction with public schools. Our further analysis showed that it was specifically the decline in letter grades that had a negative impact on parent satisfaction. This implies that the psychological effect of declining grades is a more significant and negative effect than seeing a school maintain its performance. This finding is important to note because the policy change by the NYC Board of Education, by design, caused many schools to see falling grades as a way to spur their improvement.

Moreover, this occurred despite the fact that achievement actually increased for several grades and in several subjects. In our sample, for example, average scale scores in fourth grade English language arts actually increased from 664.3 to 667.2. While the letter grades, which are prominently displayed on page 1 of the Progress Reports (see figure 1), implied a decline in performance, scale scores that showed improved performance are buried in small type on page 14 of the New York State Report Cards and are rarely covered in the newspapers.
This presents a complex dilemma for policymakers. Raising the bar has been shown to spur continuous academic achievement in schools and has a proven track record in other fields, making it an appealing policy initiative. However, raising the bar also means that schools receive lower scores after the policy change is implemented. Further, the public has the right to know how well its schools are performing. But when the public sees the apparent decline in achievement that results from raising the bar, their confidence in and satisfaction with the public education system is impacted. This may erode the ability of policy makers to garner public support for future reform efforts. The catch-22 that results from the coupling of these improvement strategies has been previously unexamined, but our results suggest further inquiry is needed to hopefully prevent further erosion of public support.

While our results point to a potential dilemma for policy makers, there are limitations to our study that may mitigate this concern. First, long-term trend data are not available due to the recency of these reforms and parent satisfaction data collection. Trends would enable us to discern whether or not the changes in satisfaction levels is a brief shock that rebounds once performance rises, or if the effect is a prolonged period of low satisfaction. Further, the actual decline in satisfaction we documented is quite small. If the decline were to be simply a short-term result that is relatively small, our concern may be mitigated. If however, the decline we detect is simply the beginning of a downward trend, even small yearly declines could be cause for greater concern overtime. Continuing to examine the trends in overall satisfaction should be a priority for researchers.

Second, proponents of making data publically available hope that data will spur parents and the public to apply pressure on their schools to improve. The dissatisfaction some experience may be the very motivation needed to motivate them to voice their concerns and demand
improvement. Rather than experiencing negative consequences from dissatisfaction, such as withdrawing from the system or refusing to provide additional financial support for reforms, some individuals may respond exactly as proponents hope by becoming more involved in the school system. Thus, the declining satisfaction we document may have long-term positive results. While previous research often documents the negative consequences of declining satisfaction for other public systems (such as the police force), we can only speculate at this point that the decline in satisfaction for the public education system will result in similar negative consequences. Further research regarding the ways in which people act upon their declining satisfaction are needed.

Other limitations in the data, however, may actually have led us to underestimate the impact of these accountability policies for satisfaction. As we noted in our data section, we cannot assess general public satisfaction with their specific public schools. By using a measure of satisfaction that includes only parents, we exclude important contributors to the education system. As has been previously found, parents often express more positive views of schools than nonparents (Berkman & Plutzer, 2005; Bushaw & Lopez, 2011). Because parents have more direct interaction with school (open house events, parent-teacher meetings, etc.), they likely rely less heavily upon the Progress Report grades to formulate their satisfaction. The general public, however, is likely more reliant upon these official measures. This may mean that our results actually underestimate the negative impact that the declining grades has on broader public opinion.

Further, because the existing survey data asked parents to assess their satisfaction with their child’s education, our findings likely underestimate overall satisfaction with the whole school, as parents are more likely to express satisfaction with their own child’s education. Just as people express more positive satisfaction with their congressional representative as compared to
Congress as a whole (Cook, 1979; Parker & Davidson 1979; Patterson & Magleby 1992), it is likely that parents express higher levels of satisfaction with their child’s education than they would for the whole school or the entire school system. Thus, we again may be underestimating the impact on broader public satisfaction with the school system.

**Conclusion**

Empirical investigations of the ways in which policies, once implemented, can impact future political dynamics and support for particular policy have become a recent focus of political scientists and policy researchers (e.g. Campbell, 2003; Mettler & Soss, 2004; Reed, 2001). Building upon this, education researchers have argued that we should work to understand how accountability policies shape public opinion (Author, 2009; McDonnell, 2009). By examining the impact implementing two specific accountability policies have on perceptions of school quality, we contribute to an understanding of how policies can constrain future policy possibilities by eroding public confidence in and satisfaction with their schools.

While most conversations regarding education accountability data focus almost exclusively on the promises data hold for school improvement, this work reminds us that accountability data can also be used to threaten the system and hinder future efforts to support and sustain reform. Educational policy makers should tread carefully when enacting policies that influence public perception of schools. Calls for informing the public about the performance of their schools are certainly warranted. The public has made a large investment in its schools and deserves to know whether its public schools have used these funds wisely to produce adequate outcomes (Gormley and Weimer 1999; McDonnell, 2000). But in our rush to produce data of all shapes and sizes and then reshape these data for policy or political purposes, we cannot forget to consider how the public is interpreting these data. As the case of New York City demonstrates,
efforts to shape the data to spur continuous improvement by the schools can easily lead to public concern. Inadvertently, citizens may come to believe that there is little point in participating in or supporting the education system because of the negative messages regarding school performance (Wichowsky & Moynihan, 2008). Given our findings, we believe that concern is warranted for the development of a “vicious chain of low trust-declining resources-poor perceived government performance-lower trust” (Holzer & Zhang, 2004, p. 238). In the end, policy efforts that shape accountability data to improve schools may actually hinder long-term improvement possibilities as the public withdraws its support for and confidence in the system.
References

Author. (2009).

Author. (accepted for publication).


Table 1. Descriptive statistics

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<th>2010</th>
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*a* Data from NYC School Survey  
*b* Data from NYS Report Cards  
*c* Data from NYS Department of Education  
*d* NYC Progress Reports
## Table 2. Change in mean scale scores

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<td>668</td>
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<td>682.2</td>
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### Table 3. Regression analysis of parents' satisfaction for 2009 and 2010

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<th>Model 2: Four-point Grade Scale and Controls</th>
<th>Model 3: Dummied Letter Grades and Controls</th>
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<td>(.00001)</td>
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<td>0.00131 ***</td>
<td>0.00034 *</td>
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<td>(.00027)</td>
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<td>(.00041)</td>
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<td>Overall grade of C</td>
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<td>Overall grade of D or F</td>
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* P < .1
** P < .05
*** P < .01

Robust standard errors used throughout.
Table 4. Regression analysis of change in parents' satisfaction: First difference model

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<td>(.00033)</td>
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<td>0.0953</td>
<td>0.0938</td>
</tr>
<tr>
<td>number of observations</td>
<td>n= 539</td>
<td>n= 531</td>
<td>n= 531</td>
</tr>
</tbody>
</table>

^ robust standard errors
* P < .1
** P < .05
*** P < .01
Figure 1. Example of NYC Progress Report