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Does Mission Matter? Examining the Role of Organizational Mission and Religious Identity in Schools Participating in the Milwaukee Parental Choice Program

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Abstract

For decades, theories of bureaucracy have emphasized the importance of organizational mission in thriving organizations. This dissertation will examine the role of organizational mission in schools, particularly, a sample of schools that participate in the Milwaukee Parental Choice Program, the nation's oldest and largest school voucher program. Using teacher and school leader survey data, coupled with measures of student achievement, it will measure mission coherence and correlate it with a variety of outcome variables of interest. It will also take a particularly close look at the role of mission in religious schools.

This Dissertation is approved for recommendation to the Graduate Council

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Michael Q. McShane

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Chapter 1: Introduction

In the summer of 2009 I paid a visit to St. Marcus Lutheran School in Milwaukee, Wisconsin. The visit, part of a week-long seminar on school choice sponsored by my alma mater, the University of Notre Dame, was designed to introduce individuals associated with Catholic schools to the idea of school vouchers, most likely in the hopes of creating advocates for such public policies.

I was fresh out of teaching 9th and 10th grade English and Religion at a small, historically African-American Catholic school on the west side of Montgomery, Alabama. Though we tried hard to meet the very challenging needs of our students, in an honest self-reflection I have to say that we didn't do a particularly great job. Our discipline was lacking, our curriculum fragmented, and our teaching force had several members that phoned it in every day.

It was this generally lackluster performance to which I was accustomed that made that July morning in Milwaukee so remarkable. St. Marcus, a school that served entirely low-income, minority students from a rough section of Milwaukee was bright and bustling with activity. Classrooms of well-disciplined students attentively watched and dutifully took notes as teachers presented information, some students sat in small desks in the hallway quietly practicing math problems, and other small nooks were filled with older students tutoring their younger peers.

No way. I remember thinking to myself. *This just isn't possible.*

My disbelief was so strong that I actually approached one of the peer tutoring pairs to ask him exactly what he was doing.

"I'm helping him with his math" the child said matter-of-factly.

"Do you do this often? " I replied.

The child looked at me like I had three heads, replying (somewhat annoyed at this point) "Yes".

The discipline, the character, the responsibility, the skills, all blew me away. To put it bluntly, I was simply not used to seeing such behavior in an urban school.

What was happening here? Why was this school succeeding with the same general type of students that my old school had done considerably worse with? Little did I know that that brief visit would play such a central role in my development as a scholar of education policy. As I have visited dozens of schools, spoken with hundreds of teachers, and met with school leaders at all levels of the education system in the years hence, I have continued to be vexed by this basic question, what makes this school so special?

As it turns out, the fundamental question that I asked that day, "*why are some schools successful while other schools are not?"* has vexed those that have studied the education system for decades. And while we have by no means reached a consensus as to what the answer is, we have gone a ways in determining what it is *not*.

The persistent failure of urban schools

There is a robust literature documenting the failure of urban schools. Beginning with the Coleman Report (Coleman 1966), thinkers have documented both the within-school and outside factors that have hamstrung efforts to educate predominately poor and minority students in our nation's inner cities. Coleman famously found that the outside factors of students (their background and socio-economic status) were the largest determinant of their school success, but that schools and teachers still had a significant impact on student outcomes.

Building on Coleman's work, a plethora of authors have set out to carefully document the "achievement gap", that is, the vast difference between the performance of poor and minority

students and their wealthier, white counterparts. Looking at statistics on the NAEP, black and Hispanic students scored more than 20 points below their white peers in math and reading in 4th and 8th grade. On a test in which 10 points represents an entire grade's worth of achievement, 20 points is an extremely large gap (NCES 2011).

While many authors have suggested the problems and remedies that will be discussed momentarily (more funding, smaller classes, and teacher quality initiatives), there is a strand of research that dives even deeper into the persistence of failure in these organizations. While it could be assumed that the reason for inaction was the failure of organizations to reform, Frederick Hess (1998) documented the "policy churn" that was driving a great deal of these problems. Hess studied 57 urban school districts and found that districts were constantly trying new programs and retooling the management of their schools. The problem? Systems were doing a terrible job seeing the reforms through. Hess argued that superintendents and school boards have political incentives to act, to announce new initiatives, and to hire new leaders. They do not, however, have the incentive to see through the implementation of policies or the management of human capital. Such activities are not nearly as politically appealing, and so rather than focus on that aspect of school system governance, leaders just try something new when schools aren't performing. This leads to a fragmented and disjointed system that fails to meet student needs.

University of Chicago professor Charles Payne takes a similar tack, arguing that the culture of persistent failure in these organizations swallows up any good things that happen. In *So Much Reform, So Little Change* (2008) he, like Hess, argues that failure is driven by a lack of institutional capacity, that urban school districts "are trying to do too much too fast, initiating programs on the basis of what's needed rather than on the basis of what they are capable of" (172). Workers in these systems, he argues, are demoralized, are used to having the churning

policies that Hess describes foisted upon them, and believe that they are impotent to solve the problems of their students. Success is not rewarded, and the low expectations of students and employees pervade the culture of the system.

In *The Color of School Reform* (1999), Jeffery Henig and his co-authors unpack the political problems with urban school reform. In in-depth case studies of Atlanta, Baltimore, Detroit, and Washington D.C., the authors trace the transition of school boards and school governance from white-dominated systems to black-dominated systems. For decades, people of color railed against the perceived racism and low expectations of the white-dominated school leadership in the cities studied. It was the belief that turning the schools over to the predominant race of the children and community would increase the expectations of the students as well as relationships between schools and the community. This belief is grounded in a literature on representative bureaucracy, which argues that bureaucracies that are representative of the public that they serve are more likely to make decisions in line with what the public wants (Theileman and Stewart 1996). Kenneth Meier specifically applied this to schools and argued that schools, especially those that serve minority students, are more effective when they are staffed with teachers that represent the communities that they serve and give teachers discretion in meeting student needs (Meier 2005). Unfortunately, patronage and political infighting ran rampant in schools after the transition to minority leadership, and during the course of the study, none of the school systems improve at all.

Still others look to discipline as the explanation for urban school failure. Sociologist Richard Arum, in his book *Judging School Discipline* (2003) argues that his research led him to the conclusion that "school discipline, moral authority, and socialization…were the core problems facing American public education" (x). He marshals some compelling statistics to back

up this claim. Citing the *School Crime and Safety* report from the US Department of Education, he shows that in urban public schools 14 percent of teachers reported being threatened with injury by a student and 6 percent reported actually being attacked. Thirty-four percent of seniors reported that street gangs were present in their school and 10 percent of high school males admitted to bringing a weapon to school in the past month. Given that there is a demonstrable relationship between school safety and student achievement (Gronna and Chin-Chance 1999, Brand et al 2008), it is clear that such behaviors would have a negative effect on student achievement.

At the same time that political problems plagued the large-scale management of urban school systems, smaller organizations were entering school districts and offering a new brand of education for low-income students to try and alter the disciplinary environment of urban schools. The so-called "no excuses" movement, which sprung out of the Knowledge is Power Program (KIPP) schools started by ex-Teach for America teachers Dave Levin and Mike Fienberg in Houston and New York in 1994, began to spread across several cities, emphasizing tight discipline and rigorous instruction.

These schools, and the schools that mimicked their methods, built a purposeful culture within themselves. As quoted by Thernstrom and Thernstrom (2003) KIPP founder Dave Levin is clear about how his school operates "we teach middle-class values like responsibility…we are fighting a battle involving skills and values. We are not afraid to set social norms" like "desire, discipline, and dedication"(272). Thernstrom and Therstrom describe the "no excuses" ethos:

> Excellent schools deliver a clear message to their students: No excuses. No excuses for failing to do your homework, failing to work hard in general; no excuses for fighting with other students, running in the hallways, dressing inappropriately, and so forth (272.)

KIPP certainly has the results to back up such claims. In the final report of a Mathematica Policy Research corporation evaluation of the schools (Tuttle et al 2013), KIPP's middle schools were found to produce a 0.22 standard deviation positive effect in reading and a 0.31 standard deviation positive effect in math. Combined, this would move the average student from the 36th to the 49th percentile in achievement, producing an additional 14 months of learning over the 4 years the student was at the school. This study, using a matched comparison as well as randomized control trial, was one of the largest and most methodologically sophisticated studies of a charter school network completed to date. While promising though, KIPP schools are still only a tiny fraction of schools across the country, and thinkers have searched over the past several decades for more far-reaching reforms to the education system.

Solutions

For a time, it was believed that the wide disparity in the quality of public schools was due to disparities in funding. As a result of the public outcry of the manifestly unjust funding systems that had created such differences, states all across the country reformed their funding formulas and brought educational expenditure into much greater parity. In fact, most large urban districts now spend more than their suburban and rural peers (Dixon 2012). And yet, this massive influx of education funding, an influx that more than doubled the average per-pupil expenditure in schools across the country, did little to nothing to increase student achievement or attainment. Since 1970, 17-year-olds' NAEP scores in reading have only increased a single point, moving from a 285 to a 286. The story is similar in math. In 1973, 17 year-olds averaged a 304, by 2008, it had only increased two points, to a 306 (NCES 2012). This trend is not found only in test scores but in other important indicators of the success of our education system, like the national

high school graduation rate. In 1970, 77.1 percent of US students graduated from high school, by 2007 the rate had dropped to 68.8 (*Education Week* 2012).

Next, it was class size. It was hypothesized that schools with smaller class sizes would outperform schools with larger class sizes. Most of this belief came from an experiment conducted in Tennessee in the 1980s where over six thousand kindergarteners, first, second, and third graders were randomly assigned to classrooms that either had 13 to 17 students or 22 to 25 pupils. Various analyses of the data have found substantial gains in learning after participating in the program, as well as more positive life outcomes (Mosteller 1995). Though Hanushek (1999) and Ding and Lehrer (2011) have argued that the experiment itself was fundamentally flawed, its broader application is damning enough. When the state of California decided to take decreasing class size to scale, there was no positive impact on student achievement. As it turns out, all of the positive benefits accrued in the smaller classes of high-quality teachers were washed out by the losses of students put into smaller classes with lower quality teachers (Stecher, McCaffrey and Bugliari 2003).

More recently, the emphasis has shifted to teacher quality initiatives. With the advent of large, high-quality longitudinal student achievement data sets and the proliferation of computing power and statistical techniques, researchers have been able to link student performance to individual teachers and have found strong links between teachers and achievement, and teachers and long-term life outcomes. To give a sense of the scale and findings of such studies, the vanguard is now held by Raj Chetty, John Friedman, and Jonah Rockoff (2011), who were able to follow 2.5 million students, first in their grade 3-8 education and later into the labor market through tax records. They found that a one standard deviation increase in teacher quality (as measured by value-added assessments) in any of the grades increased later student earnings by

1% at age 28. The takeaway (as cited by President Obama in his State of the Union address) is that replacing a teacher in the bottom 5% of quality with a teacher at the mean of the quality distribution would increase the net present value of the average classrooms' lifetime earnings by over $250,000. This study tells us two important things. First, that we can trust value added scores, as they relate to later positive lifetime outcomes and, second, that teachers have a real, long term, measurable impact on student outcomes.

To a certain extent though, this is a bit of an "if you only have a hammer, everything starts to look like a nail" situation. We know that teachers are important because we have the data to prove it. In theory, if we collected broader datasets on other measures of schools, we might find any number of other factors to be more important.

Similarly, there are real limits to the slate of teacher quality reforms that arise from the information gleaned from these studies. Remember that, across the country, there are over 3.2 million public school teachers and it is entirely possible that there are not enough superstar teachers out there to be that high quality teacher in every classroom. It looks like even under the most generous assumptions, most schools will be staffed by some combination of high-quality, low-quality, and middling quality teachers. It will take school level leadership and organization to most effectively use those teachers to promote student learning. It is also not entirely clear as to what we can do to attract the enormous number of high quality teachers that we need. Do we pay them more? Do we offer them some kind of performance bonus? Do we make career ladders available to them? There may very well not be a district, state, or nationwide policy that will promote the entrance of these necessary individuals into the teaching labor market. As such, and at least for the foreseeable future, we're going to have to figure out how to improve schools with the teachers that we have.

But even more broadly, thinking back to my experience at St. Marcus, and the many schools (both high and low performing) that I have visited since, any one explanation leaves us lacking. Sure, funding is important, smaller class sizes make intuitive sense, and of course teachers are going to play a huge role. But there are good schools that operate on little money, and schools that succeed with larger class sizes. There are most likely not that many schools that succeed with terrible teachers, but there are schools that are more or less effective in attracting that talent, even with less money, worse benefits, or more difficult teaching circumstances.

This led me to ask the questions that guide this research project; is there some way to synthesize these disparate concepts, to unify an understanding of what makes some schools more effective? Is there an overarching organizational ability of schools to succeed in difficult circumstances and succeed where others fail?

Fundamentally, schools are bureaucracies (Chubb and Moe, 1990). Schools are important bureaucracies and bureaucracies with a complex set of goals, but are bureaucracies nonetheless. Schools, unlike what many thinkers on the topic would like you to think, are neither unique nor enigmas, and the lessons learned from the study of other bureaucracies can shed a great deal of light on better ways to organize and manage schools as they attempt to meet the goals set forth for them, complex as they may be. If goal consensus/mission coherence is good for bureaucracies, it is good for schools.

This dissertation, based in the literature of Political Science, postulates a new explanation for differences in student achievement in schools — differences in organizational mission coherence. Organizational mission, the collective set of goals that guide the practice of members of any group, is a virtue that has been extolled in the business sector, the government, and in education (Haines 1995, Downs 1967, Barth 2009). It seems intuitive that having everyone in an

organization “on the same page” is inherently superior to having individuals pursue their own goals independently. However, there have been arguments that having diverse perspectives and goals leads to better functioning organizations (Shore et al 2008). This too makes a great deal of sense. If problems are complicated, having a diverse set of problem solving strategies is most likely superior to having a narrowly prescribed set of practices. The important issue hinges on the level of coordination between diverse perspectives and the overarching motivating factors of practices.

In addition to the general intuitive approach, there are several other reasons to believe that organizational mission coherence is key to school success.

The unique quasi-autonomous arrangement of schools

Though ostensibly highly regulated entities governed by pages upon pages of bureaucratic rulemaking, the average school teacher has an enormous amount of autonomy once he or she closes the door to his or her classroom. From the tenure protections that make teachers hard to fire, to the well documented fecklessness of many leaders to use the power given to them to fire teachers (Jacob 2010, Hess 2013); teachers more or less rule the roost in most schools. As a result, it is as important to orient the *attitude* of teachers as it is the incentives for performance. If attitudes are fragmented and no mission is shared, schools could very easily devolve into an every-man-for-himself situation, with teachers paying lip services to the request of administrators and then going into their classrooms and doing whatever they want. If teachers pursue cross goals and are repetitive in the material they cover, contradict instead of complement the behavioral management or teaching practices of their peers, or undermine the overall mission of the school to serve selfish ends, this would have a tremendously negative impact on students.

On a deeper level, if (as discussed later) teachers are not as talented as they need to be and thus shun the help of their peers, this will have perhaps an even greater negative effect on students.

The inherent necessity of schools to do more with less

As briefly mentioned above, there is little evidence to support the idea that there is sufficient talent in the teacher labor market (at least for the foreseeable future) to meet the enormous need for high quality teachers across the country (Ingersoll 2004). As a result, school leaders are going to have to follow the old southern maxim and "dance with the one that brung them". Most likely, schools will have combinations of teachers of varying quality that will need to work together to serve students well. In organizations with fragmented missions, the incentive would be for each individual teacher, or each group of teachers that adheres to the same mission, to isolate themselves, do what they want to do, and alienate themselves from the rest of the organizations. If their goals are at cross-purposes, it is unlikely that the organization will be successful. If, however, leaders are able to get their entire staff to buy into the overall mission of the organization, it will be much more likely that the higher quality teachers will help the lower quality teachers, tasks will be divided in a way to optimize performance, and a culture of collaboration will permeate the organization.

The terrible principal-agent problems that plague schools

As a result of the two issues outlined above, schools are beset by terrible principal agent problems. Information in schools is costly, with administrators needing to spend serious time and energy observing and tracking their teachers, in addition to their many other bureaucratic responsibilities. Remember too, that in many cases, these are teachers that the principal did not have a great deal of say over hiring and has very little time or ability to train. In many cases, district leaders simply assigned the teacher to the school, and the principal will have to make do

with what he or she has. Couple with that the little control that principals have over teachers and you have a recipe for a principal-agent problem. Shared mission is a way for organizations to circumvent a principal-agent problem by promoting the types of action the principal wants without requiring the principal to have a heavy-handed accountability system. Rather than *coercing* teachers to behave a certain way, mission *convinces* teachers to act in that way, saving time, energy, and good will.

People expect a lot out of schools. Parents, taxpayers, and analysts want schools to do everything from teaching students to respecting each other to mastering calculus, physics, history, literature, and everything in between. No one school can do all of this. Schools must focus on what they can do well.

I wish to be careful, though. Just as the "silver bullet" thinking of the more money, smaller class sizes, and teacher quality folks has established serious blindsides to their theory of action, I do not wish to stumble into the same traps. My argument is not that organizational mission coherence is the be-all-end-all of school performance. There are many factors at work in both successful and unsuccessful schools, and trying to boil school performance down to a single variable is a fools' errand. Rather, I hope to better understand the overall ecosystem of a school and come to explain the motivations and mechanisms in place that unleash the creative powers of teachers and leaders to meet the needs of students. To put it another way, a school can have a coherent mission and an incompetent staff and they are still going to be a terrible school. What I hope to argue is that a coherent mission is a building block upon which a successful school can be built. It is therefore a necessary, but not sufficient cause of schooling success.

In order to carefully interrogate the issue of organizational mission in school, this research will be guided by four fundamental questions:

1. *How can we measure organizational mission coherence in schools?*
2. *Is organizational mission coherence important in schools?*
3. *Does organizational mission coherence vary based on the level of participation in the Milwaukee Parent Choice Program?*
4. *How does organizational mission manifest itself in religious schools?*

The genesis of this research project grew out of the work of two of Political Science's most treasured voices, James Q. Wilson and Anthony Downs. Both wrote hugely influential volumes on bureaucratic theory, *Bureaucracy* (1989) and *Inside Bureaucracy* (1967), respectively. While each spoke on many aspects of successful organizations, both spent considerable time talking about the role of organizational mission. Those two works (and several others from leading bureaucratic theorists) will provide the theoretical framework undergirding the rest of this project, and will thus be discussed at length in chapter 2.

Vouchers and the Milwaukee Parental Choice Program

A private tuition voucher, simply put, provides public funding for a student to attend a private school. The public funding of students in private schools has been around since the late 1800s, when small towns in Vermont and New Hampshire that did not have the funds or critical mass of students to justify the building of a school "tuitioned" students into local private schools. While not technically "vouchers" in the modern sense, as they were (and continue to be) a stop gap measure to provide education in towns that cannot support their own schools, they set the groundwork for modern public support of private schools. Vouchers rose to national prominence in the 1950s when Nobel laureate Milton Friedman proposed a system of private school vouchers to reform the American education system (Friedman 1955).

The Milwaukee Parental Choice Program is the nation's oldest and largest private school voucher program. Begun in 1990 with 341 students in seven schools, in the 2012-13 school year, 24,027 students used vouchers to attend 122 different participating private schools (DPI 2012). Initially, the program was restricted to students that lived in Milwaukee from families that made less than 175% of the federal poverty line. In 2005, Wisconsin Act 125 increased the income eligibility to 220% of the poverty line for continuing students and in 2011, eligibility was increased to 300% of the poverty line, or $70,650 for a family of four (HHS 2013). In the 1998-99 school year, the program allowed religious schools to participate for the first time. There was a constitutional question if public dollars could flow into religious schools, but the Wisconsin Supreme Court found the program to be constitutional in 1998. This led to an enormous increase in the program's enrollment, from less than 2,500 students to almost 20,000 in the next decade (McShane et al 2012).

In the early 2000s, enrollment continued to grow steadily, checked only by caps on enrollment enacted by the state legislature. At first, the program was capped at one percent of enrollment in the Milwaukee Public Schools. In 1993, this was raised to 1.5% and raised again to 15% in 1995. Enrollment was then capped at a hard enrollment of 16,500 students until 2005 when it was increased to 22,500 students. In 2011, the state legislature eliminated the enrollment cap.

Previous Studies of the Milwaukee Parental Choice Program

The Milwaukee Parental Choice program has been evaluated numerous times with respect to both its participant (students participating in the program) and systemic (students left behind in the public schools) effects.

Participant Effects

First, John Witte and a team from the University of Wisconsin-Madison (Witte, Sterr, and Thorn 1995) compared the test results of students that participated in the program with a random sampling of low-income students in the Milwaukee public schools and found no statistically significant differences in performance between the two sectors. There were, however, clear problems with the initial sampling methods of the comparison group (Greene et al 1996) that resulted in choice students being compared with students that were more advantaged and thus much more likely higher performing. In an attempt to circumvent issues with sampling, Cecilia Rouse (1998) used an instrumental variable design with enrollment lotteries as the instrument, checked with fixed-effects estimates to deal with study attrition to evaluate those students who participated in the choice program and found significant positive results in math (from .08 to .12 standard deviations per year). She did not find statistically significant results in reading. At approximately the same time, Greene et al (1998) released their findings, using a similar random assignment model checked by fixed-effects and found similar sized effects in math, and also large, positive effects in reading three or more years after random assignment.

Several years after these reports were released, the Wisconsin state legislature enlisted the help of Witte along with Patrick Wolf (and his organization, The School Choice Demonstration Project) to conduct a longitudinal evaluation of the program and release a yearly slate of reports from 2008-2012.[1] This project yielded 36 different reports, ranging from financial analysis to analyses of charter schools in the city of Milwaukee. Most interesting to the study of participant effects was the longitudinal matched-comparison group designed study of participating students. At baseline, the researchers matched 1926 students participating that were in grades 3-8 with 1926 students in the Milwaukee public schools in the same grades based on a

[1] In the interest of full disclosure, I was proud to be a part of the SCDP team from 2010-2012.

variety of demographic characteristics and their baseline test scores (Witte et al 2008). They followed these students for five years, reporting yearly on their progress. After five years, the researchers found a small but significant positive advantage in reading for students that participated in the program (Witte et al 2012).

These results, though, need to be taken with a grain of salt. First, a matched-comparison study design has serious limitations; especially in dealing with an intervention that we have reason to believe might suffer from selection bias. In short, matching students that have willfully chosen different sectors will *prima facie* fail to take into account the important difference between the students, namely, that one chose one sector and one chose the other. In fact, by then controlling for a variety of demographic factors, it turns out that the *only* difference between the treatment and control group is the choice that they made that put them in either sector. If we think this choice correlates with performance (and we should) we should be cautious in interpreting these results. Second, this study (through no fault of its own) evaluated the program while it was in an active policy context, with new laws and regulations being placed on it yearly. Most notably, before the final year of the report, the private schools participating in the choice program were required to participate in the same accountability tests as the Milwaukee Public Schools, and the report saw a substantial bump in the choice students' achievement on the tests. Is this due to their participation in the program or to the greater test prep or different testing conditions the schools were now using? It is unclear.

Systemic Effects

As compiled by Greg Forster (2011), in his extremely helpful collection "A Win-Win Solution: The Empirical Evidence on School Vouchers", there have been six studies of the competitive effects of the Milwaukee Parental Choice program, that is, how the program has

affected the Milwaukee Public Schools. In theory, the increased competition from private actors should increase the quality of Milwaukee public schools. Economist Caroline Hoxby (2001) was the first to test this hypothesis. Because all low-income students in Milwaukee are eligible for the program, Hoxby was forced to compare schools not based on if there was the threat of voucher students leaving, but the degree to which there was a threat of voucher students leaving. When comparing schools that had at least 66% of their students eligible for vouchers to schools that had less, she found that achievement of students in those schools under greater competitive pressure grew at a greater rate than those under less pressure. Greene and Forster (2002) used regression analysis to smooth the greater/less than dichotomy into a continuum of influence, and found that schools that had greater exposure to vouchers also elicited greater gains in their students' performance. In 2008, Chakrabarti (2008a, 2008b) released two studies, one using a method similar to Hoxby's and one using a method similar to Greene and Forster's. Both studies confirmed the earlier results. Carnoy et al (2007) performed another analysis similar to Hoxby and Chakrabarti (who had released her 2008 papers in drafts in 2006), and found similar positive results, limited to the period in the late 1990s when the program grew dramatically in size..

The School Choice Demonstration Project also produced a series of reports studying the systemic effects of the Milwaukee Parental Choice Program. First, the SCDP released a report on the MPCP's effect on housing prices across Milwaukee (Winters 2009). While the report found that higher home prices were concentrated around higher performing schools, it did not find that increases in the amount of school choice had any effect on home prices. Second, Greene, Mills, and Buck (2010) studied the effect of the MPCP on school integration, both for participating and public schools, it found no significant changes in integration, in either sector, as a result of the program. The SCDP also released a report on the fiscal impact of the program (Costrell 2010)

that found that the program saved the state $52 million in fiscal year 2011, though local taxpayers actually saw an increase in their burden (due to the peculiarities of the funding formula for the program). Finally Greene and Marsh (2009) used individual student data and an index of the student's choice options, finding positive systemic test scores consistent with the results of Hoxby, Carnoy, and Chakrabarti.

This Study

First and foremost, it is imperative that I make clear that this study stands on the shoulders of giants. For decades now, careful school choice researchers have employed the most rigorous designs available to them, harangued public officials for access to data sets, and have taken their fair share of lumps for pushing our discipline into uncharted territory. This study, or any other kind of "inside the black box" looks at school choice programs would not be possible without the incredible foundation of scholarship that they have built. My entire generation of school choice researchers and I are eternally in their debt.

This study hopes to build on the work of school choice researchers by looking into the black box of schools participating in the Milwaukee Parental Choice Program. These schools are a unique set; numerous, diverse, and privately operated though publically funded. As such, they provide an interesting milieu into studying the role of organizational mission.

In order to better understand the role of organizational mission I paired results from surveys of teachers and school leaders to the test score results of the students in their schools. In doing so, I was able to take a peek at the relationship between organizational mission and student achievement, as well as the effect that organizational mission has on various other school climate indicators that would be of concern to most observers.

This study will look at the MPCP in 2010-11. At that time, the voucher was worth $6,442 and 20,996 students used vouchers to attend 107 different schools. Of those 107 schools, 105 responded to surveying by the School Choice Demonstration Project (the data source for this study). Ninety identified themselves as religious, 7 identified themselves as non religious but with a religious tradition, and 8 identified themselves as secular non-religious schools. Approximately one third of the religious schools identified themselves as Catholic, another third identified themselves as Lutheran, and the final third were a mix of other Protestant denominations, Jewish, and Muslim. Ninety-nine schools responded to the survey listing the proportion of voucher students enrolled in their schools and the average voucher enrollment in a participating school was 83%, meaning that on average 83% of students in a given school attended that school on a voucher (McShane et al 2012).

The data for this study came from three sources. The student achievement data came from test scores reported to the School Choice Demonstration Project as a part of the comprehensive evaluation of the Milwaukee Parental Choice Program. The longitudinal data on school mission came from a principal survey that was also a part of that evaluation. The data on mission coherence and religious identity came from an original survey completed by 366 teachers at 31 elementary schools that participated in the Milwaukee Parental Choice Program.

While there were many items on the survey, the most important question was the open-respond prompt from which the Mission Coherence Index was generated. It asked, and gave several lines of writing space, for teachers to write in their own words what they believed the mission of their school was (in 50 words or less). In order to create the MCI, a simple ratio was generated from the number of words teachers in a school had in common divided by the total number of words that all of the teachers in the school used.

$$\textbf{MCI} = \frac{\text{Total Number of Words in Common}}{\text{Total Number of Words Used}}$$

This created a simple numerical value that could be used in the series of correlation calculations that we computed in the study.

To create the Religious Identity Index, I converted the Likert-Score responses on a set of seven questions on religious identity to numerical values (1 for disagree strongly to 4 for agree strongly) and averaged them. As with any time a topic as touchy as religion or religious identity, defining such terms will be problematic and controversial. Throughout the process of my discussion of religious identity and its changes over time, I will endeavor to be as complete and forthright in my descriptions of the metrics that I use and the reasoning for doing so. I fully understand that some readers might disagree with my conception of religious identity and I hope that this will spur meaningful dialogue on a topic that is often hinted at and spoken of in vague terms.

Once these indices were calculated, they were used in a series of correlation calculations including:

1. Mission Coherence and Student Achievement
2. Religious Identity and Student Achievement
3. Mission Coherence and Religious Identity
4. Mission Coherence and percentage of voucher students
5. Religious Identity and percentage of voucher students
6. Mission Coherence and school culture variables

In doing so, I hope to take a first look into the role of mission coherence and religious identity in school culture and performance.

Two Logic Models of Mission

Mission and organizational culture can be viewed as the lens through which all of the out-of-school factors that determine the ultimate success of a school can be processed. Many of

the most important elements of school success are related to schools in ways that are, on a day to day basis, out of their control. Students come to schools with a variety of characteristics that determine their success. Natural intelligence, poverty, race, familial structure, motivation, grit, determination, all of these factors will ultimately play a role in their success, and shy of setting admission standards to select particular students on these characteristics, schools need to work with what the students bring into them. Schools also have teachers that bring in a variety of external characteristics that, like students, concern ability and motivation. Some teachers are smarter than others, some work harder, some have whatever inchoate skills that have yet to be quantified by researchers that make some teachers better than others. And the schools themselves have external factors working to shape their day to day operations. Funding, external management, facilities, and the like all contribute to the actions and eventual success of organizations. Mission processes all of these factors and then directs them towards the tasks necessary to achieve goals.

Figure 1.1 presents a logic model of an organization with a diffuse mission. In this organization, teachers work to pursue their own purposes, and there is little centralized vision as to the goals or central tasks of the school. That diffuse mission takes in all of the external factors, and like a refracting lens spreads them across a set of disparate actions by the workers in the school. It is the sum of these disparate actions that eventually affects student achievement.

Figure 1.1: The Logic Model of an organization with Diffuse Mission

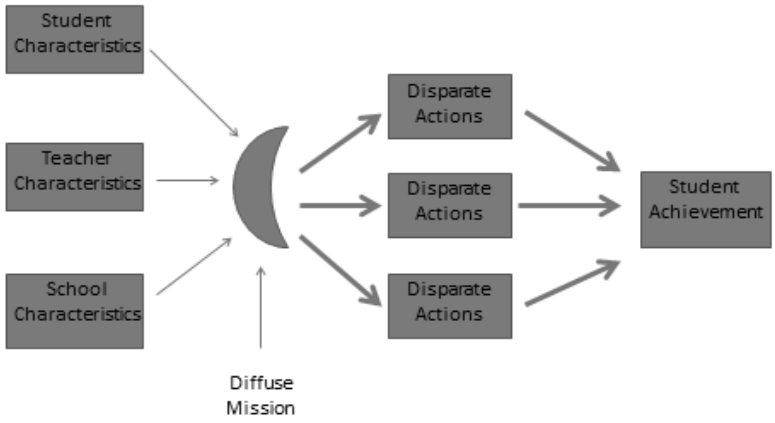
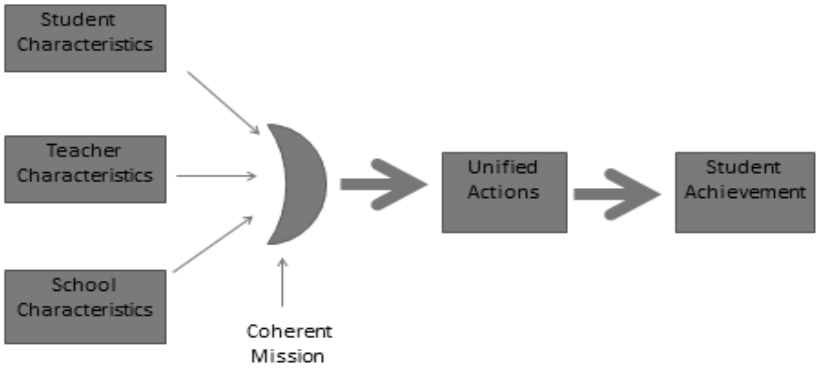


Figure 1.2 presents the logic model of an organization with a coherent mission. In this case, mission serves as a focusing lens, taking all of the disparate factors that enter the school and unifying them in a common purpose. How that lens directs those factors will ultimately relate to student success.

Figure 1.2 The Logic Model of an Organization with a coherent mission



But is one of these "right?" Will one of these lead to better outcomes? Put plainly, is it superior to have a coherent mission or a diffuse mission? It is hard to say.

The bureaucratic theoreticians reviewed in the first half of chapter 2 argue that it is superior to have a coherent mission. They argue that because information is costly, and that there are serious principal-agent issues that arise when managers try to direct the behavior of their subordinates in a field where the outcomes are unclear or the market for a particular set of skills is murky, organizations have to have coherent missions. They need to select staff on these characteristics. They need to "indoctrinate" them on the mission and culture of the organization and train them in the ways that things are done there. Finally, they need to make sure that individuals have internalized the mission and make it a part of their work that they do. It is only then that organizations, especially larger organizations that grant individual employees a great deal of autonomy, will be successful.

But there is a wrinkle. In studying the federal Bureau of Prisons, John DiIulio discovered a particular kind of bureaucrat that he called the "principled agent." This is a person who goes above and beyond the call of duty, and seems to act outside of any kind of external benefit

structure that the organization has developed. These are people with an internalized sense of mission that have the best interest of the organization and its consumers at heart and work tirelessly to meet their needs. Conceivably, a strong management strategy would be to simply get out of these individuals' way. Rather than trying to force them into the mold necessary to manage those with weaker motivation or skills, giving them the freedom to identify problems and solve them in the way they best see fit could be the most effective and efficient way to run an organization.[2]

There is most likely not an either-or answer to this question. I would hypothesize though, that there are some fundamental characteristics of schools that might make the coherent vs. diffuse mission strategy more or less effective. In lower performing schools, it would make sense that schools needed to have a more coherent mission, as in order to do anything of higher order, students need to learn basic skills. Low performing schools are struggling with the basics, reading, writing, discipline, organization, and they can see a great deal of benefit in simply getting everyone on the same page and moving in the same direction. At the opposite end of the spectrum, high performing schools, or to put it more directly, schools that have high performing students in them (either because of the student's innate ability or the school's value-add) might be served by having more diffuse missions. If students are more self-motivated, and teachers are

[2] There is an alternate explanation for this phenomenon. Rather than born, principled agents could be made. That is, an organization could establish a strong culture and then recruit individuals that they believe could be molded to adhere to it. Through a process by which they culled the most malleable employees, they could develop a workforce of principled agents that they would then set free to run their organization. I tend to believe that while not perhaps "born" the majority of the development of principled agents occurs well before they step foot into an organization, and therefore managers have only so much they can do to develop them. They can select them if they have developed methods to do so, but they are most likely imperfect and imprecise. The more fruitful path, in my mind, is for leaders of large bureaus to act as if most of their employees are not principled agents, but rather rationally motivated and competent operators. Then, in the rare case in which these principled agents are found, they are granted an exception and more autonomy.

more free to individually meet their needs (*a la* DiIulio's principled agents) they can come up with solutions and strategies that could never be centrally planned by the leadership of a school. In this case, diffuse would be better than coherent.

I want to be perfectly clear, though, that this research is correlational, not causal. Other than the brief look at religious orientation over time through the principal survey, this analysis is based off of a single year of test scores and a single year of teacher surveys. As such, it is unwise to attempt to draw causal claims. I also recognize that there is legitimate debate as to the direction of the causal stream in this analysis. It could be argued that schools with higher performance engender a greater sense of mission coherence, not that a greater sense of mission coherence engenders higher performance. What this work sets out to do is take an initial investigation of these ideas and determine if there is any relationship between these constructs. Thus, I hope this work is a first step into future investigation of this topic and will provide some of the tools and foundational thought on the topic to help guide future researchers.

The remainder of this dissertation will proceed as such:

Chapter two will provide a review of the relevant literature on organizational mission, both the theoretical and empirical. The theoretical section will draw on the works of organizational theories from Philip Selznick, Anthony Downs, James Q. Wilson, John Chubb and Terry Moe, and John DiIulio. The empirical section will use both an iterative as well as a systematic review of the quantitative research literature on the topic.

Chapter three will describe in detail the methods of this study. It will break down the construction of the Mission Coherence Index as well as the Religious Identity Index and will explain the procedures of the numerous correlation calculations that make up the body of the analysis.

Chapter four will present the results of the analysis through a series of tables, charts, and graphs.

Chapter five will contextualize and draw conclusions from both the literature on the role of mission in schools as well as the quantitative analysis presented in earlier chapters.

Chapter 2: Theoretical Underpinning and a Review of Relevant Literature

As stated in the introduction, schools are bureaucracies. As such, lessons learned from studying other bureaucracies (which thinkers have been doing for years) can be readily applied to the study of the organization of schools. In this chapter I hope to first lay out the theoretical underpinning for my investigation of this topic, rooted in the work of preeminent social scientists James Q Wilson, Anthony Downs, John Chubb and Terry Moe, Philip Selznick, and John DiIulio. Next I hope to take two passes through the academic literature on the role of mission in schools, first simply through a narrative/iterative examination of notable works on the subject and the sources they used in their investigation and second through a systematic review using predesigned search procedures. Those sections will be followed by an in-depth review of the literature on religious schools, and particularly on the impact of Catholic schools, which make up a large part of the study sample. These three major sections and the original analysis that will follow will be placed firmly in both a theoretical context, showing what my new investigation will add to a long tradition in the study of organization mission, and in the context of the existing empirical and theoretical literature on the subject.

Principal-Agent or Principled Agents? Theoretical Perspectives on the role of mission in schools

Wilson

In his 1989 landmark work *Bureaucracy*, James Q. Wilson devotes a large amount of space to the role of mission in organizations. First, he painstakingly traces the history of many organizations in the United States government to attempt to uncover what makes some successful and others not. Rather than use the pejorative that "bureaucracy" or "bureaucrat" have become in modern parlance, Wilson sees great potential in bureaus.

In Wilson's estimation, every bureaucracy has three central organizational concerns, its *critical task*, its *mission*, and its *autonomy* (25). A critical task is the effort to solve the problem the bureau was designed to solve. For a prison, he explains, the critical task is maintaining order even when guards are in vastly inferior number to the dangerous and confined prisoners they are charged with controlling. For a school, the critical task might be turning around a persistent record of low performance, or closing gaps between the achievement of various subgroups of students. Mission, of particular importance to this study, is the articulation of the critical task and the means of accomplishing it that are endorsed by the members of the organization (26). A prison, thus, would have a mission to keep prisoners under control if the warden and guards were on the same page with the program of discipline and worked together to maintain order. In a related fashion, a school would have a strong sense of mission if the principal, teachers, and other staff members agree as to what they are supposed to be doing and choose to collaborate to solve problems and get results. Finally, a bureau is constantly wrestling with its autonomy, that is, the freedom to identify its critical task and follow its mission to solve it. Prisons and schools are overseen by forces outside of their walls, and can be hamstrung in their operation by administrative red tape or counterproductive diktats from above.

Within bureaus, there are two levels of workers tasked with accomplishing the goals of the organization, managers and operators. Managers are those that oversee the operation of the organization, operators are the "rank and file" members that complete the day to day tasks that keep the organization running (27). Both levels of workers are important in imbuing an organization with a sense of mission, and, if one group defines the critical task differently or takes the reins of any proposed solution to the problem not in concert with the other, organizations can devolve into chaos.

From the Forest Service to the FBI, Wilson stresses the importance of culture and mission for a successful organization.

Gifford Pinchot, leader of the Forest Service from 1898-1910 imbued the organization with a sense of mission. Before his "command" (as Wilson describes it), the Forest Service primarily educated individuals about how to properly behave in forests and did some basic study of them. Pinchot decided that the Forest Service should take a much more active role in *managing* forests and should be staffed by elite professionals. Pinchot knew that forest rangers were extremely autonomous, working in insolated posts in often remote areas, so he knew that his organization needed a strong sense of mission to make sure that all of the independent operators acted in the same way, even when alone. He made the selection process much more stringent, the training much more arduous, and established a rigorous system of accountability by centrally managed inspectors. As a result, the forests were managed in a fashion up to Pinchot's standards, and the forests were uniformly maintained to an extremely high level (96-97).

Similarly, Wilson describes J. Edgar Hoover's professionalization of the FBI as a case study in the development of organizational mission. Before Hoover, the Bureau of Investigation was not looked upon highly, mostly for bungling the investigation of Communism and for being the political pawn of President Harding. Like Pinchot, Hoover recognized the autonomy of his operators, and thus developed a rigorous hiring and training regime, overseen by a carefully chosen corps of inspectors. He established an unparalleled data system on criminals and their activities, and trained every operator to "conduct interviews with citizens in ways that would enhance citizen confidence in the bureau, meticulously record and cross-index those interviews in ways that would obtain prosecutorial support, and make arrests in ways that would be immune to legal challenge" (98). The critical task, restoring confidence in the federal institutions of law

enforcement, led to a mission of professionalism that became an essential element of the FBI for decades to come.

Through stories like these and others, Wilson highlights the importance of mission, and its close cousin *culture*. He defines culture as "a persistent, patterned way of thinking about central tasks of and human relationships within an organization" (91). What separates mission from culture is the idea of goals. While culture might just be the way that things are done in the organization, mission is "a culture that is widely shared and warmly endorsed by operators and managers alike" (95). This sentence is worth unpacking. Culture can exist, and can be pervasive without being *endorsed* by operators and managers. For example, a school might have a culture of low expectations for students. When teachers get together in the faculty lounge, they might mutter to each other about how impossible students are to deal with, or might be more lax graders of papers because they don't think that students can do any better. That becomes simply the way things are and the way things are done; that is a culture within a school, not its mission.[3] Mission is a particular manifestation of culture that unites managers and operators towards a common, shared goal (or set of goals).

At first blush, it would appear that mission would be something that could be easily formed in schools, as the goal is clear—student learning. In reality schools have many goals, and managers need to navigate a complex system of value judgment. There is wide disagreement on the goals of the education system writ large. Hochschild and Scovronick (2004, 14-15) argue that

[3] An interesting question arises when discussing the difference between mission and culture, what if the shared and endorsed attitudes of managers and operators are negative? That is, what if operators and managers both believe that students are unable to learn and thus act accordingly? I believe Wilson would argue that mission has to be oriented towards a legitimate and positive outcome, as he makes great effort to delineate between culture (which can be negative) and mission, which is almost always viewed as positive. Now, in practice it might not always reach the positive ends that managers or operators would like it to, but the effort is aligned towards a positive outcome.

the three broad goals of education are "the ability to deal with diverse others in the public arena", "a common core of knowledge", and "a common set of democratic values and practices". This would appear to echo the sentiments of thinkers from Thomas Jefferson to E.D. Hirsch. It was Jefferson, after all, who said all the way back in 1818 that the goal of education was:

> To give to every citizen the information he needs for the transaction of his own business; To enable him to calculate for himself, and to express and preserve his ideas, his contracts and accounts, in writing; To improve by reading, his morals and faculties; To understand his duties to his neighbors and country, and to discharge with competence the functions confided to him by either; To know his rights; to exercise with order and justice those he retains; to choose with discretion the fiduciary of those he delegates; and to notice their conduct with diligence, with candor and judgment; And, in general, to observe with intelligence and faithfulness all the social relations under which he shall be placed (*Report of the Commissioners for the University of Virginia* 1818, 434).

Hirsch simply brought that sentiment into the 21st Century, arguing that:

> All children need to be taught the general knowledge that is silently assumed in that language community. Our schools need to assimilate into the public sphere not just new immigrants but all of our children, regardless of family background. That is a fundamental aim of school in a democracy and one that we are not serving very effectively today (*The Making of Americans*, 2009, 18).

However, these sentiments are not shared by all members of the education community. There is a competing educational viewpoint, based on the popular work of Brazilian educational theorist Paulo Freire (1970), known as critical pedagogy. Rather than stressing citizenship, community, and the entrepreneurial spirit, it "encourages resistance to the 'discourses of privatization, consumerism, the methodologies of standardization and accountability, and the new disciplinary techniques of surveillance" as prominent critical theorists Paul Carr and Brad Profillio argue (2011, xxxvi).

These divergent goals of the education writ large foreshadow the divergent goals within schools. While many teachers may place high value on student academic achievement, others might want a more orderly environment, or students that are more deferential to authority. In the

same school, there might be teachers that have the exact opposite view, hoping that students distrust authority and "question everything".

To Wilson, a key aspect of any organization is defining its mission. As he puts it, "since every organization has a culture, every organization will be poorly adapted to perform tasks that are not defined as part of that culture" (95). If schools are organized around one particular goal, student academic achievement as measured by standardized tests for example, it is not surprising if they are not successful at achieving many of the other goals that individuals might have for schools. This, while seemingly self-evident, is also worth unpacking. Time, energy, expertise, and money are finite resources. The time and energy that are spent attempting to achieve one goal is that much less time and energy that can be spent achieving another goal. The number of things that a school, or any organization, can do extremely well is most likely very small. The number that it can do well is probably a bit larger, and what it can do passably is larger still. However, all of these are finite. Schools cannot do everything, so they must focus on what they want to do well, accepting that that decision requires tough choices. But, when schools choose to focus on what they can do well, and all of the members of the organization believe in both what they are supposed to do and how they are supposed to do it, there is great potential for success.

Downs

Anthony Down's 1967 classic *Inside Bureaucracy* set the stage for a discussion of mission coherence in organizations. Downs clearly articulates the need for "goal consensus" in bureaus, going so far as to open his chapter on the topic by stating "the nature and degree of goal consensus among a bureau's members has a crucial impact upon the way it performs its functions" (223). Why is this the case? According to Downs, "greater goal consensus reduces the number and intensity of conflict amongst members" which leads to "an increase in the

productive capacity of a bureau" (223). Bureaus can be large and complex organizations that require a great deal of organization, both through formal and informal channels. Formally, chains of command and institutionalized regulations can serve to control the behavior of members of the bureaucracy, but in many circumstances that simply is not enough. Leaders in organizations must informally establish goals, coherently articulated in the form of a mission, to guide the behavior of members. Leaders cannot oversee every action that the member of a bureau undertakes, nor can they write a rule or regulation to guide every decision. Rather, leaders must establish an organizational culture (based in an organizational mission) to provide general guidance for members and their decisions. To put a finer point on the matter, Downs argues "whenever environmental or functional conditions create strong centrifugal forces upon official's goals, the bureau needs unusually strong means of insuring a consistent pattern in their behavior so they will effectively discharge its functions" (266).

Downs offers several mechanisms by which bureaus can establish goal consensus. They are as follows:

1. Selective Recruitment
2. Indoctrination
3. Ideologies

With respect to selective recruitment, Downs states "it is almost always less expensive to create strong, deep-level goal consensus among bureau members by selective recruitment of people who already have similar deep-level goals, than by altering the goals of people already in the organization" (229). Downs defines indoctrination as "any attempt to make a permanent alteration in a person's non-superficial goal structure by systematically exposing him to information or ideas selected for this purpose (233-234). Such tactics can be used "not only to provide new members with appropriate goal structures, but also to maintain those of existing

members" as "if their goals are not frequently reinforced, their behavior will gradually become inefficient at accomplishing the bureau's social functions (234). Finally, Downs explains that bureaucratic ideologies ("a verbal image of that portion of the good society relevant to the functions of the particular bureau concerned, plus the chief means of constructing that portion" (237)) can accomplish many goals. First leaders "can use ideologies to influence outsiders to support the bureau, or at least refrain from attacking it" (238). Second, leaders "can develop stronger goal consensus among their own bureau members" (238). Third, leaders "can use ideologies in selective recruiting to attract potential members who will contribute to stronger goal consensus, and to repel those with adverse goals" (238). Finally, leaders can use an established ideology "to make decisions when other criteria of choice are impractical or ambiguous" (238-239).

Downs does provide some argument for goal diversity though, which should be articulated as well. Because of the diversity of responsibilities of bureaus, it can also be helpful to have individual actors within the bureau with diverse goals. The more varied the task, the better it is to have diverse goals amongst bureau members (Downs 1967, 224).

Both Downs and Wilson view bureaus as ripe for Principal-Agent problems. Principal-Agent problems occurs when there is separation between the "managers" and "operators" (to use Wilson's terminology) and the operators have an information advantage. In decentralized organizations, or organizations that place responsibility and autonomy in their lower-level workers, if those workers have knowledge of how to shirk their work and get away with it, how to get rewarded in pay or promotion without putting in the work to earn it, or to undermine the authority of their superiors without fear of repercussion, they will be tempted to do so. Organizations need strong culture, Wilson and Downs argue, to try and circumvent these

problems. Facilitating the transfer of information helps managers maintain a better understanding of what their subordinates are doing, and thus decreases any asymmetric advantage the operator might have. Selecting and indoctrinating employees might make them less desirous to take advantage of situations that they can exploit. In short, community prevents shirking and works against the principal-agent problems in bureaus.

Selznick

Like Wilson and Downs, Philip Selznick saw organizational mission as the definition of a core set of tasks, and the culture the organization developed to achieve those goals. His 1957 study of organizations, *Leadership in Administration: A Sociological Interpretation* (Selznick 1984), described the central task as the "distinctive competence" of the organization. When an organization works towards the achievement of a particular goal, "the enterprise takes on a special character, and this means that it becomes peculiarly competent (or incompetent) to do a particular kind of work" (139). This moves *organizations*, which are "a no nonsense system of consciously coordinated activities" (5), to *institutions*, which are "responsive, adaptive organism[s]" (5). Organizations are run by engineers, he argues, as they simply organize the resources necessary to complete the simple and straightforward task set before them. Institutions, on the other hand, are led by leaders, individuals who understand that developing culture, maintaining institutional integrity, and managing change are of central importance.

For Selznick, the process of mission development is relatively straightforward. In two parts, a leader of an organization must conduct a self-assessment, "an appreciation of internal pressures and external demands" which then leads to "formulation of truly guiding aims and methods" (90). The idea of the self-assessment is to both establish the "basic methods" for which it accomplishes it's task as well as "its place among organizations that carry on related activities"

(82). Then it becomes a matter of selecting and training necessary staff and inculcating in them the values of the organizations.

Though less explicitly, Selznick too sees the principal-agent problems inherent in bureaus. He encourages leadership instead of engineering because he knows that the engineer is often at a disadvantage when subordinates have more information about the condition on the ground than he or she does. By imbuing organizations with mission, a strong leader can circumvent these problems.

If history is a guide, successful schools are those that make the transition from organizations to institutions. As recounted by Tyack and Cuban (1995), the American education system developed under the leadership of administrative progressives, who very much saw the directing of schools as a technocratic enterprise. Many of the organizational and managerial leftovers of that thinking remain in schools today, with teachers evaluated and compensated like interchangeable widgets and students receiving remarkably undifferentiated instruction. School leaders, therefore, are often seen as engineers, not leaders. This results in what Ouchi (2009) documents, relatively little control over budgets and staffing, and weak organizational culture. Private schooling, and the use of vouchers to grant students access to it, offers the opportunity for schools to more easily move from organizations to institutions. Less burdened by the collective bargaining agreements and work rules of the heavily bureaucratized public schools, private school leaders have a much broader latitude in the human capital management necessary to imbue their schools with culture. With fewer administrative restrictions on whom they can hire, as private schools are free to hire teachers that are not traditionally certified , and with greater freedom on whom they can fire, private school leaders can do what Selznick, (and Downs and Wilson) argue is necessary to develop a strong organizational culture in the school.

However, it is not clear that private schools take full advantage of these freedoms. For example, in a study of Catholic school teacher pay, the National Association of Catholic School Teachers (NACST 2012) clearly showed that all of the major Catholic diocese in their sample used the same traditional step-and-lane pay scales of their public school counterparts. This is the case even though it has been shown that these are vastly suboptimal systems of compensating teachers (Hanushek 2007).

Why does something like this happen? One explanation is a lack of administrative capacity; perhaps school leaders do not realize the amount of freedom that they have or lack the willingness to take full advantage of it. But a second explanation is that there is a weak organizational culture. It is possible that leaders know that they have the capacity, are willing to take advantage of it, but *choose* not to. If they value personal relationships or organizational harmony over completion of the core task of the organization, the ability of that organization to complete that core task will suffer. While it is quite difficult to assess exactly why a leader might have power but choose not to use it, an assessment of the outcomes of an organization, especially compared to its stated purpose, can be used as a good proxy.

This is what John Chubb and Terry Moe did in their landmark school choice work *Politics, Markets, and America's Schools*, what John DiIulio did in his study of the US Bureau of Prisons in "Principled Agents: The Cultural Bases of Behavior in a Federal Government Bureaucracy", and what this dissertation does as well.

Chubb and Moe

In *Politics, Markets, and America's Schools* (1990) John Chubb and Terry Moe build on Wilson and Downs to articulate the importance of goals in successful schools. They state that "observers of effective schools, especially schools serving the educationally disadvantaged, have

often said that good schools succeed because they have a 'mission'" (83). In fact, they argue "there is every reason to believe that once schools have a coherent sense of purpose they are better able to promote student achievement" (83).

To empirically verify these claims, Chubb and Moe paired information gleaned from both the High School and Beyond and Administrator and Teacher Survey instruments (large scale and nationwide surveys of students and teachers, respectively), and were able to correlate several measures of goal consensus with academic performance. Initially, the authors presented results regarding the substance of the mission of schools, showing that lower- and higher- performing schools had different sets of priorities. While lower performing schools geared themselves towards "basic literacy, good work habits, citizenship, and occupational skills" (81), higher performing schools geared themselves more toward "academic excellence, personal growth and fulfillment, and human relations skills" (81). More pertinent to this study, Chubb and Moe directly examined the role of what they termed "goal clarity" with respect to student achievement and found that higher performing schools had, on average, a much higher index of goal clarity than their low performing peers as measured by teacher answers on the Administrator and Teacher survey instrument. The authors did take care to offer these words of explanation, which bear repeating:

> About 10 percent more of the high performance schools than of the low performance schools are above average in goal clarity. This is hardly a difference of night and day. Many schools with unclear goals succeed and many schools with clear goals fail. But the tendency for successful schools to have relatively clear goals may have real significance for student achievement. There is little reason to believe that as schools try to establish a coherent sense of purpose they are either helped or hindered by the academic ability of their students. There is every reason to believe that once schools have a coherent sense of purpose they are better able to promote student achievement (83).

Specific to the goals of this dissertation's study of mission coherence are Chubb and Moe's thoughts on goal internalization. They argue that goals and a coherent vision to achieve those goals are important but:

> goals that are written down in an organization manual or posted on a bulletin board-however lofty and thoughtful those goals may be-will not have the impact on the day-to-day effectiveness of a school that goals shared and acted on by the school staff will have (79).

This was an important prompt for my decision to survey teachers about their internalized mission statement of the school. It is quite easy to visit the websites of schools and find their mission statements, and at times even find the steps that they've taken to try and achieve the goals articulated therein; however, such a collection strategy sheds very little light into what teachers actually think the school is trying to accomplish. By surveying teachers, and encouraging them to write the mission statement of the school *in their own words*, I hope to get the best measure of what Chubb and Moe discuss to date.

DiIulio

In contrast to the large, survey results-based analysis of student performance of Chubb and Moe, John DiIulio took a unique look at organizational mission and organizational culture in his 1994 paper "Principled Agents: The Cultural Basis of Behavior in a Federal Government Bureaucracy." In that paper, DiIulio performed an in-depth case study of the Federal Bureau of Prisons, and in particular examined the role of what he called "principled agents," or individuals that went above and beyond the call of duty in their bureaucratic work.

He uses the term "principled agents" to offer a wrinkle in the thinking that undergirds the principal-agent problems discussed by scholars like Downs, Wilson, and Selznick. While agreeing that there are clearly incentives for particular types of behavior in organizations, and

ample opportunity for the information asymmetry-exploiting behavior that causes principal-agent problems, he documents many cases in which individuals performed tasks (like off-duty guards running into prison riots) that went above what was expected of them. He argues that this type of behavior is driven by organizations that have a strong culture and that motivate their members through "social, moral, and symbolic incentives" (277). If the belief of the role of mission in organizations with principal-agent problems is to simply get operators to *do* their jobs, the role of mission in the types of organizations DiIulio envisions is to get operators to go *above and beyond* their jobs.

Like Selznick, DiIulio sees the creation of these organizations as more of an art than a science. In his words, there must be a:

recognition that the importance of leadership in government has less to do with cultivating outside constituency groups, fine-tuning pay scales, or refereeing intra- or interbureaucratic battles, and more to do with establishing social and moral reward systems that make it possible for government agencies to tap the creativity, sense of duty, and public-spiritedness of their workers (315).

This is particularly interesting when discussing a school voucher program. The vast majority of schools that participate in the Milwaukee Parental Choice Program are religious schools (McShane 2012). As a result they can offer their employees a range of social and especially spiritual rewards that their traditional public counterparts cannot. While there is no doubt that a large number of public school teachers and leaders are driven by the pro-social aspects of teaching, the secular nature of public schools limits the ability to make explicitly spiritual claims about work. Religious schools are under no such limits. In fact, one of the guiding documents that the United States Conference of Catholic Bishops released on Catholic

education was a tract entitled "To Teach as Jesus Did" (USCCB 1972). This ability to create a distinctly religious, spiritual reward system for teachers empowers private school choice programs to take advantage of the very type of opportunity that DiIulio discusses, and to leverage a variety of motivational factors in managing the human capital of the teaching force.

DiIulio's fundamental conclusion is two-fold. First, so-called "principled agents" exist, and it is no accident that they do. Second, such behavior can be cultivated by an organization with a clear mission and a strong culture.

Wolf

In an early attempt to quantitatively analyze various theories of bureaucratic effectiveness, Wolf (1993) conducted a survey of case studies to estimate what model of bureaucratic theory was most likely to predict agency effectiveness. Using a randomly drawn sample of 44 case studies of federal agency effectiveness (culled from a population of 4,000 case studies) Wolf used maximum likelihood estimation to test the predictive power of eight different bureaucratic theories. He found that of the eight (which included the life cycles theory, the leadership skills theory, the great man theory, the Weberian Institutionalism theory, the theory of professionalism, the theory of economic responsiveness, the theory of population ecology, the political theory of the firm, and luck) the political theory of the firm was the most likely to predict agency effectiveness. In the author's own words:

> apparently, political autonomy and presidential support protect agencies from volatility; a strong sense of mission and competition from other agencies provides incentives for superior performance; and adaptability enables agencies to maintain or increase these and other conditions that contribute to effectiveness (pg. 175).

In short, strong mission coherence should be associated with better organizational results.

In the following section, I conduct a thorough survey of the empirical academic literature on organizational mission in schools, and use that to undergird my own methods for determining organizational mission in schools in the hopes that such a construct might develop the very type of agents DiIulio discusses.

Review of Academic Literature

A review of the literature of educational leadership yields some relevant studies of the role of mission in schools. Although, as with many areas of educational leadership, the empirical scholarship available on the role of mission is sparse.

Almost all studies utilize the PIMRS (Principal Instructional Management Rating Scale), a 50-item survey instrument measuring school leadership on several different dimensions (Hallinger 1985). There are 10 "subscales," each defining and testing some facet of school leadership based on Likert-type questions. According to the author (Halligner 2008) the PIMRS serves to evaluate three major functions of school management; defining the school mission, managing the instructional program, and developing the school learning climate program. Under the idea of school mission, the PIMRS articulates the tasks of framing and communicating the school's goals to the school community. According to the author, "these functions concern the principal's role in working with staff to ensure that the school has a clear mission and that the mission is focused on academic progress of its students" (Hallinger 2008, 6). It has not reached wider popularity, I would surmise, as it is the proprietary content of the author, who asks for payment in order to use it.

Specifically, the PIMRS was used in a study (Hallinger, Bickman, and Davis 1996) to pair leadership attributes to achievement outcomes, with positive results for more coherent school mission. The authors surveyed 87 elementary schools and paired their results on the

PIMRS inventory to the Basic Skills Test designed by the Tennessee State Department of Education. The study found positive and significant ($p<.05$) results for school mission.[4] The authors (one of whom developed the PIMRS instrument) articulate school mission as "the school's orientation towards improving student learning. Mission reflects the degree to which teachers share the view that student learning is the school's preeminent goal" (Hallinger, Bickman and Davis 1996).

In a similar vein, a group of scholars conducted a meta-analysis (Witizers, Bosker, and Kruger 2003) of educational leadership asking specific questions about school mission. The goal of the analysis was to determine principal effects across several different domains and the authors estimated effect sizes for "defining and communicating mission", "supervising and evaluating the curriculum", "monitoring student progress", "coordinating and managing curriculum", "visibility", "promoting school improvement and professional development", and "achievement orientation". Interestingly, the largest point estimate the authors discovered was for "defining and communicating mission" (effect size of .19, $p=.07$). "Supervision and evaluation" "monitoring student progress" and "visibility" also had significant and positive results, but with much smaller point estimates.

But in perhaps the most in depth study of mission in schools, and specifically Catholic schools, Bryk, Lee, and Holland (1993) found a great deal of evidence that school mission is an important facet of school operation. The authors hypothesized that it is the communal organization of Catholic schools that contributes to their success. Describing their fieldwork, they stated:

[4] Sample "clear mission" questions include:
1. "Schoolwide objectives are the focal point of reading instruction in this school"
2. "Reading objectives are coordinated and monitored through all grades"
3. "In reading, an identified set of objectives or skills exists at each grade level"

> Whether sitting in an English class of twenty-five students, walking school corridors during class breaks, sitting in crowded lunchrooms while students were eating, or attending a sporting event after school hours, we were struck by the pervasive warmth and caring that characterized the thousands of routine social interactions in each school day. Coupled with this, we heard the claim "we are a community" repeated often. For adults, especially principals, the idea of building and nurturing a school community was a major concern. (275)

The authors hypothesized "that schools organized as communities have direct consequences for both teachers and students" from enhancing "the likelihood of attaining the intrinsic rewards so essential to the profession" of teaching to the "social bonding of these students to the school and to the core activities that manifest the school's goals" (276). In total, the authors believe that "communal school organization involves a social context that significantly affects the nature of human interactions and the meanings conveyed through those interactions", and "we expect that a communally organized school indirectly engenders positive academic outcomes for students through the increased efforts of teachers and students" (276).

To test these theories, the authors set out to measure how public and Catholic schools exhibited shared values, shared activities, and social relations based on "a diffuse teacher role and faculty collegiality" (277). Using the Administrator and Teacher Survey, a supplement to the 1980 High School and Beyond Survey, the authors examined twenty-three indicators of the communal aspect of a given school. They found a large (over two standard deviations) Catholic school advantage in composite "community index".

The authors attribute this greater sense of community to the distinctive mission of Catholic schools. The authors explicitly state "the ultimate ground of the distinctive form of social life observed in Catholic schools resides in the tradition of these schools" (289), going further by saying "there is ample evidence that the post-Vatican II Catholic school takes

seriously the ideal of advancing the common good based on a larger conception of properly human social order" (289).

The authors found that low income students who attended Catholic schools gained over twice as much on an academic achievement test than their public school counterparts between sophomore and senior year (3.3 years to 1.5 years). They found that students who attended a Catholic school were less likely to drop out, and had a smaller achievement gap between the performance of rich and poor students.

Now some might explain the communal nature, and subsequent higher performance, of Catholic schools by their exclusivity; however, the author's disagree deeply with that characterization. "To be sure" they argue, "there are conditions of membership for both teachers and students in Catholic schools…but such limits are neither particularly pervasive nor extensively used. As a result, the communally organized Catholic school is quite diverse-socially, ethnically, and religiously" (289).

Since 2003, several studies of principal effects have included estimates of the importance of mission in schools. Gruenert (2005) surveyed 81 Indiana high schools (teacher *n*=2,750) and linked their responses to state test scores. The author correlated scores on 6 survey indices ("collaborative leadership" "teacher collaboration" "professional development" "unity of purpose[5]" "collegial support" and "learning partnership") to scores on state tests and found that

[5]The author lists the following as example "unity of mission questions
"5. Teachers support the mission of the school
12. The school mission provides a clear sense of direction for teachers
19. Teachers understand the mission of the school
27. The school mission statement reflects the values of the community
31. Teaching performance reflects the mission of the school"

scores on all metrics correlated with math achievement. Only professional development, unity of purpose, and learning partnership correlated with reading. For the purpose of this study, it is important to note that the author found a .455 correlation between "unity of purpose" and math achievement and a .397 correlation between "unity of purpose" and reading scores. Similarly, O'Donnell and White (2005) surveyed 250 English and Math teachers and 75 principals in 75 high schools in Pennsylvania and paired their scores on school mission indices with Pennsylvania state achievement exams. The authors were interested both in mission's effect on student achievement and the variables that affect mission in schools. By interacting school mission score with SES of students, the authors found school mission to have a significant, positive influence on reading achievement ($p<.05$), at schools of high SES.

In a somewhat similar vein, Blake (2011) studied school mission statements in order to correlate certain types of words used in such statements with student achievement scores. After sampling the mission states of 257 traditional public and 36 charter schools in Franklin County, Ohio, Blake organized the words that fell into any one of seven categories: achievement, community, accountability, emotional well being, lifelong abilities, safety, and career opportunity (the categories were not considered mutually exclusive). She then correlated the prevalence of words in each category to student test scores on the Ohio state exams. After putting the data through the paces, the only "strong" correlation (>.20) appeared between the appearance of words denoting accountability and test scores for children in 30-70% high needs schools. In short, the author found very few connections between the mission statements of schools and their academic success.

Blake's study exposed me to the possibility that other scholars were studying mission statements in schools. While this is different from what I am attempting to examine in this work,

it does yield some interesting information. In order to discover all available research on mission statements, I conducted a systematic literature review using "School Mission Statements" as the search term in Google Scholar. The search (conducted in August of 2012) yielded 687 results. I combed through the results and decided I would review titles until I passed over 25 without advancing a study to the abstract review phases. This was the most sensible route given the high number of results, and the fact that they were organized in order of relevance.

A study would pass to the abstract review stage if in its title it mentioned mission statements and did not clearly mention that it was unrelated to schools (ex. if it referenced business mission statements). It would pass abstract review to full article review if it (a) studied K-12 schools and (b) was empirical in nature. No studies satisfied both criteria.

Only six studies made it to abstract review. "Communication effectiveness of organizational mission statements" by Cochran and David (1986) dealt with higher education. "The value of mission statements in public agencies" by Weiss and Piderit (1999) did not deal with K-12 schools. "Mission Possible: Do School Mission Statements Work" by Davis, Ruhe, Lee, and Rajadhyaksha (2007) dealt with higher education. "The nature and use of mission statements in Singaporean schools" by Stott and Walker (1992) was promising, but non-empirical. Boerema's "An Analysis of Private School Mission Statements" (2006) looked solely at the content of mission statements, but in no way linked them to any outcome variables of interest. The paper simply classified the statements into various categories and concluded that there was a great deal of diversity in the mission statements of schools. This does serve to help quantify some of the claims made above regarding the diverse mission both within and between schools. Stemler, Bebell and Sonnabend's "Using School Mission Statements for Reflection and Research" (2011) used a very similar process to Boerema, randomly sampling 421 mission

statements from schools around the country and coding them based on various interpretations of the content of the statements. The authors reach a similar conclusion to Boerema, that there is a great diversity of mission statements and that it is appropriate to classify mission statements.

Similarly, in order to make sure that I had not missed any studies of organizational mission I completed a systematic review using the Google Scholar search terms "Organizational Mission" and "schools". As before, it turned out a large number of results, 4,040. The search was completed in August of 2012. Following the same rule as before, I went through the findings, which had been sorted by relevance, until I passed over 25 studies without passing one on to the abstract review phase. This time, I reviewed 380 separate titles. To pass onto review, the study had to demonstrate four characteristics, (1) it had to concern K-12 schools (2) it needed to be empirical (3) it needed to not look at mission *statements* (as those had to be covered in the previous search) (4) it needed to study schools in the US (though as noted later several exceptions were made to this rule).

Sixteen studies made it to the review stage. After reviewing these, only one study (Nelson and Miron) was directly relevant, so the empirical and US-focused criteria were relaxed to capture some of the other thinking on these issues. The majority of the papers turned up in this search were foundational "thought" pieces by leadership theorists that, like many of the authors above, intuitively recognize the benefits of coherence and direction, but do not examine them empirically.

One such "thought piece" was Hallinger and Heck's (2002) piece "What do you call people with visions? The Role of Vision, Mission, and Goals in School Leadership and Improvement." This work built on Hallinger's earlier work (Hallinger 1985) and endeavored to define key terms like vision ("the values that underlie a leader's view of the world" (9)), and

organizational mission ("when the personal visions of a critical mass of people cohere in a common sense of purpose within a community" (12)). But, it did not endeavor to test any of these or related them empirically to student or school performance.

In a similarly foundational manner, "Identification and description of professional culture in innovating schools" (Staessens 1993) is a qualitative study of nine "innovating" private schools in Belgium. The author selected on the dependent variable and did not use any empirical analysis, but did provide several anecdotal stories that describe how leaders were conscious of culture and worked to establish a culture in school. Most notably, the author opined that culture is a "socially constructed reality" lending some credence to the idea that schools can develop a culture around a mission and see that it is adhered to in a school.

"Reconceptualizing a dynamic model of organizational learning for schools" (Lam 2004), is more of a foundational work, attempting to develop a framework to understand how schools "learn" over time. Unlike Staessens, the author examines schools at various points in the process to becoming learning organizations to try and draw conclusions, but with the expressed purpose of creating a typology of learning organizations, not understanding why they are on a particular point in the continuum. Similarly, Shaw and Reyes "School Cultures: Organizational Value Orientation and Commitment" (1992) surveyed elementary and high school teachers to see if teachers at these schools had similar levels of orientation towards similar values. The authors, though, were more interested in comparing elementary and secondary schools, as opposed to understanding how these different levels of value orientation might affect student achievement.

Taking a work like that of Lam, Shaw and Reyes a step farther, Arshad (2003) applied some of these typologies to secondary schools in Pakistan to see if they correlate to increased student success. In "A study of organizational culture and effectiveness of secondary schools"

the author surveyed 170 school leaders and 640 teachers within those 170 leaders' schools and correlated their survey responses to student achievement scores. Interestingly, he found that outside factors played little to no role in the types of organizations schools became. It appears that the organizational structure was determined by the individuals working within the schools. When relating these organizational types to student success, the authors found that schools that had "adaptive" cultures had higher scores than schools that were found to be "unadaptive". Similarly, schools that were classified as "Constructive", "Humanistic-encouraging", "Afflilative", "Self-Actualizing", and "Achievement" were all correlated with higher test scores. In a way, these classifications are a measure of mission coherence, as schools would have to have enough similar teacher and leader input to score high on these metrics; however, it is not an explicit look at coherence.

Looking at explicitly religious schools through a similar lens Tarr (1993) found that teacher ideology was positively correlated with teacher satisfaction and organizational integrity. In "Commitment and Satisfaction among Parochial School Teachers: Findings from Catholic Education" the author surveyed 746 Catholic school teachers and divided the respondents into two groups; "mission oriented" and "teaching oriented." Tarr found that these classifications were correlated with measures of teacher satisfaction as well as measures of organizational integrity. Unfortunately, the author's classification system is based on a false dichotomy. Mission oriented and teaching oriented are not mutually exclusive terms; if a school is teaching oriented, then being teaching oriented would mean that a teacher was mission oriented. As a result, it is hard to make any broader conclusions from this paper. Greenfield's 2004 paper "Moral leadership in schools" follows in a similar vein, remarking on the importance of leaders in crafting vision and culture, and calling on more research on the topic.

In another explicitly "thought" piece, Arthur Blumberg (1983) offers strategies to make schools more mission coherent. While that particular plank of his work is not relevant to the review here, some of his background research upon which he bases his conclusion is. He describes schools as "weakly normed systems" in which peers exert very little influence on each other to improve their performance. This permissive culture makes the work of leaders extremely difficult. Interestingly, Blumberg advises leaders not to try and shape teachers into more mission-oriented workers, as he believes that is a lost cause. Rather, he advises leaders to treat teachers as individualistic practitioners, and work one on one with them to try and improve their practices. Similarly, Kent Peterson's 1985 paper "Vision and problem finding in Principals' work: values and cognition in administration" looks at the role of leaders in shaping organizational vision and culture. Also like the above paper, it is not an empirical examination, rather it combines the authors' earlier work on the importance of principles and expounds on their importance in setting norms of vision and culture.

In total, this systematic review yielded only two additional studies that help to truly inform the analysis at hand.

Albert Boerema (2009) studied the role of organizational mission in private schools and its affect on student achievement. Using hierarchical linear modeling, the author related student achievement data for schools in British Columbia to the mission of schools, though his conception of "mission" was simply a conflagration of the religious purposes of various kinds of schools operating in Canada. He argues that Catholic schools have a focus on reason while Evangelical schools have more of a focus on salvation and thus argues that this explains variation in the sectors' performances. While there are meaningful differences between the

mission of various sets of religious schools, there are also many other meaningful differences, so simply linking all into the same category most likely suffers from some omitted variable bias.

In "Exploring the Correlates of Academic Success in Pennsylvania Charter Schools" (Nelson and Miron 2000) the authors administered detailed surveys to teachers and parents, created indices of variables possibly related to school success, and used them in estimations of school performance. Specifically the authors looked at 77 charter schools in Pennsylvania, giving detailed surveys to teachers and parents to determine what factors might lead to success. The study had a variable of "attitudinal congruence", used to test the author's hypothesis that "other things equal, schools that attract families with more homogeneous educational preferences will be more academically productive than other schools"(8). In fact, the authors went so far as to surmise that "when sorting takes place on the basis of educational preferences, it can allow schools to spend less time "selling" programs and approaches to its stakeholders and more time implementing them. Moreover, the focus that preference homogeneity brings can allow schools to "capitalize on economies of specialization" (8).

Nelson and Miron's study was very promising for the purpose of this dissertation, but unfortunately the measure that they used for mission coherence was less than convincing. The authors admit openly "our surveys were not explicitly designed to test [mission coherence]" (13); rather, they created an index of dissimilarity between the teacher and parent responses on certain questions. They used factor analysis to weight the responses, but it is not clear that differences in parents and teachers are the same as differences between teachers in the school. The school could have a very coherent mission, just one with which parents disagree, and that would lead to a high level of dissimilarity. The authors argue that choice facilitates sorting into schools of like-minded people, and while intuitive, that is not empirically proven, here or elsewhere.

Nonetheless, the authors found that their measure of attitudinal incongruence is negatively related to student academic performance, but were not, in the authors' words, "statistically discernible", causing the authors to judge that data are suggestive, but not conclusive. The findings were not statistically significant, even at the $p < .1$ level, so even referring to them as "suggestive" might be questionable.

Religious Schools

As a preface to the final set of analyses in this dissertation, it is important to examine the robust literature on the effect of religious schools, and particularly Catholic schools. Given the fact that the sample for the final set of analyses is 30 religious schools, having an understanding of what other scholars have come to know about religious schools is an important foundation for my future discussions.

Religious Schools

While there is a robust literature on Catholic schools, the research base on the performance of other religious schools is more limited. In a meta-analysis of 41 studies of religious schools on academic achievement, Jeynes (2008) found 10 studies that studied non-Catholic schools. Those studies (Jeynes 2003a, Jeynes 2003b, Goldberger and Cain 1982, Lee and Smith 1993, Hoffer, Greeley, and Coleman 1987, Lee, Chen, and Smerdon 1996, Sutton and de Diveira 1995, Coleman, Hoffer, and Kilgore 1982, Morgan 1983, and Bodenhausen 1989) found positive results in the same range as Catholic schools. Using his meta-analytic strategy of standardizing and aggregating effect sizes, he found that the average effect of non-Catholic private schools to be .19 on all educational outcomes measured and .24 on achievement tests (both significant at the $p<.05$ level).

Achievement in Catholic Schools

The effect of Catholic Schools on student achievement has been studied by a variety of methods by many different authors. The majority of studies find positive effects for Catholic schools. Some (Altonji, Elder and Taber 2005, Grogger and Neal 2000, Morgan 2001, Marsh and Grayson 1990, Coleman, Hoffer and Kilgore 1982, Bryk, Lee, and Holland 1993, Carbonaro and Covay 2010 and Aleaxndar and Pallas 1985) found significant, positive effects across all domains they examined. Others (Hoffer, Greeley, and Coleman 1985, Marsh 1991) found a mix of positive and null findings across the domains that they studied. One study (Reardon et al 2009) found solely null findings and only one study (Lubienski and Lubienski 2007) found negative effects.

The following sections will describe the findings in greater depth. They are organized by the research method used.

Instrumental Variables Approach

Altonji, Elder, and Taber (2005) used the National Educational Longitudinal Survey of 1988 data to compare public and Catholic high school students. The authors found small but positive estimates of Catholic school effect on 12^{th} grade reading and math scores (on average 3.4 points higher on the reading test and 4.34 points higher on the math test, both significant at the .01 level) on the academic portion of the survey instrument when controlling for 8^{th} grade performance and a variety of demographic identifiers. However, when the sample was disaggregated to highlight the achievement of urban minority students, Catholic schools were found to have large, positive, significant effects on 12^{th} grade standardized reading and math scores (a difference of 5.31, significant at $p<.01$, in reading and 3.49 in math, significant at $p<.05$).

Grogger and Neal (2000) used similar data to Altonji et al., and came to similar conclusions. Using the same survey data set, the authors used OLS, probit, and median regression techniques to estimate Catholic school effects. The OLS estimates yielded positive, significant effects of Catholic schools on urban minorities and positive results for suburban minorities, urban whites, and suburban whites. Using median regression techniques that are more robust to outliers, the authors assigned a null score to all students who were eligible to take the 12^{th} grade tests and did not test or who dropped out at some point in their high school career (even if they came back). In doing so, the author attempted to correct for the effect of dropouts by assigning to dropouts the median score of students in the sample that were identical demographically but remained in school. After accounting for this, the median regression results found positive, significant effects for urban minorities, suburban minorities, urban whites, and suburban whites.

Matching

Using math and reading elements from the National Education Longitudinal Survey results (n=10,835), Morgan (2001) used propensity score matching to divide students into various groups and examine the effect of Catholic schools (against a control group of matched public school students). Looking across all strata, Catholic schools had a large, significant, positive effect in math and a large, significant, positive effect in reading. Across achievement quintiles, math impact ranged from 0.944 in the 2^{nd} best scorers' quintile to 5.698 in the 2^{nd} worst scorers' quintile and 1.748 in the worst scorers' quintile to 3.019 in the best scorers' quintile.

Reardon et al. (2009) looked specifically at the effect of Catholic schools on early elementary grades. Using data from the Early Childhood Longitudinal Study-Kindergarten, the authors estimated Catholic school effect with reading and math scores that were collected at six

time points from 1998 to 2004. The study followed kindergartners born in 1992-1993, (n=16,301, Catholic n=1,979) that were given "direct cognitive assessments" that are "individually administered oral, untimed, adaptive tests of math and reading skills". The authors focused on the students in the 3rd-5th grades. The authors used propensity score matching and 13 different model estimates with combinations of linear regression, weighted least squares regression, linear regression with market fixed effects, standard propensity score matching, national propensity score matching, and within market propensity score matching to estimate Catholic school effects. By the authors' conclusion, the best models estimated the Catholic effect to be between -0.347 and -0.895, neither of which is statistically significantly different from zero. In reading, model estimates ranged from significant, large, positive results to moderate but significant negative results with the authors "best" models estimating an effect of 0.459 to 0.872. The authors conclude that while there can be no definitive conclusions, there is limited confidence that Catholic early elementary schools do a better job than traditional public schools in teaching reading, but a worse job teaching math.

While not exclusively using matching to determine effect estimates, Carbonao and Covay (2010) used matching to check the sensitivity of their finding for math performance in Catholic schools. The authors used survey data from the Education Longitudinal Study that surveyed 10th graders in 2002 and again as 12th graders in 2004 (n=13,440). Recognizing at the outset the possible issues of selection bias, the authors confirmed their OLS estimates with sensitivity analysis and through propensity score matching. Measuring the IRT gain score for Catholic school students compared to public school students, the authors found a positive Catholic school effect of 0.283 (by my own calculation of Cohen's D given the provided means and standard deviations) for Catholic school students in math growth from 10th to 12th grade. After estimating

this effect, the authors ran sensitivity and robustness tests and discovered that "for the coefficient in the model, 65.1% of the coefficient would need to be attributed to omitted variable bias for the Catholic school effect to lose significance" (170). So, while there may be selection bias issues, provided that they are not substantial, they should not diminish the overall significant, positive finding of the study.

Single-Stage Regression Estimates

In the seminal yet oft criticized study that started the debate around this issue, Coleman et al. (1982) were the first to make a sophisticated argument for a Catholic school advantage. He and his coauthors used math, verbal, and reading scores from the 1980 High School and Beyond survey in a series of single-stage probit estimations to both determine a one-time effect for 10^{th} graders and a growth effect for 12^{th} graders. In 10^{th} graders, the authors found positive effects in all three subject areas. In a slightly more complex model, the authors controlled for 10^{th} grade performance in the estimation of the 12^{th} grade scores and in an alternate model also controlled for the effect of dropouts. In vocabulary, the authors found larger gains in both specifications of the model, and in math found smaller but still positive gains in both model specifications. This study was highly controversial and has led to a series of re-analyses and responses from the authors, almost all around the issue of selection bias.

One such reanalysis was performed by Alexander and Pallas (1985). The authors attempted to estimate the effect of omitted variable bias in Coleman et al.'s study and found that after controlling for all of the bias that they believe existed, the size of the effect shrunk greatly. These omitted variables could take the form of an unobservable intrinsic motivation, or some form of support for students in family or community that was not directly measured in the survey instrument. They conclude that the effect of Catholic schools is less than 0.1 of a standard

deviation, which they labeled as “positive but too small to say that Catholic schools are clearly superior”.

In one of the seminal studies of Catholic school effect, Hoffer, Greeley, and Coleman (1985) looked at demographically adjusted growth scores of 10^{th}-12^{th} grade students to estimate a Catholic school effect. The authors used the 1982 update of the High School and Beyond survey to examine scores on the reading, vocabulary, math, writing, science, and civics portions of the survey instrument. Controlling for background statistics, the authors found positive effects in reading, vocabulary, mathematics, writing, science, and civics. With controls for prior performance, the results shrink in reading, vocabulary, mathematics, and civics. The sign on the science exam shifted, but was not significantly different from zero.

Marsh (1991) attempted to improve on previous estimation from the High School and Beyond survey sample by including variables for academic choice, affective characteristics, and postsecondary outcomes of students. Including these variables in OLS regressions, estimating the effect of Catholic Schools in mathematics, reading, science, writing, and vocabulary, the author found positive, significant effects of Catholic schools in math, reading, writing, and vocabulary. He found a null effect in his estimation of science scores. Although he included more variables in the estimation, little was done to try and correct for selection bias. Again, the prior arguments for the minimal effect of selection bias can apply, but are significant enough to cast doubt on the strength of the estimates of the model.

Two-Stage Regression Estimates

Sander (1996) utilized a model specification sensitive to selection issues to estimate Catholic school effect. Using data from the High School and Beyond 1980 Sophomore Cohort survey, specifically focusing on the non-Hispanic white subgroup, Sander estimated the effect of

eight years at a Catholic school on Math, Vocabulary, Reading, and Science scores included in the survey. These questions (8 math questions, 21 vocabulary questions, 19 reading questions, and 20 science questions) were given to students when they were sophomore in high schools. Sander utilized a two-stage Heckman probit model, in the first stage estimating a probit equation for the probability of attending a Catholic school for eight years and then using that value in the second stage to account for the selection bias. After making these corrections, Sander found that Catholic schools had a significant, positive effect in math, vocabulary, and reading and a non-significant positive result in science.

Sander (1997) then looked specifically at the effect of Catholic schools on rural students. Using the math scores from the third follow up of the High School and Beyond 1980 Sophomore Cohort (1986) survey, the author isolated rural students. To correct for selection, Sander used a similar methodology to his previous paper, combining value-added OLS with a two stage Heckman probit estimate to account for selection. Like his earlier paper, he created a probit estimate for the probability of attending a Catholic school and then used that number to correct for selection in a second probit equation that estimated the effect of Catholic schools. After such corrections, he found large, positive, significant results from Catholic schools on rural students. While his study was limited to a relatively narrow segment of the population, and an especially narrow segment of the Catholic school population, and looked at only one outcome measure (mathematics achievement), his superior methodology (to other studies using data from the High School and Beyond survey) leads to great confidence in the internal validity of his study.

Hierarchical Linear/Structural Equation Models

In the most thorough treatment of Catholic schools to date, sociologists Bryk, Lee, and Holland provided detailed analysis in their 1993 book “Catholic Schools and the Common

Good". As discussed above, they used High School and Beyond survey data for 12th grade students and advanced hierarchical linear modeling (HLM) techniques to model mathematics achievement in Catholic schools. HLM is superior to most forms of OLS estimation in that it can deal with nested error structures. If there is believed to be error not only at the student level, but nested at the classroom or school level, HLM can tease out unbiased estimates. The authors used this technique with an extensive set of statistical controls to find a large, positive, and significant Catholic school effect. The authors equate such an effect to an additional 3.2 years of learning.

In one of the only studies to find significant negative effects of Catholic schools, Lubienski and Lubienski (2007) compared 2003 Math NAEP (n=190,00+) scores across sectors. The authors utilized HLM to deal with the nested error structures of students that exist within schools. The authors found that on average, Catholic schools scored 7.2 raw score points lower than traditional public schools in 4th grade math (significant at the $p<.01$ level) and 3.8 points lower than traditional public schools in 8th grade math. It should be noted that Catholic schools outperformed all other non-traditional public schools (Lutheran schools, Conservative Christian schools, other private schools, and charter schools) in 8th grade math. However, these findings have some caveats. As critiqued in Reardon et al. (2009), the authors only included a set of basic demographic controls, relied on a series of functional form assumptions that may or may not be valid, and assumed "that the Catholic school effect is constant across locations" (8).

Marsh and Grayson (1990) used more sophisticated estimation techniques to yield more powerful estimates from the High School and Beyond data set. The authors used LISREL multigroup structural equation modeling as they believe such modeling corrects for the problems of error correlation in traditional multiple regression models. According to the authors "the application of the [simultaneous equation modeling] SEM approach provided resolution to three

previously unresolved issues: (a) the appropriate correction for measurement error and provision for correlated uniqueness; (b) appropriate tests for interactions between public/Catholic differences and various background variables; and (c) the role of high school track and academic orientation of course selection" (227). Using this modeling technique, the authors found math gains in sophomores in Catholic schools, and verbal gains in sophomores in Catholic schools on the cognitive portion of the High School and Beyond survey. In seniors in Catholic schools, the authors found smaller, but still significant gains in math and smaller gains in verbal scores.

Non-Cognitive Outcomes

Graduation Rates

Several scholars have also studied the effect of Catholic school attendance on attainment, most easily measured by high school graduation. All five studies completed on the topic (Evans and Schwab 1995, Sander and Krautmann 1995, Neal 1997, Grogger and Neal 2000, and Altonji et al 2005) all used large national data sets and probit estimates to offer a regression-adjusted estimate of the increased probability of school completion. Evans and Schwab and Sander and Kratumann both used the High School and Beyond 1980 survey and found similar results, a 13 percentage point graduation rate increase and a 10 percentage point graduation rate increase, respectively. Grogger and Neal and Altonji et all both used the National Education Longitudinal Study of 1988. Grogger and Neal looked at Catholic schools as a whole and estimated an 18 percentage point increase as a result of Catholic school attendance. Altonji et al were able to disaggregate into more fine grained estimates and found that Catholic school attendance was associated with a 4.6% increase in graduation for white students and an 8.5% increase for minority students. When the authors looked more closely at urban students, they found that white

students were 9.1% more likely to graduate and urban minority students were 19.1% more likely to graduate.

Unfortunately, while all of these studies yield interesting results, they are all plagued by selection bias. While the surveys used by these authors offered a rich set of explanatory variables that could be used to control for a variety of factors, they cannot cancel out the selection bias of students that chose to attend Catholic schools. As such, their findings are certainly suggestive of a pattern, but absent more robust research/statistical techniques such as random assignment they are far from conclusive.

Civic Participation

In a 2007 article in *Education Next*, Patrick Wolf combined the results of 21 quantitative studies of private schools and civic participation. He divided the 59 findings from those studies in groups based on rigor and correction for selection bias and found that, for the most rigorous studies (those that corrected for selection bias), 12 findings were significant and positive, 10 were neutral, and only one was negative. For those that simply used control variables, 21 of 36 findings were positive, 13 were neutral, and 2 were negative.

Seven of those studies examined Catholic schools particularly. The first look at this question is David Campbell's 2001 Study "Civic Education: readying Massachusetts' Next Generation of Citizens". In that study, Campbell distributed an original survey of questions of civic values to 2,710 Massachusetts school students. The study was distributed to a large number of students, but because it relied on both school and district administrators to agree to participate in the study, major districts like Boston and Worcester did not participate. All difference calculations were not between Catholic schools and traditional public schools, but rather Catholic Schools and charter schools. In fact, in an attempt to be fair to the Charter schools,

Campbell does not even have one traditional public school comparison group, rather he divides them into three groups by performance on the state level assessments.

Keeping all of that in mind, Campbell found, compared to Charter schools, that Catholic schools have mixed effects on civic values. Students in Catholic schools performed significantly less community service (58% to 67% of students surveyed had participated in community service), had less interest in politics (15% to 27% of students expressed interest in politics), and a significantly lower score on the civic skills index created from the questions on the National Household Education Survey that Campbell and others have used in civic values research (1.69 to 1.82). Catholic schools were also found to have a significantly worse school environment, which Campbell defines as a situation in which students and teachers respect each other and listen to each other's opinions (an index score of 4.17 to 4.51) and a significantly lower score on an index of political efficacy (1.37 to 1.49). On the other hand, Catholic schools were found to have more students that participated in extracurricular activities (76% to 64%) and student government (88% to 54%). Catholic schools were also found to have more classes with political content (70% to 60%). Campbell found no significant difference between Catholic schools and charter schools on reading the news every day (19% to 17%), watching the news every day (38% to 38%), or an index of political tolerance (1.57 to 1.53).

In a similar vein, Wolf et al (1998) surveyed a sample of New York City students in an attempt to assess their civic values in "Democratic Values in New York City Schools". He and his team sampled 923 8th graders with an original survey instrument to examine political tolerance, patriotism, and voluntarism. They found, using an index based on five of the survey questions, that Catholic school students scored significantly higher on the patriotism index than their public school peers (coefficient in models ranging from .17 to .218, significant at the .01

level). They also found that Catholic school students were significantly more likely to volunteer as the coefficient for the dummy variable of having volunteered in the last two years ranged from .329 to .543, also significant at the .01 level.

Dill's 2009 study "Preparing for Public Life: School Sector and Educational Context of Lasting Citizen Formation" used NELS 1988 data to examine Catholic schools' effect on Voluntarism and voting in the 1996 Presidential election. Methodologically, Dill's analysis is the most sophisticated, but because of his narrow definition of civic values his better statistical analysis yields narrower answers.

Using NELS 1988 data (N=8,594) Dill used Hierarchical Linear Modeling to estimate the effect of several types of schools' (including Catholic) on adult voluntarism and voting. Dill used HLM to deal with the nested structure of students in schools. Students were surveyed in 1988, 1990, 1992, 1994, and 2000, so the same group was studied over 12 years. For the purpose of this study, Dill examined these survey results for evidence of voluntarism after high school, and looked at the 2000 survey results for evidence of voting in the 1996 Presidential election. Dill found that there was no significant Catholic school effect on adult voluntarism or voting in the 1996 Presidential election. Dill hypothesized that changes in the form, function, and the demographics of Catholic schools could be the cause of this non-expected result. He also made a point to differentiate that he studied the effects in adulthood, so perhaps the voluntarism that is seen in school simply does not persist after school ends.

In a similar vein to Dill, Dee (2005) applied rigorous analysis to survey data to see the effect of Catholic schools in "The Effects of Catholic Schooling on Civic Participation". Like Dill, Dee was interested in adult behavior post-Catholic schooling. However, unlike Dill, Dee found that graduates of Catholic schools were more likely to vote. He did find, like Dill, that

Catholic high school graduates are no more likely to volunteer. Dee used a sample from the High School and Beyond Survey (n=12,159) and a 2-stage least squares estimate method to determine the effect of Catholic schools on voting and voluntarism. Dee found that "attending a Catholic school has large, positive, and statistically significant effects on voter participation" (pg. 610). Dee's interpretation is that "attending a Catholic school increased adult voter registration and turnout by roughly 7 to 11 percentage points" and "given that the mean levels of these outcomes vary from 35 to 66 percent, these marginal effects are quite large" (pg. 610). In these same models, there was no effect on adult voluntarism.

The strongest study of the effect of Catholic schools on civic values was David Campbell's (2001) "Making Democratic Education Work". He used questions on the National Household Education Survey (n=4,213) to score graduates of several different types of schools (assigned public, catholic, private religious, private non religious) on a variety of indicators. He had a number of comparison groups, the most important being the sample of students from assigned public schools. He found, adjusting for demographics through probit estimations, that 59% of Catholic schools students participated in community service vs. 48% of assigned public school students. Campbell also used several indices to compare the civic values of students educated in different types of schools. He found that Catholic school students performed significantly higher (at .05) on an index of civic skills, civic confidence, and political tolerance.

Belfield (2004) re-estimated Campbell's results and found similar answers. His goal was to both test if an earlier version of Campbell's analysis (from 1998) was accurate and give policy recommendations based on the reanalysis. He used the National Household Education survey of 1999, a nationally representative survey that has been "harmonized" with the 1992 and 1996 versions of the survey and the same measures that Campbell used. Catholic school students

performed in similar ways to Campbell's previous analysis. Catholic school students scored significantly higher than assigned public school students in community service, with 75% of Catholic school students vs. 50% of assigned public school students participating in community service. Catholic school students also scored significantly higher on the index of civic skills (.75 to .46 after statistical controls). Students scored significantly higher on the index of political tolerance (1.59 to 1.37 after statistical controls). Without statistical controls, Catholic school students scored significantly higher on an index of political knowledge (2.23 to 1.81); however, after statistical controls the difference lost its significance (2.51 to 2.27). Catholic school students were also split on allowing an unpopular book in the school's library, with a significantly higher score before statistical controls (67% to 55%) but that disappears after statistical controls are put in place (59% to 54%). However, on speaking out against religion, Catholic school students score significantly higher, even with statistical controls (94% to 87%). The only outright null finding was concerning civic confidence, where there was no significant difference at any point (1.81 to 1.75). These findings are consistent with Campbell, and hold up to scrutiny after Belfield subjected them to a series of robustness and model specification tests.

Conclusions

These systematic looks at the literature provide a relatively muddy picture. Taken as a whole, the literature on the value of mission in schools is positive, but insufficient. Many studies have examined the phenomenon, but almost all have relied on the metrics or approaches not explicitly designed to measure the variables of interest. Those that have specifically used metrics to measure the construct of interest have all used the same survey, which not surprisingly have produced the same results. In having survey results asking essentially the same questions, the researchers have created their own conception of what mission is, almost always in relation to

academic achievement, and then gauged whether or not schools have lived up to this definition. However, there could be any number of ways that schools define their mission, from creating a safe environment to training future citizens to instilling some religious or moral values to any number of other possible ends that schooling could bring about. Similarly, studies have not compared these measures across school sectors, and restricting the sample to only public schools limits the variance in the variable of interest greatly. So, while the existing literature might be able to state that certain conceptions of mission matter, in total, we cannot say definitively that *mission matters.*

Chapter Three: Methods

The study of organizational mission in schools is multifaceted. This research is guided by four overarching questions:

1. How can we measure organizational mission coherence in schools?
2. Is organizational mission coherence important in schools?
3. Does organizational mission coherence vary based on the level of participation in the voucher program?
4. How does organizational mission manifest itself in religious schools?

As such, the following chapter will describe the strategy for answering each, and, where necessary, introduce the questions as a series of concrete, testable hypotheses.

Answering Question #1: The Mission Coherence Index

The Mission Coherence Index

As previously stated, the existing literature on leadership and culture in schools lacks diversity in its measurement of mission coherence. All of the previously listed studies used some form of Likert-scale measurements, almost universally with no more than 10 items specifically asking about the role of mission of the school. This has greatly restricted the amount and nature of information that we can gather about mission, for several reasons. First, because the questions were in a Likert-format, the results are shaped by what the researchers, not the respondents, feel are most important about mission and/or what they think are the necessary conditions for the development of mission coherence. While these may be important, there may be many more conditions under which mission coherence can develop. There may also be many other ways in which such coherence can manifest itself. Second, because the number of questions is so limited,

we only have measurements about specific facets of mission coherence development (for discussion on the limits of Likert-scale survey items, see Jamieson 2004).

The generally closed nature of measures of mission coherence and the limited results that they have produced call for a more open-ended response that can yield a greater diversity of results. Rather than attempting to impose what they believe is important about mission or its development, researchers should get out of the way of their subjects and allow them to develop their own conception. A more accurate strategy to develop this more expansive conception of mission would attempt to quantify important elements that open-ended responses have in common.

Additionally, previous works (Blake 2011) that look at mission statements or variables at the school level analyze at a level that does not have a great deal of impact on instruction. As Chubb and Moe argue "goals that are written down in an organization manual or posted on a bulletin board—however lofty and thoughtful those goals may be—will not have the impact on the day-to-day effectiveness of a school that goals acted on and shared by the staff will have" (79). An effective index needs to survey at the teacher level, but also needs to measure some form of internalization, as in, what does the mission of the school mean *to them*.

To accomplish this goal I developed a Mission Coherence Index (MCI). The MCI allows for open ended responses of teachers in schools to be quantified in a meaningful way to determine the level of mission coherence for those individuals "on the ground" of the bureaucracy.

To construct the MCI, teachers were asked to write what they believe the mission of their school is in their words in 50 words or less. These responses were imported into Microsoft Excel

and quantified into a simple ratio; the number of words in common divided by the total number of words used. The next several paragraphs will outline this procedure in greater detail.

Teacher responses were collected in two phases for this project. First, this question was added to a survey of teachers in seven private schools participating in the Milwaukee Parental Choice Program that was distributed during site visits by a team of researchers from the School Choice Demonstration Project at the University of Arkansas in the fall of 2011. These schools were selected as a cross section of high, middle, and low performing schools in the program to glean the data that informed Stewart, Jacob, and Jensen (2012). I completed a second round of data collection by distributing surveys to 53 elementary school principals attending the "pupil assignment council" meeting in Milwaukee on May 1, 2012. At the pupil assignment council meeting (which occurs quarterly) all of the principals of participating schools get together to talk with representatives of the Wisconsin Department of Public Instruction and each other about pressing issues facing the Milwaukee Parental Choice Program. With the principals' gracious help, I was able to give a brief presentation about the research of this project and distributed FedEx envelopes to each principal filled with teacher surveys for their school. The envelopes were pre-paid and addressed to me, so once the principal had his or her teachers complete the survey, he or she simply put them back in the envelope and mailed them back. For all of the schools to whom I had distributed surveys but from which I had not received return envelopes, I followed up with emails to the principals on May 14. For those 12 principals that did not attend the meeting, I reached out by phone call and email to try and get surveys to them, though no principals other than those that attended the meeting actually completed any surveys. The survey also included two pages of general questions about teacher satisfaction as well as religious

identity questions for teachers in religious schools that participated in the program (to be used later in the analysis). There were no inducements for respondents.

The response rate calculations are available in table 3.1. In total, 366 teachers in 31 schools returned surveys, out of a sample of 72 schools with 994 total teachers, or a 36.8% teacher response rate and a 43.1% school response rate.[6]

Table 3.1- Survey Response Rates, Spring 2012 Data Collection

Data Collection Method	Number of Schools	School Respondents	Rate
Site Visit	7	6	85.7%
Pupil Assignment Council Meeting	53	25	47.2%
Phone/Email	12	0	0%
Total	72	31	43.1%

It should be noted that this particular sampling method has the potential to introduce bias into the results of my analysis. It is likely that those seven schools that chose to allow in outside researchers to observe and those 53 school leaders that attended the pupil assignment council meeting were more motivated or organized than the leaders of the 12 schools that did not. If we believe that such traits are correlated with student achievement or any of the other indicators that are used in the analyses that follow, there is the potential for bias.

After collecting the survey responses, the answers were typed into a simple text file which could then be read into Microsoft Excel using the "delimiting" feature that places each word in its own cell. Each school received its own sheet of the spreadsheet, with each teacher's response coded into a single row, creating a data set of individual words (columns) organized by teacher response (rows). The responses were then compiled and transposed into a single column

[6] One school did return only one survey. For the purpose of this evaluation, they were treated as a non-respondent. Total teacher number calculated from school surveys given to principals during the SCDP evaluation of the MPCP.

in a new tab of the spreadsheet. This allowed for two things to happen. First, I was able to use the "delete duplicates" function to winnow the list of words to one instance of every word that was used in the school's response. Second, I was able to use the "countif" function to have Excel count in the first sheet of the spreadsheet each instance of each of the words contained in the column in the second. Functionally, the command for counting duplicates was:

=COUNTIF(schoolname!$1:$1048576,schoolnamedupes!A1)

with A1 cycling down the column for each new word.

After counting all of the duplicates, I created a straightforward index of words in common amongst teachers divided by the total number of words by all of the teachers:

$$\textbf{MCI} = \frac{\text{Number of words in common in teacher mission statements}}{\text{Total Number of words in all teacher mission statements}}$$

So if, for example, a school had 191 total words from all of the teachers' responses, and 137 of those words were used more than once, the school would have an MCI of .71.

To sharpen the measure, I also created a modified version of the MCI that removed articles. Routinely, the most frequent words in common (that would show up anywhere from 10 to 20 times) would be articles, conjunctions, or simple verbs (a, the, and, is) and I wanted to make sure that those words, which likely have little bearing on the mission of the school, were not biasing the results. Bias would only occur, though, in situations where there was some systematic connection between the number of articles that teachers in a school used and that school's mission coherence, which is unlikely. Nevertheless I created a modified MCI that had the number of non-article, conjunction, or conjugation of "to be" words in common as the numerator and the total number of words as the denominator.

Structuring the index as I did has several methodological advantages. First, it does not impose any of the researcher's biases onto the data. As the teachers are able to define and state their mission in any way that they see fit and are limited only in the amount of space that they have to do so, the index yields a more accurate understanding of what teachers believe the mission of their school is. Second, as the index simply looks at the number of words in common, not specific words or specific types of words, it allows for a more diverse conception of mission than indices that use pre-determined definitions of mission. Finally, because the denominator is the total number of words, if schools of varying sizes or schools with varying response rates contribute surveys, the number of surveys collected or length of response should not bias the results. Knowing that schools in the sample were of varying size and employed varying numbers of teachers, it was important to create a measure of dispersal. Because each additional survey response adds to both the numerator and the denominator, it serves to correct for convergence on the mean and outliers, since, according to the Law of Large Numbers, each additional response is likely to be closer to the mean than to the outliers.

Answering Question #2: Correlating MCI with outcome variables of interest

After computing the Mission Coherence Index it became possible to correlate that number with an assortment of variables of interest in schools. The most obvious candidate for connection is student test scores for participating schools, however, there are many other dimensions of school performance and school culture that are important as well.

Such analysis can be formalized into a set of null hypothesis that can be tested. They are:

H_{01}: There is no relationship between MCI and student test scores

H_{02}: There is no relationship between MCI and a set of school climate variables of interest

To test these hypotheses, the MCI for participating schools was correlated to the average test scores of that school in 4th and 8th grade on the state assessment, the Wisconsin Knowledge and Concepts Exam (WKCE). The testing data were collected by the School Choice Demonstration Project as a part of its multi-year evaluation of the Milwaukee Parental Choice Program.[7] Every year, schools participating in the program were required to send the test scores of the students that received vouchers in their schools to the SCDP. For the 2010-2011 school year (from which these testing data were gleaned) all students were required by law to take the WKCE, so there is a constant outcome metric across all schools.

These correlations will measure the relationship between the MCI and student test scores as well as MCI and other variables of interest. The initial test score to MCI correlation will be a Pearson's *r* calculation. As a rule of thumb, this dissertation will follow the substantive significance guidelines laid out by Cohen (1988) and stipulate that a "small" correlation is a Pearson's *r* value of 0.1 to 0.3 (inclusive), a "medium" correlation is greater than 0.3 but less than 0.5, and a "large" correlation is greater than 0.5. The first calculations will correlate the school level MCI score on the average of student test scores in 4th grade reading,4th grade math, 8th grade reading, and 8th grade math. These calculations will also be subjected to significance testing, using the t-test computed though the "pwcorr" feature of STATA, using a 0.10 minimum level of significance. The second set will correlate the MCI to the 13 likert-scale questions on the survey designed to measure school climate. They are as follows, and could be answered with "very satisfied," "satisfied," "dissatisfied," "very dissatisfied," or "does not apply":

1. The support of my administrators
2. The resources I need to effectively teach
3. The support of the parents of my students

[7] For a full explanation of test score submission and management of this testing database see Jacob and Wolf (2012)

4. The sense of community in my school
5. The safety of my school
6. The healthiness of school lunch (for students)
7. The amount of professional development provided by the school
8. Student motivation to learn
9. Student behavior
10. Time during the day to plan
11. My school's guidance counselor
12. Student completion of assigned homework
13. The amount of sleep my students get.
14. My school has a strong leader[8]

These were then assigned a score of 1 for "very dissatisfied", 2 for "dissatisfied", 3 for "satisfied" and 4 for "very satisfied." The values were then used to compute and list the bivariate Pearson's *r* correlations found in section 2 of chapter 4.

This study is based on the one year "snapshot" comparison of average test scores for the 2010-2011 school year correlated to the MCI scores of teachers collected during the 2011-2012 school year. This one year lag is less than ideal, but there are several reasons why we should be able to have confidence in this relationship. First, the schools that were included in this sample are on average 74 years old and had been participating in the program for an average of 11.1 years.[9] If the schools were younger, or had participated in the program for a shorter period of time, it would make more sense to believe that there would be a great deal of year to year variability in mission. However, that was not the case for these schools.

Table 3.2 gives some descriptive information about the 26 schools for which there was complete testing and survey information. Figure 3.1 shows a histogram of the school size of the 31 schools that make up the survey sample. Schools in that sample had an average enrollment of

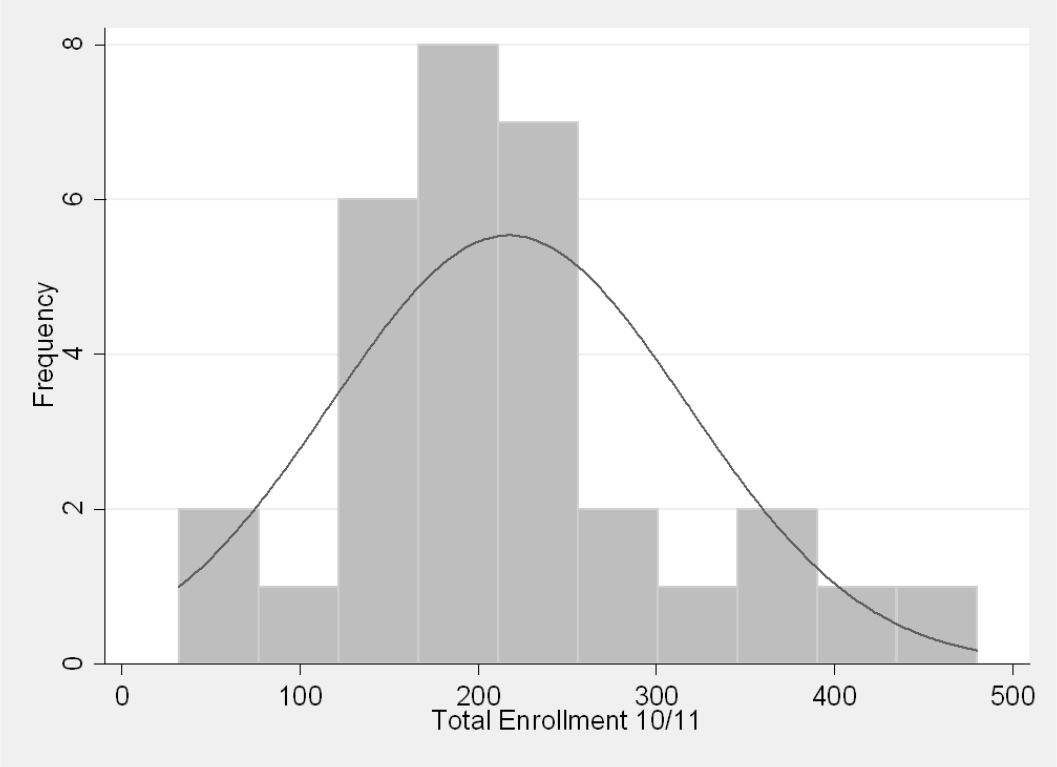
[8] The final question, from a different section of the survey, could be answered with "strongly agree" "agree" "disagree" or "strongly disagree", those results were coded and quantified in the same way as the other 13.
[9] School ages determined through visiting school websites or calling schools to determine what year they were founded and subtracting that year from 2011. Time participating in the program taken from yearly principal surveys completed as part of the SCDP MPCP evaluation

217 students, with the smallest school enrolling only 32 students and the largest enrolling 480. The standard deviation for the enrollment was 100.

Table 3.2 Descriptive Information on Participating Schools

School	% Voucher	Year Founded	Size
Catholic 1	80.7	1927	150
Catholic 2	74.4	1933	207
Catholic 3	88.1	1996	134
Catholic 4	84.2	1954	184
Catholic 5	98.8	1909	480
Catholic 6	93.8	1906	178
Catholic 7	91.9	1897	223
Catholic 8	94.3	1913	419
Catholic 9	31.4	1913	325
Lutheran 1	97.6	1951	85
Lutheran 2	91.6	1884	202
Lutheran 3	98.3	1898	239
Lutheran 4	89.2	1927	240
Lutheran 5	93.8	2002	276
Lutheran 6	56.3	1959	32
Lutheran 7	95.5	1956	223
Lutheran 8	80.1	1923	211
Lutheran 9	86.4	1962	250
Lutheran 10	43.7	1857	142
Lutheran 11	35.7	1872	154
Lutheran 12	100	1873	376
Lutheran 13	98.6	1883	219
Other 1	100	2006	127
Other 2	70.3	1988	202
Other 3	100	2000	197
Secular 1	65.8	1996	234

Table 3.1 Histogram of School Enrollment



It is also unfortunate that these data had to be a "snapshot" and not an examination over time to elicit stronger causal claims.

Answering Question #3: The MCI on Levels of Participation

While perhaps the meatiest question of this analysis is whether or not the theories of Downs and Wilson can be confirmed through my statistical analysis of school performance, policy-wise, understanding the role of mission in determining the level of participation of schools is an important question. As remarked in the introduction, schools have repeatedly expressed concerns about participating in private school choice programs, most notably around the autonomy they have to promote their particular mission. While some is related to the changing composition of their student body, schools also react negatively to having to take the same tests as traditional public schools because they see it as an infringement on their unique

educational approach. If schools are required to take the same tests (as they are in Wisconsin) and have some kind of accountability structure based on those test results, leaders can argue that this narrows the particular education program that they can use in their schools. While it doesn't appear to be the case, as a wide variety of schools using vastly different educational strategies and curricula currently operate in the Milwaukee Parental Choice Program, the concern exists nonetheless. Therefore, it is reasonable to expect that schools that have particularly strong, coherent missions might choose to participate less in programs than schools with broader missions.

To determine the level to which schools chose to participate in the program, I used the percentage of their students that used vouchers to attend the school in the 2010-2011 school year. These data were reported to the School Choice Demonstration Project every year of the evaluation. These percentages were simply correlated with the MCI of the schools to measure the relationships between the two constructs. The test, like in the section above, was a simple Pearson's *r* correlation between the percent voucher in the school during the year of study and its MCI score. Formally, the null hypothesis for this question would be:

H_{03}: There is no relationship between voucher enrollment and average MCI

Again, this is correlational, not causal. There are compelling stories going either way in the causal stream. On one hand, we can ask if it is the level of mission coherence that drives participation, but we can just as easily ask if it is participation that increases or decreases the mission coherence of the school. This particular research project is not in a position to answer either of those questions. It is designed to simply determine if there is a relationship between the two.

Answering Question #4: The MCI, Religious Identity, and participation in the program

The final major research question of this project examines the relationship between mission coherence and religious identity. Luckily, the data are available to take both a snapshot as well as a longitudinal look at this phenomenon.

The religious identity survey questions were an original creation of mine for the purpose of this dissertation. I drew from my personal experience as a teacher in a religious school and as one that participated in the evaluation of the Milwaukee Parental Choice Program in determining what might be most applicable to the measurement of religious identity of teachers teaching in religious schools. I also used modified versions of common survey questions about religious identity. As documented by King and Furrow (2004), the Gallup organization has polled respondents worldwide on questions of religious denomination identification, the level to which God is important in their life, and how much they agree with the statement "I try to follow the teachings of my religion."

The purpose of the seven questions was to measure both an internal (within teacher) religious character as well as an external (actions in the school) measure of religious experience. Thus the "personal" questions about religious convictions and the role of prayer are balanced with questions about how the school fosters the development and expression of faith. Additionally, the final question asks directly about the role of religious identity and its importance in the operation and governance of the school. As the results will show in chapter 4, these survey questions were evaluated by the computations of Cronbach's Alpha and yielded a score high enough to be determined as very reliable.

These survey questions were also informed by the emerging literature in the study of business on spirituality and religiosity in the workplace. As documented in Jurkiewicz and Giacalone's (2004) review of the literature, enhanced spirituality is linked to such pro-social

dispositions as benevolence, generativity, creativity, integrity, mutuality, receptivity, respect, and responsibility. The authors also demonstrated links between spirituality and increased motivation, commitment, and adaptability. Interestingly, the authors call for the creation of an instrument to measure spirituality in the workplace so as to (1) "provide means to determine whether the values framework culled from the literature and introduced here as a coherent set is conceptually distinct in defining aspects of workplace spirituality", and (2) "to determine the degree of spirituality in an organization" (pg.137). The religious identity index (RII) from my survey instrument is my attempt to do just that.

These authors' findings are confirmed by explicit study of religion in the workplace. As Cavanagh and Bandsuch (2002) argue, religion is a deeper and more enduring formation of spirituality. As such it has the opportunity to develop long term, pro-social moral habits that have many of the same positive characteristics as the workplace spirituality described above. It is thus important that my survey instrument take some measure of depth of adherence, not simply inchoate feelings at the time. That desire particularly informed several of the following survey items. The survey that measured the MCI also contained a slate of questions regarding religiosity of schools participating in the program. I culled seven statements from the survey to create a religious identity index (RII) to attempt to measure this construct. They were likert-rated, with the answers "agree strongly" "agree" "disagree" and "disagree strongly" as the options for response. The seven statements:

1. Teaching at this school deepens my faith
2. My religious convictions guide my life
3. I agree with the major teachings of my religion
4. My school encourages me to practice my faith

5. My school gives me opportunities to express my faith
6. I pray often
7. The religious identity of this school is important.

While not exhaustive, answers to these questions give a holistic picture of the school's religiosity.

After collecting the responses from the 366 teachers across the 31 schools that provided sufficient surveys, I simply averaged the responses to these seven statements, with "strongly disagree" assigned a value of 1, "disagree" assigned a value of 2, "agree" assigned a value of 3, and "strongly agree" a value of 4. Those averages were then averaged at the school level to generate a school-level RII. That school-level RII was then correlated with the school MCI, as well as the level of participation in order to understand both the relationship between religious identity and mission coherence as well as religious identity and the level of participation in the voucher program.

These data, and the Pearson's *r* correlations which utilized them, allowed for me to test three additional null hypotheses:

> *H_{04}: There is no relationship between the Religious Identity Index (RII), the tool I developed to measure religious identity in schools, and the MCI*
>
> *H_{05}: There is no relationship between RII and voucher enrollment*
>
> *H_{06}: There is no relationship between RII and student test scores*

In addition to this more granular snapshot of religious identity in participating schools, data permitted me to track changes in religious identity over time as well in an attempt to make stronger causal claims about the relationship between participation and religious identity.

As part of the longitudinal evaluation of the Milwaukee Parental Choice Program mandated by the Wisconsin State Legislature, an extensive survey was distributed yearly to the

principals of participating private schools. It collected data on enrollment as well as asked several questions about the learning environment in the schools. It included the following question:

Which of the Following statements best captures your school's primary mission?

A. *Our school exists to provide the children of parish members with a thorough training in the Scripture, the doctrines of the church, and in preparation for the sacraments.*
B. *Our school exists to nurture believers in the faith and as a means of evangelizing nonbelievers.*
C. *Our school exists to teach God's Word to as many people as possible.*
D. *Out school exists to provide a high-quality academic education in the context of a safe, nurturing environment.*

The possible responses range from one considered most religiously orthodox (A) to least religiously orthodox (D). For the purpose of this analysis, the answers from the 87 schools that answered this question and returned the survey (out of 95 total religious schools and 7 schools self described as "non-religious with a religious tradition") in the 2006-2007 school year and the 58 schools for which the SCDP has survey answers and enrollment information from both that year and again in the 2010-2011 administration of the survey. In 2006-2007, those 87 schools enrolled a total of 20,404 students (both voucher and non-voucher).

These data allow me to test the final two null hypotheses of this dissertation:

H_{07}: There is no relationship between the answers given to the question on the principal survey regarding religious mission and voucher enrollment

H_{08}: The opinions of school leaders about religious mission remain constant over time, even with changes in voucher enrollment.

To estimate the effect of voucher enrollment on religious mission, survey answers were used as the dependent variable in a series of logistic regression estimates with the percentage of voucher students used as an explanatory variable. In order to estimate a causal answer to the fourth question of this research project (is the level to which a school participates in a voucher program determined by its religiosity?) a series of four univariate logistic models were created.

These estimates utilize the data collected in the first year of survey administration and simply make "snapshot" estimations of the role of voucher enrollment in level of religious identity. Formally, they are:

Each of these equations will estimate the effect of voucher enrollment on the probability of answering "yes" to that particular question. This effect was also estimated with a multinomial logistic regression model with a "yes" answer to question A equaling four points, a "yes" to question B equaling three points, and so on.

To answer a second facet of that research question (does the religiosity of a school change as the number of voucher students changes), the difference in both voucher enrollment and answers on the survey question between the 2006/2007 administration of the survey and the 2010/2011 administration of the survey were calculated and included in a multinomial logistic regression. That equation, shown formally is as follows:

Conclusion

Taken together, these methods provide the opportunity for a rich survey of the role of mission in schools participating in the Milwaukee Parental Choice Program. While limited in several key ways, they nonetheless improve significantly on existing methodologies used to study mission in schools. The following chapter will report the results of these analyses.

Chapter 4: Results

This chapter reports the results of the analyses described in chapter three. As a reminder, this dissertation is guided by four research questions:

1. How can we measure organizational mission coherence in schools?
2. Is organizational mission important in schools?
3. Does organizational mission vary based on the level of participation in the Milwaukee Parental Choice Program?
4. How does organizational mission manifest itself in religious schools?

This chapter will be divided into four sections, with a concrete examination of each of these questions. In order to do so, it will tackle the general research questions with specific analysis of relevant data.

For question #1, this chapter will describe the characteristics of the Mission Coherence Index (MCI), the tool I created to measure mission in schools.

For question #2, this chapter will present the results of analyses to test the following null hypotheses:

H_{01}: There is no relationship between MCI and student test scores

H_{02}: There is no relationship between MCI and a set of school climate variables of interest

For question #3, this chapter will test the null hypothesis:

H_{03}: There is no relationship between voucher enrollment and average MCI

For question #4, this chapter will test the following null hypotheses:

H_{04}: There is no relationship between the Religious Identity Index (RII), the tool I developed to measure religious identity in schools, and the MCI

H_{05}: There is no relationship between RII and student test scores

H_{06}: There is no relationship between the answers given to the question on the principal survey regarding religious mission and voucher enrollment

H_{07}: The opinions of school leaders about religious mission remain constant over time, even with changes in voucher enrollment.

Section 1-How can we measure organizational mission coherence in schools?

As described earlier, the primary means for measuring organizational mission in this dissertation is the Mission Coherence Index (MCI). But, before we get to its use, it is important to understand some basic characteristics of the 31 schools that made up the sample of this analysis.

Table 4.1 gives some basic descriptive statistics of the schools in the sample. First, and also shown graphically in figure 4.1, schools in this sample tended to enroll a high percentage of voucher students. On average, almost 81% of students in the schools were voucher students. This gives us confidence as to the generalizability of the findings, as the average voucher enrollment in all participating schools in the Milwaukee Parental Choice Program was 83% (McShane et al 2012). Table 4.1 and Figures 4.2 through 4.5 also display the academic characteristics of the schools in the sample. While the exact distributions look somewhat different, the underlying variance of the test scores (as measured by the standard deviation of the school-level averages) is relatively consistent across the four, with a slight exception of the clearly negatively skewed 8th grade math results. As a point of comparison, MPCP schools as a whole had a mean of 437 scale score points on the WKCE with a standard deviation of 48 for 4th grade reading and a mean of 422 with a standard deviation of 47 in 4th grade math. MPS FRL students had means of 441 and 435 with standard deviations of 49 and 48, respectively. For eighth grade, MPCP schools had a mean of 493 in reading with a standard deviation of 51 and 488 in Math with a standard

deviation of 58. MPS FRL students scored an average of 486 for 8th grade reading with a standard deviation of 54 and 495 in 8th grade math with a standard deviation of 57.

Table 4.1 Descriptive Statistics, Schools

	Mean	Min	Max	Standard Deviation
Percent Voucher	80.6	24.9	100.0	23.2
4th Reading	444.7	402.5	490.5	22.6
4th Math	427.8	380.1	479.5	25.0
8th Reading	504.8	461.2	557.6	23.9
8th Math	497.5	426.07	543.75	31.3

Figure 4.1 Histogram of Voucher Enrollment

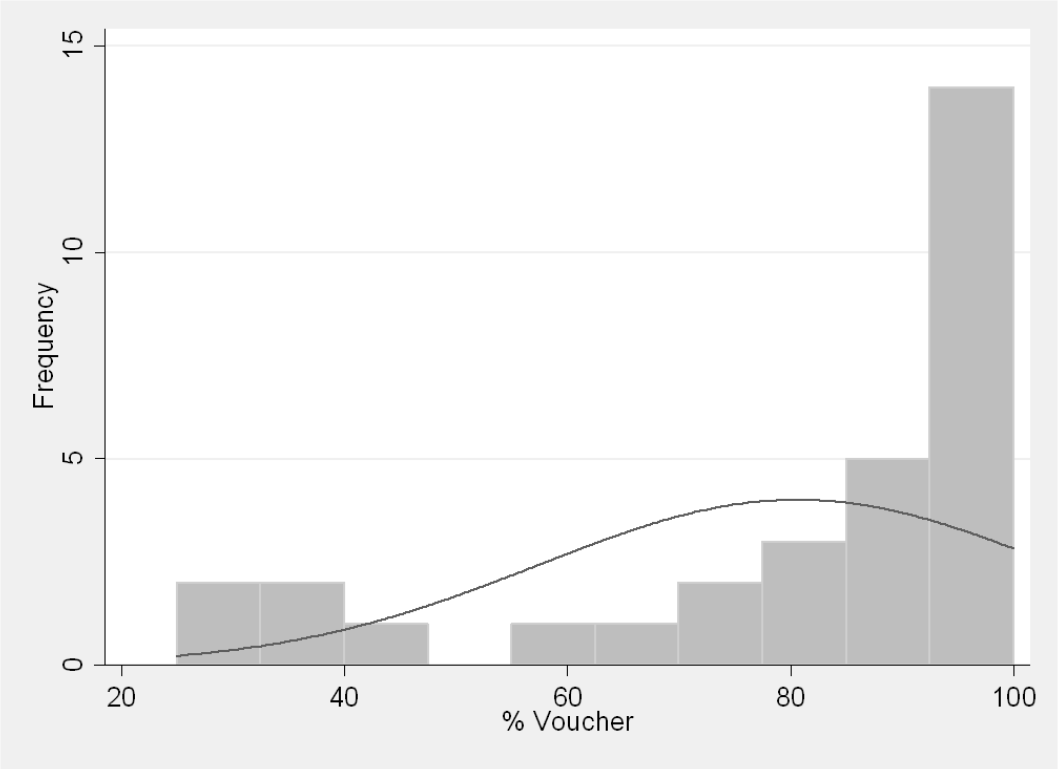


Figure 4.2 Histogram of 4th Grade Reading Score Distribution

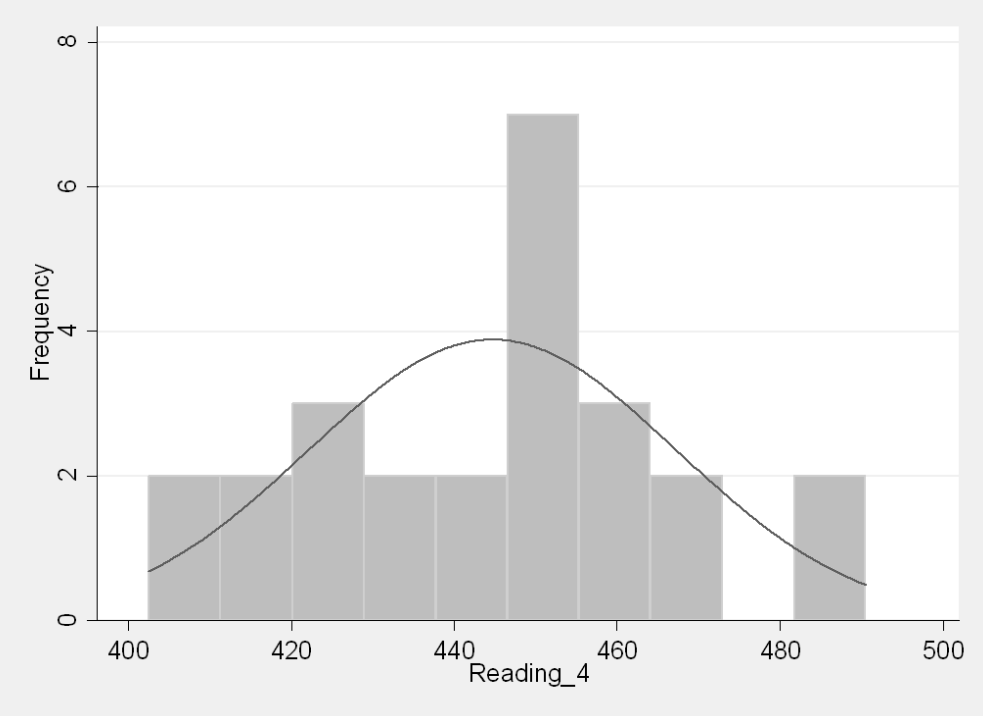


Figure 4.3 Histogram of 4th Grade Math Score Distribution

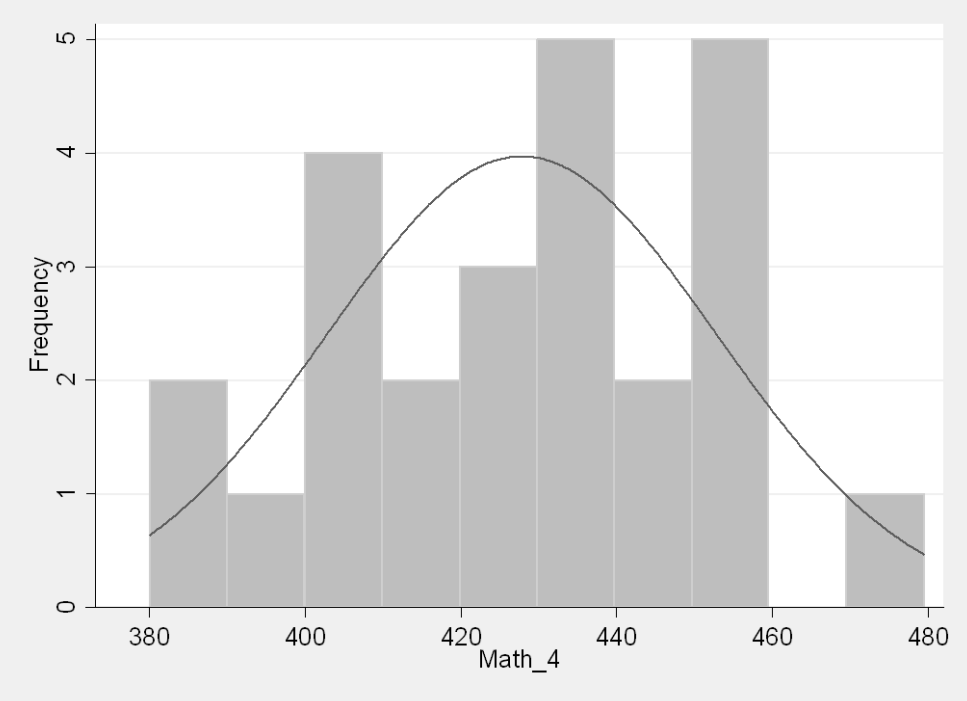


Figure 4.4 Histogram of 8th Grade Reading Score Distribution

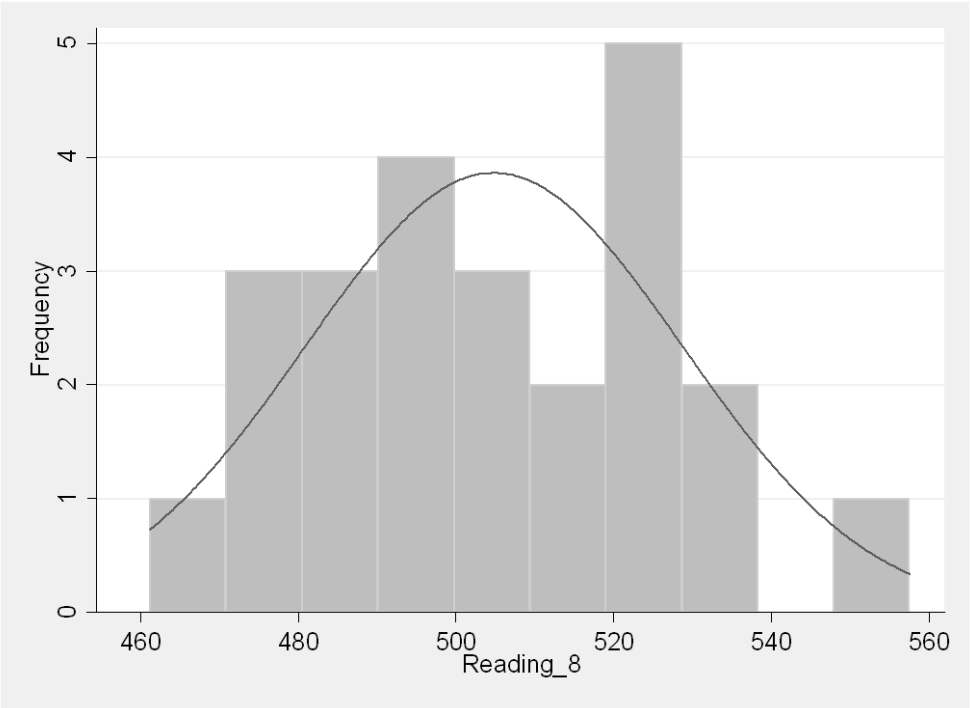
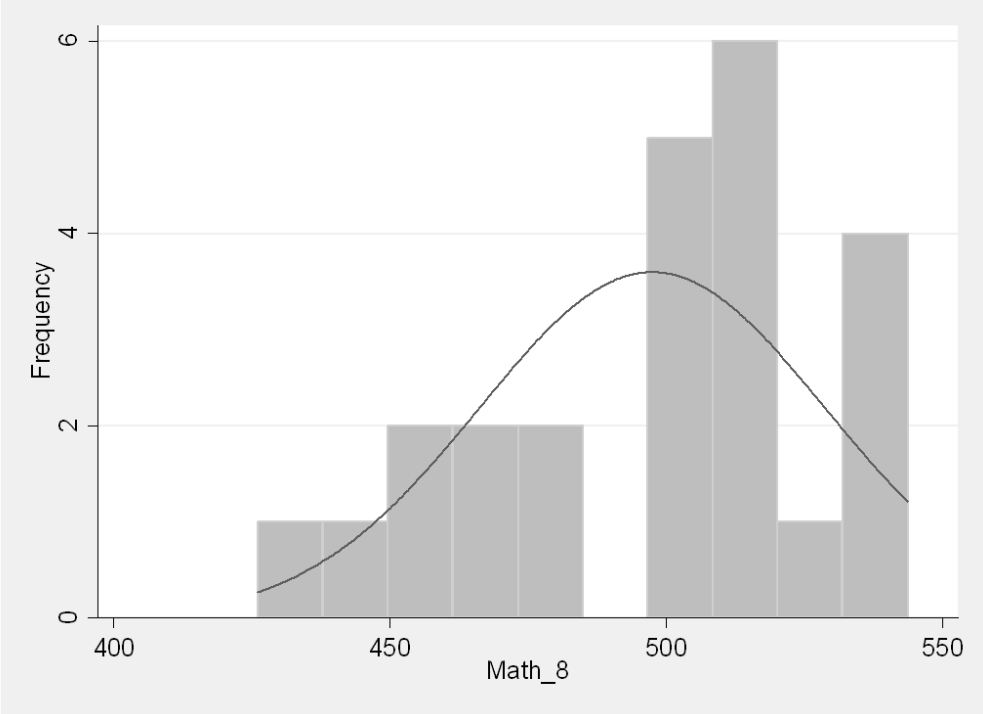


Figure 4.5 Histogram of 8th Grade Math Score Distribution



Additionally, as shown in Table 4.2 there is a clear negative correlation between voucher enrollment and student test scores in the schools in this sample.

Table 4.2 Correlation between Percent Voucher and Average Test Score

Grade and Subject	Pearson's *r* Correlation	P-Value
4th Grade Reading	-.43	.031
4th Grade Math	-.51	.010
8th Grade Reading	-.31	.146
8th Grade Math	-.42	.043

As described in Chapter three, the MCI was created from a survey question asking teachers to state what they believed to be the mission of their school. The index is the simple ratio of the total number of words survey respondents had in common divided by the total number of words that were used by all teachers in the school. A second version of the MCI was created that subtracted extraneous words (articles and conjunctions) that were not directly related to the mission of the school. Table 4.2 gives the basic descriptive statistics for those two measures. Across the responses of the 31 schools, the average MCI was .656. That means that 65.6% of the words that teachers used were used by two or more teachers in the school. It ranged from a low of .400 (or 40% of words) to a high of .916 (with almost 92% of words used in common). The MCI-Articles measure decreased the number of words in common. This makes a great deal of sense, as words like "and" and "the" were often the most popular words in teachers' responses. This decreased both the mean, the minimum (substantially) and the maximum (slightly).

Table 4.3 Descriptive statistics MCI/MCI-articles

	MCI	MCI-Articles
Mean	.656	.507
Minimum	.400	.216
Maximum	.916	.905
Standard Deviation	.120	.169

Figures 4.6 and 4.7 display the distribution of the MCI and the MCI-articles for the 31 participating schools. Other than a slightly larger than expected bump on the right side, the MCI follows a generally normal distribution. The MCI-articles, on the other hand, has less of a discernible pattern to its distribution, with a clear clustering of the results on the left end of the distribution resulting in a positive skew.

This distribution, coupled with the increased standard deviation as reported in table 4.3 raises serious questions regarding the MCI-articles measure. It might be that this is simply a messy concept that will not easily fit a normal distribution, but there is also reason to believe that eliminating articles is not the best course of action. Take for example the response of a teacher "Jesus is THE reason for this school." In that case, the article matters more than in the case the very common opening, "The mission of *x* school is *y*." Similarly, many respondents wrote responses like "we wish to make our students academically proficient *and* good citizens" (emphasis mine). In this case, the conjunction matters, as it is the twinning of those goals that drives the school. There is no bright-line decision rule that can appropriately know when articles and conjunctions matter, and when they don't.

However, these two measures are attempting to quantify an already "noisy" construct, so it is important to try and limit the amount of noise that any of the measures add to the analysis. The MCI-articles measure removes the words that are unnecessary and risk adding noise, so it

will be the primary means of analysis for the questions regarding mission coherence in this chapter. The MCI (with articles and conjunctions included) will be used as a robustness check.

Figure 4.6 Distribution of MCI

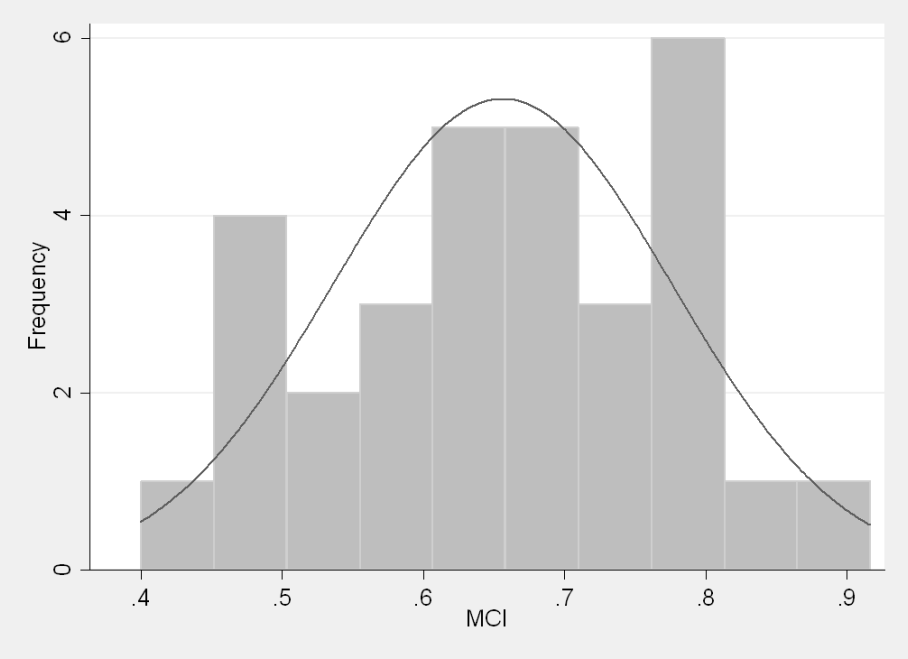
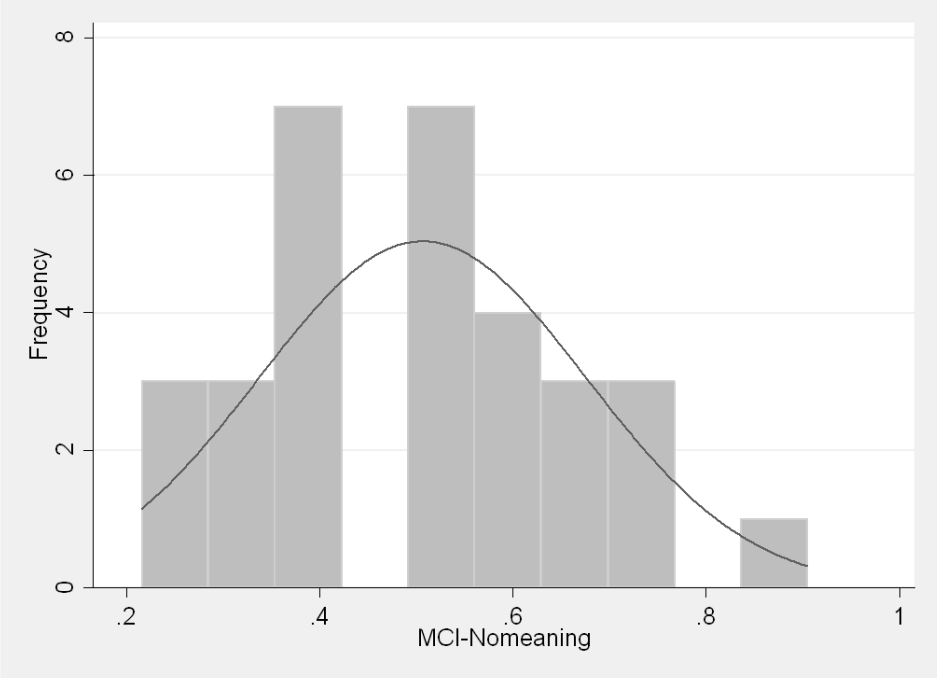


Figure 4.7 Distribution of MCI-articles



The answer to the first research question (how we can measure mission coherence in schools) is the Mission Coherence Index. In the next section, we can see how it relates to school operation.

Section 2: Is organizational mission coherence important in schools?

As theorized by the authors cited in chapter two of this work, increased mission coherence should lead to better outcomes. If this is true, we would be able to reject the first and second null hypotheses proposed in this dissertation:

H_{01}: There is no relationship between MCI and student test scores

H_{02}: There is no relationship between MCI and a set of school climate variables of interest

Table 4.4 presents the results of a Pearson's *r* correlation test between average school scores on the Wisconsin Knowledge and Concepts Exam (WKCE) and the schools' MCI. As Cohen (1988) lists, a correlation between .1 and .3 is considered small, but potentially significant. All four test scores returned small, positive correlations between MCI and MCI-articles and student test scores, with the scores in Math higher than in Reading. However, when subjected to significance testing, none of the findings, for the MCI-articles or the MCI exceeded a $p<.1$ threshold.

Table 4.4 Pearson's *r*- Correlation between MCI and Test Scores

	MCI	P-value	MCI-Articles	P-Value
4th Grade Reading	.10	.638	.08	.703
4th Grade Math	.20	.336	.13	.542
8th Grade Reading	.12	.568	.02	.926
8th Grade Math	.26	.224	.11	.597

But, as described in the introduction to this dissertation, it could very well be possible that the need for mission coherence might vary given relevant school characteristics. I initially hypothesized that low performing schools might need a more coherent mission, namely increasing student achievement, because until students learn the basic skills necessary for school success, they will be unable to do anything else. I surmised that on the opposite end of the spectrum, high performing schools might need less mission coherence, as they are a place that can give students and teachers, who might be more motivated or self-sufficient, more freedom to pursue topics of their interest.

In table 4.5.1 and 4.5.2 I broke the schools down by achievement tercile and correlated their results with their MCI-articles as well as MCI score. Low denotes the bottom third of schools in terms of performance in that given grade and subject, middle is the middle third, and high is the top third. Note, each tercile was created for that grade and subject, so it is not the same set of schools in each column.

The results of this analysis paint a complex picture. In terms of magnitude, it appears that mission coherence is associated with larger correlation for low performing schools than high performing schools, with large, negative correlations present in the middle of the distribution. However, when subjected to significances tests, the only finding to cross a threshold of $p<.1$ significance is the negative finding for 4^{th} grade math scores at the middle of the distribution. However, as there were 12 calculations made here, simple random chance is likely to result in at least one finding that exceeds a $p<.1$ threshold, so caution is warranted.

Table 4.5.1 Pearson's r Correlation by Tercile-MCI-articles

	Low	P-Value	Middle	P-Value	High	P-Value
4th Grade Reading	.17	.680	.08	.859	.05	.907
4th Grade Math	.00	.994	-.65*	.058	.05	.897
8th Grade Reading	.41	.313	-.51	.200	-.05	.901
8th Grade Math	.48	.228	.12	.783	.43	.288

4th Grade Reading School *N*=25, 4th Math *N=25*,Reading 8=24, Math 8= 24

Table 4.5.2 Pearson's r Correlation by Tercile-MCI

	Low	P-Value	Middle	P-Value	High	P-Value
4th Grade Reading	.13	.754	-.21	.621	.03	.944
4th Grade Math	.06	.887	-.60*	.086	.09	.820
8th Grade Reading	.39	.343	-.30	.478	.06	.867
8th Grade Math	.40	.327	.25	.544	.52	.186

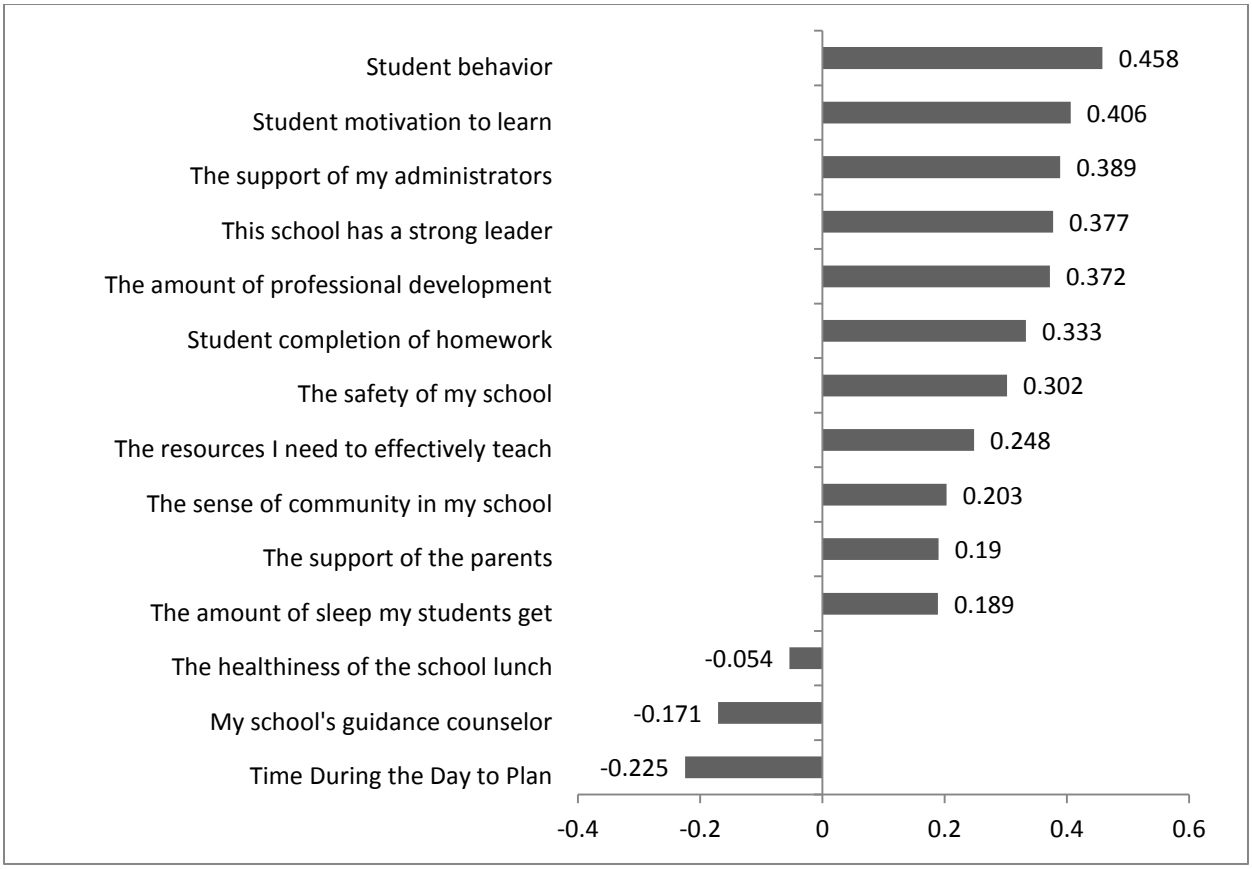
4th Grade Reading School *N*=25, 4th Math *N=25*,Reading 8=24, Math 8= 24

In addition to test scores, I used Pearson's *r* to correlate the MCI with items on the teacher survey concerning school climate and teacher satisfaction. Again, using Cohen as a guide, a "large" correlation is any score over .5 and a medium correlation is any above .3. The MCI has a large correlation with teachers' perception of parental support, the amount of sleep they believe their students get, and student completion of homework. As Table 4.6 shows, the MCI-articles has a medium (bordering on large) correlation with several important student characteristics, including student behavior, student motivation, student completion of homework. It has a smaller, though still "medium" sized correlation with measures of school leadership, including the support of administrators, the strength of the leadership of the school, and the amount of PD offered by the school. It has measurable positive correlation with school safety, resources, school community, parental support, and reports of student sleep. It does, though, also have two negative correlations with perceptions of the guidance counselor, as well as reported time in the day to plan. Figure 4.8 displays these results graphically.

Table 4.6 Correlation between MCI and other variables of interest

Question	Correl with MCI-Articles	P-Value	Correl with MCI	P-Value
Student behavior	0.458***	.010	0.397**	.027
Student motivation to learn	0.406**	.024	0.334*	.067
The support of my administrators	0.389**	.031	0.336*	.064
This school has a strong leader	0.377**	.037	0.351*	.053
The amount of professional development	0.372**	.040	0.454***	.010
Student completion of homework	0.333*	.067	0.304*	.097
The safety of my school	0.302*	.099	0.370**	.040
The resources I need to effectively teach	0.248	.178	0.453**	.012
The sense of community in my school	0.203	.273	0.315*	.084
The support of the parents	0.190	.301	0.239	.196
The amount of sleep my students get	0.189	.310	0.212	.252
The healthiness of the school lunch	-0.054	.977	0.001	.996
My school's guidance counselor	-0.171	.359	-0.034	.859
Time during the day to plan	-0.225	.223	-0.148	.430

Figure 4.8 Bar chart of MCI-Articles and other variables of interest



Section 3: Does organizational mission coherence vary based on the level of participation in the voucher program?

As mentioned earlier, some schools participating (or thinking about participating) in the voucher program expressed concern that they would have to deviate from their mission when they opened their doors to new students as a result of the program. To test whether these concerns were justified, I performed a simple test correlating the percentage of voucher students in the school and the school's MCI. This allowed for an evaluation of the third research hypothesis of this dissertation:

H_{03}: There is no relationship between voucher enrollment and average MCI

The result is displayed in table 4.7. While the negative sign is interesting and fits the theory of practitioners, the small correlation coefficient allows us to conclude with confidence that there is a relationship between voucher enrollment and mission coherence. This finding, one that will be echoed in later correlation calculations, could very well be driven by the fact that there is little variation in the variable measuring the percentage of students in the school that are receiving vouchers. Without significant variation in one of the variables measured by Pearson's *r*, there is little chance for measurable covariance.

Table 4.7 Pearson's r- correlation between % voucher and MCI

	MCI	P-Value	MCI-Articles	P-Value
% Voucher	-.08	.672	-.09	.644

Section 4: How does organizational mission manifest itself in religious schools participating in the Milwaukee Parental Choice Program?

The fourth research question of this dissertation is, by far, the most complicated to answer. However, the additional data that can be brought to bear allows for a level of analysis deeper than what was able to be applied to the MCI.

First, it is important to have a general understanding of the landscape of religious schools in the Milwaukee Parental Choice Program at the time of this study. Table 4.8 gives basic descriptive statistics of religious schools participating in the program. As it displays, religious schools make up the lion's share of schools participating in the program. They also enroll the vast majority of students that participate in the program. Of the religious schools, it is perhaps easiest to think of the program as split into approximately three equal portions of Catholic schools, Lutheran schools, and other religious schools. The schools studied here, as outlined in Table 4.10, follow approximately this same pattern although with a slight underrepresentation of "other religious" schools. In total, this analysis was based on responses from 13 Catholic

Schools, 13 Lutheran Schools, and 4 other religious schools. One school that participated in the overall study was non-religious and is not included in this part of the analysis.

Table 4.8. Religious Affiliation of MPCP Schools 2010-2011

Affiliation of Religious Schools	Total	Percent of participating schools	Percent of MPCP students attending
Religious	90	85.7	84.2
Non-Religious (with a religious tradition)	7	6.7	6.7
Non-religious (secular)	8	7.6	9.2
Religious Schools by Denomination			
Catholic	34	37.8	44.7
Lutheran (WELS/LCMS)	26	28.9	27.2
Christian, non-denominational	17	18.9	14.1
Church of God in Christ	5	5.6	5.9
Apostolic/Pentecostal	2	2.2	2.3
Islamic	2	2.2	4.4
Seventh-Day Adventist	2	2.2	0.6
Jewish	1	1.1	0.8
Baptist	1	1.1	0.5

Adapted from McShane et al (2012)

To measure religious identity, I created an index of the responses on a series of likert-scaled questions regarding both the individual and collective importance of religion in the school (RII). As a reminder, those seven questions were:

1. *Teaching at this school deepens my faith*
2. *My religious convictions guide my life*
3. *I agree with the major teachings of my religion*
4. *My school encourages me to practice my faith*
5. *My school gives me opportunities to express my faith*
6. *I pray often*
7. *The religious identity of this school is important*

I computed a school level average of the responses, and that number, which could range from 0-4, was used in the analyses that follow. Table 4.9 presents the descriptive statistics on the RII across the 30 schools in the sample. The average is high, and the minimum across all of the schools is still past the mid- point, denoting that, on average, all participating schools found religious identity to be an important facet of their operation.

Table 4.9 Religious Identity Index Descriptive Statistics

	Religious Identity Index
Mean	3.407
Min	2.807
Max	3.896
Standard Deviation	0.289

Figure 4.9 displays the distribution of RII scores. Minus a spike just below the mean and another, much smaller spike towards the right tail of the distribution, the RII follows a relatively normal distribution.

Figure 4.9 Histogram of RII Score Distribution

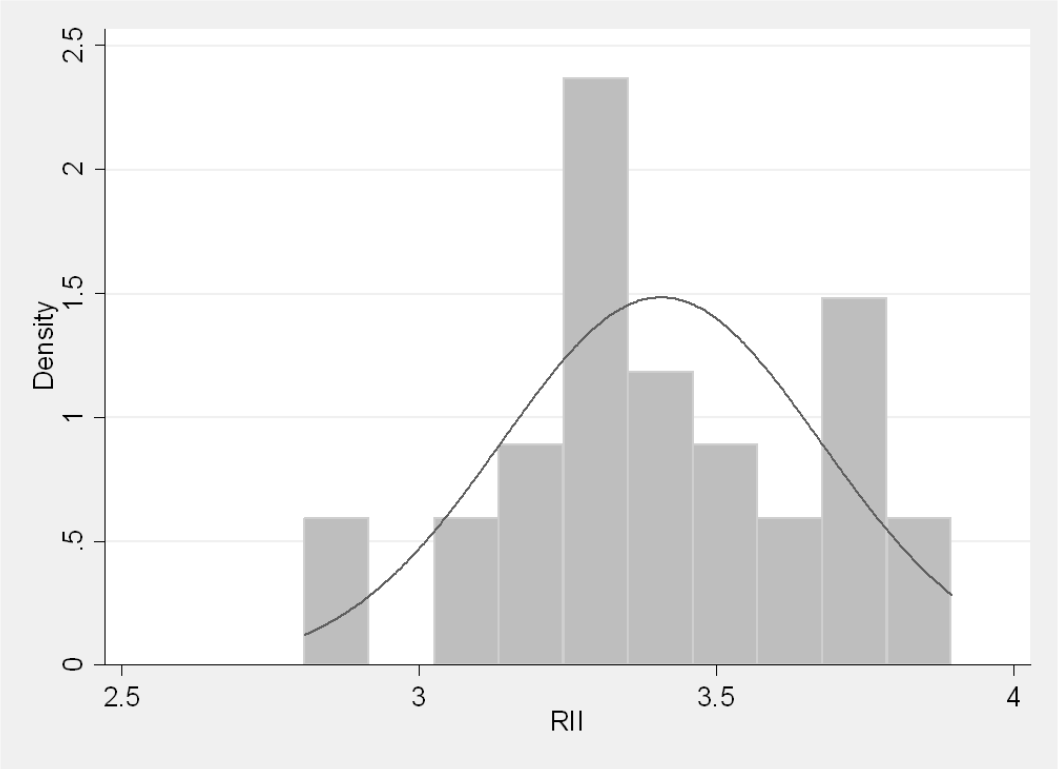


Table 4.10 breaks religious identity down by the religious affiliation of participating schools. Catholic schools were found to score the lowest on the RII with the average for Lutheran schools over a full standard deviation (of the total population as listed in table 4.9), higher than the average for Catholic schools and the other religious schools scoring just over .55 standard deviations higher as well.

Table 4.10 Religious Identity Index Descriptive Statistics by Religious Affiliation of School

	N	Mean	Min	Max	Standard Deviation
Catholic	13	3.263	2.810	3.534	.195
Lutheran	13	3.593	3.155	3.896	.202
Other Religious	4	3.420	3.286	3.743	.216

Given basic descriptive statistics, it appears that the RII is discerning enough to pick up differences across sects, but it is also important to determine if the scale is reliable. Table 4.11 presents the result of the computation of Cronbach's Alpha for the scale. Cronbach's Alpha is a measure of reliability, meaning that it measures how much the various items on a scale measure the same construct (Kline 1999). While there are no hard and fast rules regarding interpreting Cronbach's Alpha, Kline states that an Alpha score greater than or equal to .9 is considered excellent, while a score of .8 to .9 is considered good. With an Alpha score of .882, the RII is right on the cusp of excellent, but still well within the threshold to be considered reliable. The Alpha calculation also gives some statistics about the individual items themselves. The first results column of table 4.11 gives the "item-test" correlation, which measures how much that individual item is correlated with the overall scale (with it included). The "item-rest" correlation measures how well that item is correlated with the overall scale minus that particular item. The "Alpha" result lists what the overall score would be absent that item. All of the items are highly correlated with both the overall scale and each other, and removing an item would be harmful in all cases but two, when the overall score would increase by less than one one-hundredth of a point.

Table 4.11- Cronbach's Alpha for the RII

	Item-test correlation	**Item-rest correlation**	**Alpha**
RII			**.882**
Teaching at this school deepens my faith	.622	.498	.885
My religious convictions guide my life	.858	.791	.849
Agree with major teachings of my religion	.768	.686	.864
School encourages me to practice faith	.907	.867	.841
School gives opps. to express faith	.851	.789	.851
I pray often	.702	.617	.873
Religious ID of school is important	.730	.570	.890

Now that it is clear that the RII is a valid and reliable means of determining the religious identity of a school, it is possible to examine its relationship to a variety of other variables. This will allow a test of the fourth, fifth, and sixth research hypotheses of this dissertation:

H_{04}: There is no relationship between the Religious Identity Index (RII), the tool I developed to measure religious identity in schools and the MCI

H_{05}: There is no relationship between the RII and voucher enrollment

H_{06}: There is no relationship between RII and student test scores

First, we can correlate RII with the percentage of students in the school that receive vouchers. There is reason to believe that schools that enroll a higher percentage of voucher students would be less religiously orthodox, as many of those students would not be from the religious traditions of the organizations that sponsor the school. Table 4.12 presents the results of a Pearson's r correlation calculation between the percentage of students attending the school on vouchers and the RII score. There is little evidence that there is a relationship between these two constructs, though, as stated above, there is little variation in the variable measuring the voucher enrollment, which could drive that lack of correlation.

Table 4.12 RII and % Voucher

	Pearson's r correlation with % Voucher	**P-Value**
RII	-.0005	.998

We can correlate RII and student test scores to see if the focus on religion adds to or detracts from efforts to increase student achievement. Table 4.13 shows a clear, though small, negative correlation between the religious identity index and student test scores. All fall within the "small" range, but fail to clear a t-test of significance.

Table 4.13 RII and Student Test Scores

Grade and Subject	Pearson's *r* correlation	P-Value
4th Grade Reading	-.15	.473
4th Grade Math	-.22	.292
8th Grade Reading	-.19	.369
8th Grade Math	-.10	.626

Next, we can correlate the RII with the MCI and see if there is a connection between religious identity and mission coherence. It would stand to reason that schools that have a significant religious identity should also have strong mission coherence, as their mission would be their religious activities. To test this hypothesis, table 4.14 presents the results of the correlation between MCI and RII. Overall, the correlation between the two sits right on the cusp of Cohen's definition of a medium-sized correlation. However, for individual subtypes of schools the picture is more varied. For Catholic schools, there is a much stronger correlation, with the .49 coefficient sitting on the cusp of a large correlation. Lutheran schools fall closer in line to the average, but other religious schools actually have a negative correlation, albeit a small one, between MCI and RII.

Table 4.14 Pearson's r Correlation between RII and MCI

	Correlation with MCI	P-Value	Correlation with MCI-Articles	P-Value
RII	.29	.116	.29	.115
RII-Catholic	.49	.087	.45	.120
RII-Lutheran	.26	.383	.15	.619
RII-Other	-.14	.861	.05	.949

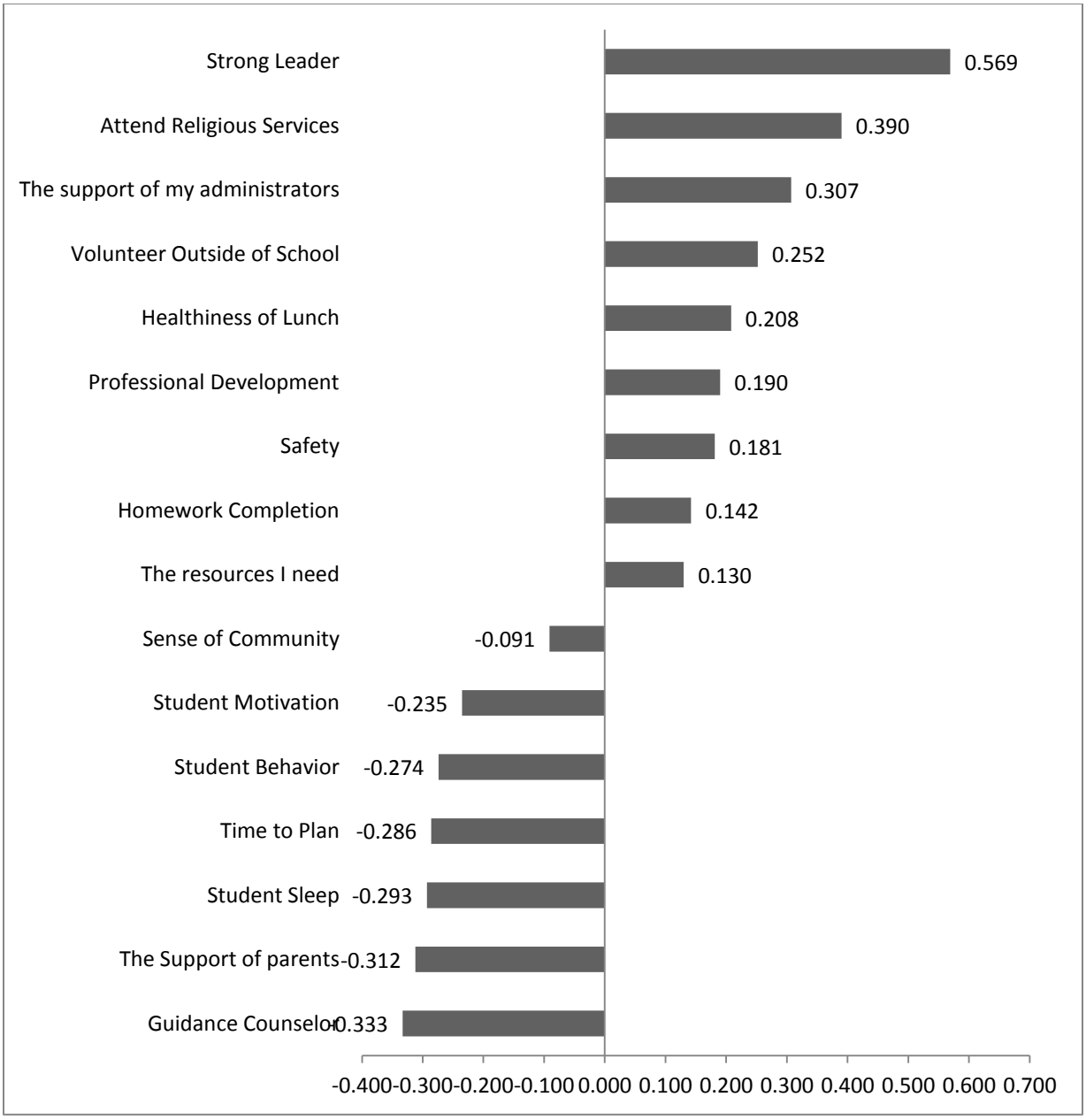
It is also possible to correlate the RII with the same variables of interest that the MCI was correlated to earlier. Table 4.15 presents those results along with the responses to two additional questions, "How often do you attend religious services outside of school" and "how often do you

volunteer outside of school." As would be predicted, the highest correlation with the RII is the increased self-reported attendance at religious services. That correlation, along with the correlation for support from administrators, sits within the "medium" sized correlation range. In the "small" range are self-reported voluntarism outside of school, the healthiness of lunch, the amount of professional development, safety, student homework completion, and the resources that the teacher needed. Interestingly, there are a large number of negative correlations as well. Student motivation, student behavior, time to plan, and reported satisfaction with the amount of sleep students get are all in the "small" range, while parental support and satisfaction with the school's guidance counselor are in the "medium" range. Figure 4.10 displays these graphically

Table 4.15 Correlation Between RII and other Variables of Interest

	RII	P-Value
Strong Leader	0.569	.001
Attend Religious Services	0.390	.030
The support of my administrators	0.307	.093
Volunteer Outside of School	0.252	.172
Healthiness of Lunch	0.208	.260
Professional Development	0.190	.307
Safety	0.181	.329
Homework Completion	0.142	.447
The resources I need	0.130	.486
Sense of Community	-0.091	.628
Student Motivation	-0.235	.203
Student Behavior	-0.274	.136
Time to Plan	-0.286	.118
Student Sleep	-0.293	.110
The Support of parents	-0.312	.087
Guidance Counselor	-0.333	.067

Figure 4.10 Pearson's r correlation between RII and other Variables of Interest



Finally, in a corollary to research question #3 (which asks how mission changes in schools as they participate in the program) this final set of analyses will examine how religious identity changes over time. This analysis brings to bear the longitudinal survey data described in chapter three and tracks questions of religious identity and statistics on enrollment over several

years of schools' participation in the Milwaukee Parental Choice Program. These data will allow a test of the final two research hypotheses of this dissertation:

> *H_{07}: There is no relationship between the answers given to the question on the principal survey regarding religious mission and voucher enrollment*
>
> *H_{08}: The opinions of school leaders about religious mission remain constant over time, even with changes in voucher enrollment.*

As described in chapter three, these data were derived from a yearly survey of principals of participating schools. This survey had an extremely high response rate (over 95% every year it was administered) and thus has more observations than the data set used to make the calculations above.

Figure 4.11- Frequency of Responses for Religious ID Question

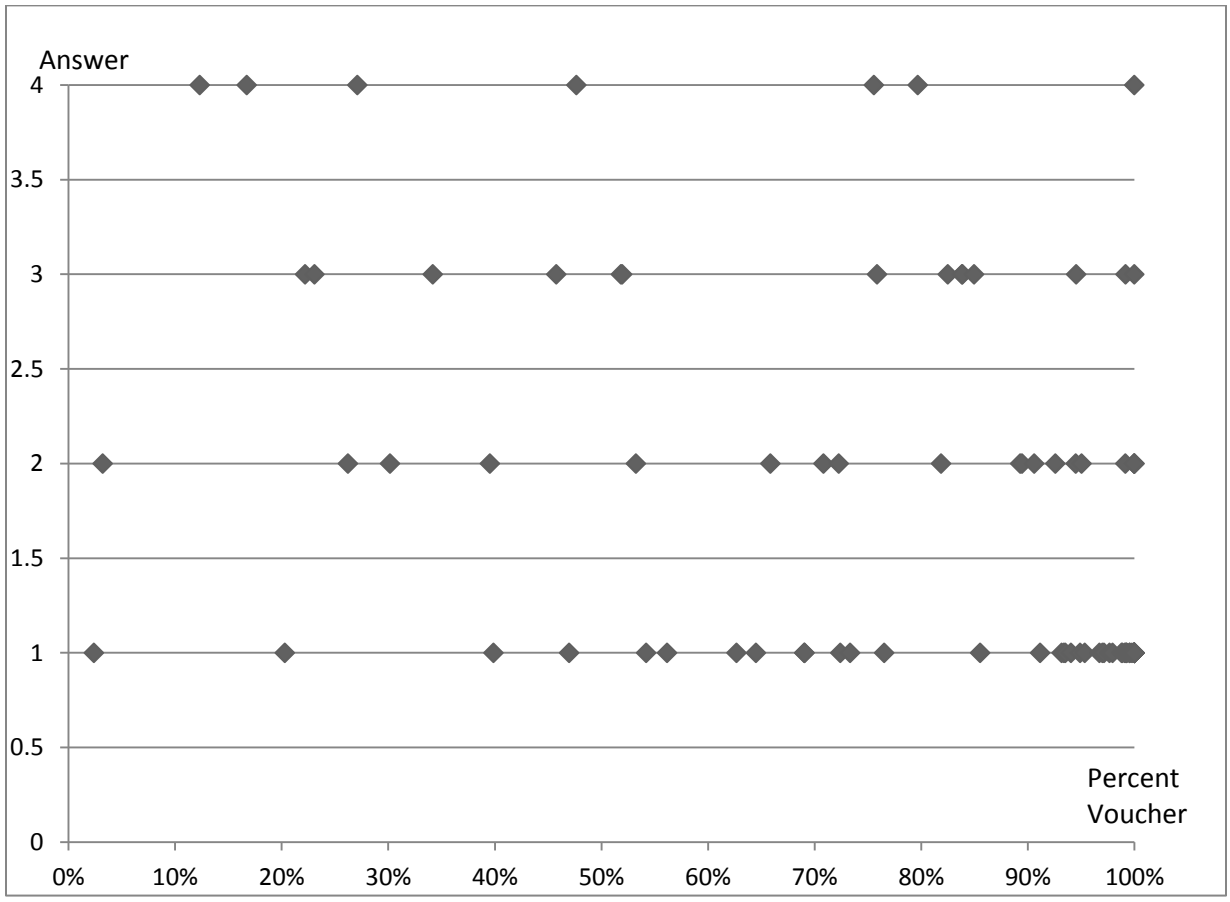


Figure 4.11 illustrates a scatter plot of the 2006-2007 survey answers with the percentage of voucher students in a school as the x-axis and the principal's answer as the y axis. The answers have been coded 1 through 4 with 4 being the most religiously orthodox (answer A) and 1 being the least (answer D). The modal answer was 1 (answer D) with 46 responses. The second most popular answer was 2 (answer C) with 19 responses, followed by 3 (answer B) with 14 responses, and 4 (answer A) with 7 answers.

Table 4.16 Univariate Logistic Estimate Results: % Voucher on Answers

Variable	Coefficient (Standard Error)	P-Value
Answer A Estimate		
Percent Voucher	-2.95* (1.26)	.019
Answer B Estimate		
Percent Voucher	-1.19 (0.95)	.208
Answer C Estimate		
Percent Voucher	-0.61 (0.90)	.498
Answer D Estimate		
Percent Voucher	2.31** (.82)	.009

N=87 * p<.05, ** p<.01

What is graphically displayed in Figure 4.10 is explained more clearly in the univariate and multivariate logistic regressions presented in Tables 4.16 and 4.17. In Table 4.16, four separate logistic regressions were run to determine the effect of the number of voucher students in the school on the probability of answering each of the four possible survey answers. The results for answer A on the survey (stating that the school is the most religiously orthodox) present a statistically significant ($p < .05$) negative finding implies that a 1% increase in the proportion of voucher students in the school decreases the likelihood of answering A on the survey question by 2.95%. Neither the estimate of answer B nor the estimate of answer C was statistically significant in its association with the percentage of voucher students, though the size

and the direction of the point estimates are interesting, both negative (meaning that more voucher students make it less likely to provide either of those answers) but smaller than answer A. Finally answer D has a statistically significant positive ($p<.01$) coefficient, implying that a 1% increase in the proportion of voucher students in a school increases the likelihood of answering D by 2.31%. This means that the more voucher students a school had, the more likely it was to select the least religiously orthodox answer on the survey.

To estimate the effect of changing proportions of voucher students over time, the difference between 2006-2007 voucher proportions and 2010-2011 voucher proportions were computed and compared to the changes in survey answer questions on the 2006-2007 survey and the 2010-2011 survey.

Fig 4.12 Scatter plot of religious mission question over time

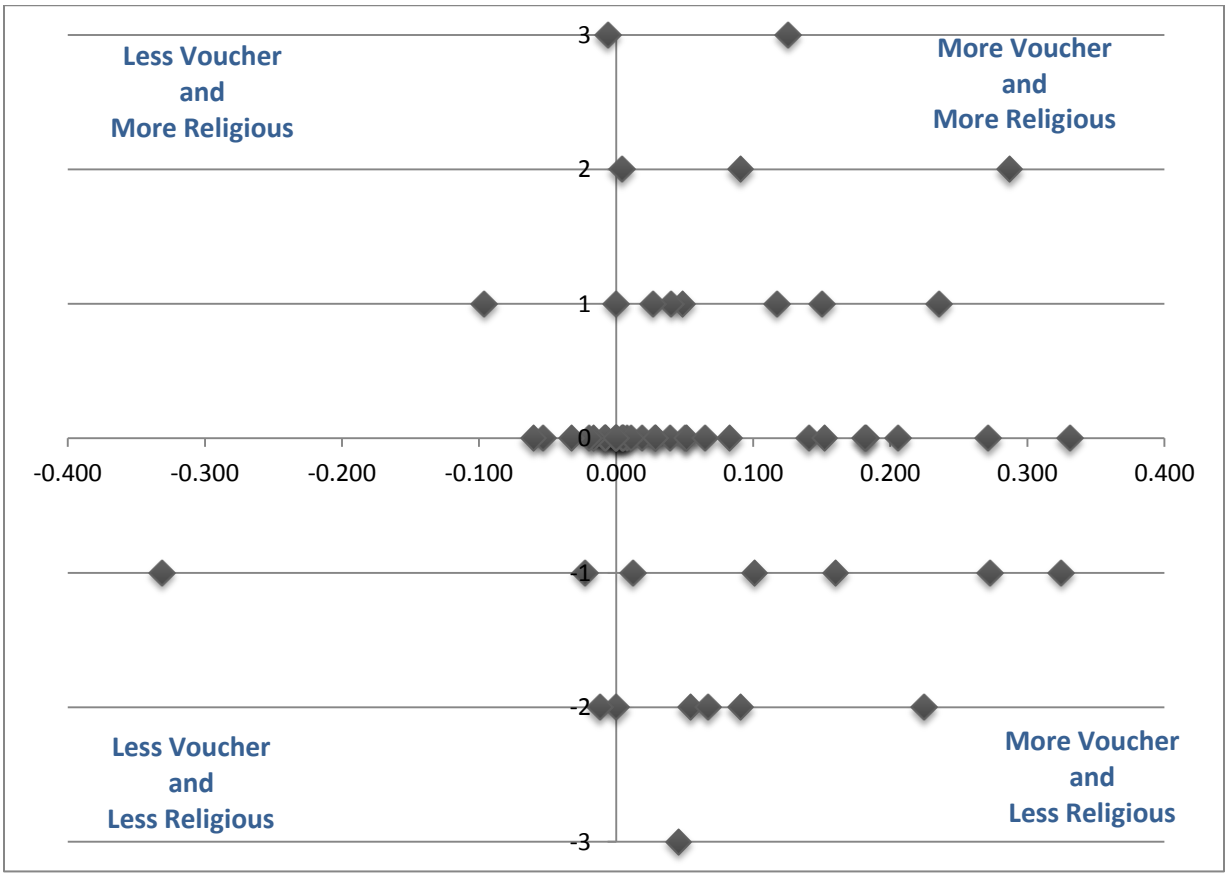


Figure 4.12 presents a scatter plot with the differences in voucher enrollment on the x-axis and changes in survey responses on the y-axis. The modal response difference on the survey was zero, with 32 school principals giving the same answer in 2010-2011 that they gave in 2006-2007. Sixteen schools earned negative scores, meaning that they became less religious over the time period. Specifically, nine schools earned a value of -1, six earned a value of -2, and one earned a value of -3. Fourteen schools earned a positive score, meaning that they became more religious over the time period. Specifically, nine schools earned a value of 1, three schools earned a value of 2, and two schools earned a value of 3.

Table 4.17 Ordered Logistic Regression Results on Changes

Variable	Coefficient (Standard Error)	P-Value
Percent Voucher Marginal Effect	-0.008 (.037)	.834

N=58

Table 4.17 confirms analytically what 4.12 presents visually, that there is no systematic relationship between changes in the proportion of voucher students over time and the principal's answer on the religious identity survey question.

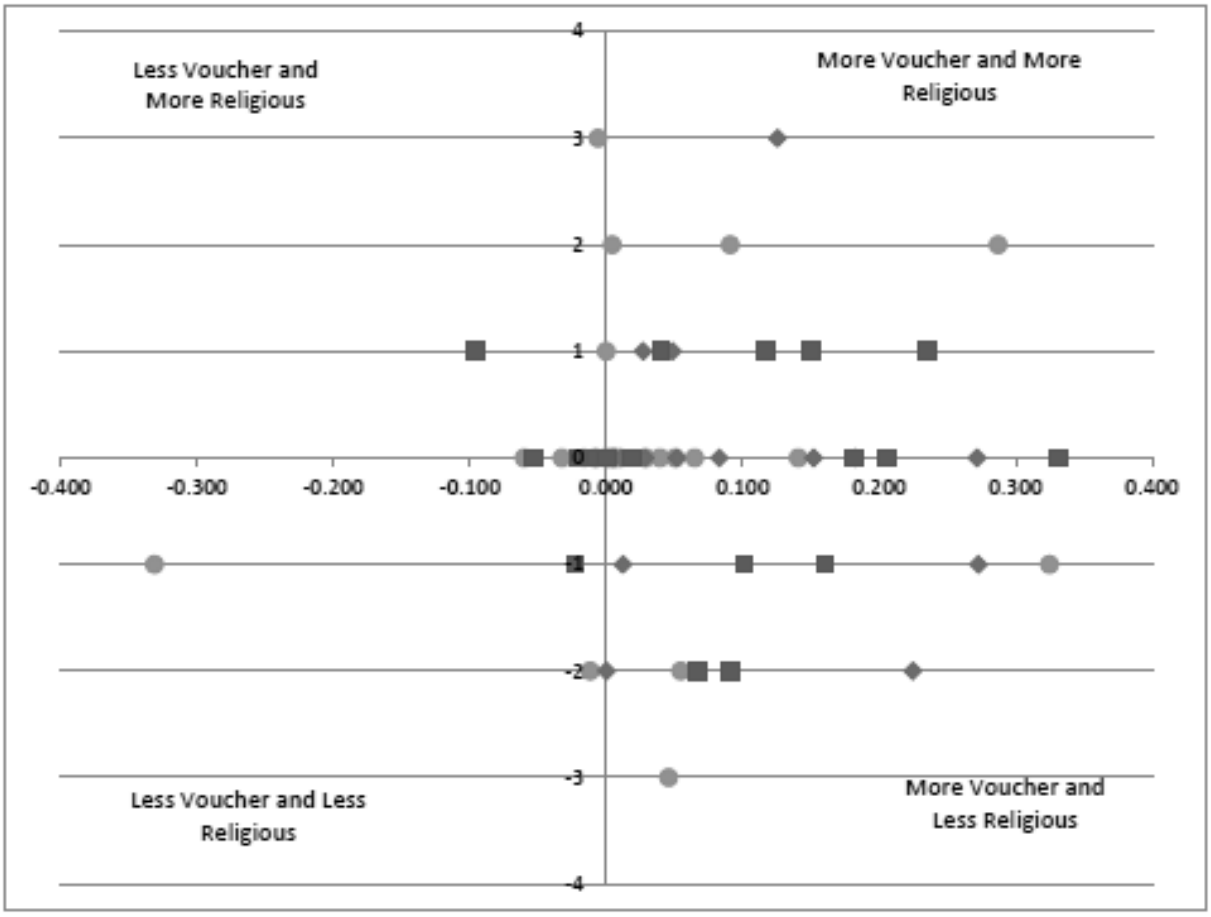
But does this vary by religion? From the results in Table 4.18 and Figure 4.13, the graphic display of the same scatterplot, broken down by religion, it is clear that the result is the same. There is no systematic relationship between changes in the proportion of voucher students over time and the principal's answer on the religious questions, and it holds for all three types of religious schools. In figure 4.13, the Orange circles denote schools in the "other religion" category, the red squares denote the Catholic schools and the blue diamonds denote the Lutheran schools.

Table 4.18 Ordered Logistic Regression Results on Changes

Variable	Coefficient (Standard Error)	P-Value
Percent Voucher Marginal Effect-Other	.020 (.277)	.943
Percent Voucher Marginal Effect-Catholic	.034 (.338)	.929
Percent Voucher Marginal Effect-Lutheran	.073 (.405)	.857

Catholic N=17, Lutheran N=18 , Other N=23

Fig 4.13 Scatterplot of religious mission question over time by religion



In the final chapter, I will interpret these results and contextualize them in the broader conversation about mission, religion, and participation in school voucher programs.

Chapter 5- Conclusion

During his first inaugural address in 1993, Bill Clinton famously said "there is nothing wrong with America that cannot be fixed by what is right with America." Is the same true for schools? Are schools that are so vulnerable to principal-agent problems able to be fixed by the principled agents that work within them? Do such individuals exist? If so, can we develop them, motivate them, support them, and leverage their vigor for the betterment of children across the country?

These are the fundamental questions that motivated this dissertation.

A first pass through the most prominent theories of bureaucracy gives hope that organizations with coherent missions can overcome principal-agent problems. From Wilson's case studies of the FBI and Forestry Service to Downs' aggregation of mission-building activities, there is a consensus that mission is important, and can be developed through strong, purposeful leadership. It is through that shared purpose that even large organizations function smoothly. In strong-mission organizations, information is passed up the ranks undistorted and autonomous individual workers need less supervision because they know the expectations placed on them as well as their broader role within the organization.

On deeper inspection, that same literature argues that such organizations can also engender principles into their operators that cause them to go above and beyond their simpler duties. DiIulio's case study of the federal Bureau of Prisons shows an organization that instills feelings of pride and camaraderie in its workers and motivates them to do dangerous work for little pay because they believe in it and in their coworkers. Principled agents do exist, and organizations can nurture and leverage them.

In a way, his case study can be summed up in one story that he told on the changing of the logo of the organization. When the leaders of the BOP decided to "update" the crest and shield, much of the old guard workers were upset. DiIulio tells the story of a young guard asking one of the veterans what the big deal was and arguing that they shouldn't really care if the organization decided to change the logo. One of the old hands punched him in the face. When blood started falling out of his nose, he told the young man that the old guys had bled for that logo, and now he had too. To have an organization that has developed a culture so powerful as to invoke physical violence over changing its logo shows just how powerful organizational mission can be.

Schools that participate in choice programs are ripe for the development of coherent missions. Yes, it is true that there is a wide variance in what different thinkers believe schools should do. Some emphasize traditional subjects, others political involvement, and still others advocate for the development of entrepreneurial skills. Some thinkers reject all of these and urge schools to teach students how to upset the social order and bring down the hegemonic power structures that they believe oppress the masses of the human population. However, because choice programs allow for different groups to start schools and families to freely choose between them, a more pluralistic system of individual mission-oriented organizations has the chance to develop. While the overall system might not have a coherent mission, the individual organizations can. This dissertation set out to determine how mission is made manifest in these schools, and what, if any, effect that has on student performance.

My Analysis

In order to move the discussion of mission coherence out of the theoretical realm and into the quantitative, I set out to measure, quantify, and analyze the level of mission coherence of 31

schools that participated in the Milwaukee Parental Choice Program. I used survey responses of 366 teachers within those schools, paired with survey results of principals given in two time periods, with 87 responses in the first administration and 56 in the second.

These two data sets were used to create the Mission Coherence Index (MCI) and the Religious Identity Index (RII), two measures of the ideological temperament of the schools. The MCI was created from an open-ended survey response that asked teachers to write the mission of their school in 50 words or less. The index is simply the number of words the teachers had in common (minus articles and conjunctions) divided by the total number of words used by teachers in the building. The RII was an index of averaged Likert responses on seven questions of both personal and school-wide religious identity and mission.

These scales were included in a series of correlation calculations in order to test hypotheses connected to the four main questions that guided this dissertation. To review, those questions were:

1. *How can we measure organizational mission coherence in schools?*
2. *Is organizational mission coherence important in schools?*
3. *Does organizational mission coherence vary based on the level of participation in the Milwaukee Parent Choice Program?*
4. *How does organizational mission manifest itself in religious schools?*

One by one, here are the hypotheses, and my conclusions based on those statistical analyses.

H_{01}: There is no relationship between MCI and student test scores

The empirical analyses cannot reject this null hypothesis. The Pearson's *r* correlation coefficient between the scores of the MCI-articles measure and test score ranged from 0.02 to 0.13. Though two of the scores crossed Cohen's 0.1 threshold for what would be considered a

"small" positive correlation, none possessed a p-value of <0.1. Broken down by achievement tercile, some values were large in terms of magnitude, with 8th grade reading and 8th grade math for the lowest performing schools exhibiting a 0.41 and 0.48 correlation with the MCI, but with p-values of .313 and .228 respectively, it is not a definitive enough finding to elicit rejection of the null hypothesis.

H_{02}: There is no relationship between MCI and a set of school climate variables of interest

The empirical analyses can partially reject this null hypothesis. The correlation coefficients between the various constructs ranged from 0.458 to -0.23, causing a differentiated interpretation of the results. These factors tended to group together, with teacher-reported student positive behavior metrics (satisfaction with student behavior and student motivation) the two strongest correlates to the MCI. The next three, all above a 0.3 correlation, were measures of the leadership of the school (support of administrators, this school has a strong leader, and the amount of professional development). Three of the next four largest dealt with the community of the school (school safety, sense of community, and support of parents). All of these had a correlation coefficient of greater than 0.2. While such measures are admittedly "noisier" and more qualitative than student test scores, the fact that the constructs grouped together so clearly gives confidence that these are an accurate representation of the situation in schools. Of these variables, student behavior was significant at the $p<0.01$ level, student motivation, support of administrators, strong leadership, and professional development were all significant at the $p<0.05$ level, and student completion of homework and school safety were significant at the $p<0.10$ level.

H_{03}: There is no relationship between voucher enrollment and average MCI

The empirical analyses cannot reject this null hypothesis. The Pearson's *r* correlation coefficient between the MCI and the percentage of voucher students in the school was extremely small, -0.09, and the p-value of 0.644 put it nowhere near significance. There is no discernible relationship between voucher enrollment and average MCI.

H_{04}: There is no relationship between the Religious Identity Index (RII), the tool I developed to measure religious identity in schools, and the MCI

The empirical analyses cannot reject this null hypothesis, but it is close. The Pearson's *r* correlation between the MCI and the RII was 0.29, with a p-value of 0.115. While it did not cross the threshold most often used to determine significance ($p<.10$), having 88.5% confidence that it is not due to random chance is substantial. The correlation was especially pronounced in Catholic schools, as their Pearson's *r* coefficient was 0.45 with a p-value of 0.12. Again, this did not cross a traditional threshold for significance, but gives us 88% confidence that it is not due to chance.

H_{05}: There is no relationship between the RII and voucher enrollment

The empirical analyses cannot reject this null hypothesis. The Pearson's *r* correlation coefficient between the RII and the percentage of voucher students in a school was just barely below zero, -0.0005, and had a p-value of .998. That shows absolutely no discernible relationship between those two variables.

H_{06}: There is no relationship between RII and student test scores

The empirical analyses cannot reject this null hypothesis. The correlations between the RII and test scores were greater than the correlations between the MCI and test scores, and while all ranged in magnitude from -0.1 to -0.22, none had a p-value less than .292.

H_{07}: There is no relationship between the answers given to the question on the principal survey regarding religious mission and voucher enrollment

The empirical analyses can reject this null hypothesis. A consistent pattern developed in the univariate probit estimates of the probability of answering a particular response on a survey question on the religious mission of schools. For the question at the low end of the scale, which stated "our school exists to provide a high-quality academic education in the context of a safe, nurturing environment", a 1% increase in voucher enrollment made the principal 2.31% more likely to select that answer. For the question at the opposite end, the most religiously orthodox, which read "Our school exists to provide the children of parish members with a thorough training in the Scripture, the doctrines of the church, and in preparation for the sacrament", a 1% increase in voucher enrollment made the principal 2.95% less likely to select that answer. The multinomial logistic regression added a bit of a wrinkle to this though, as it found that the marginal effect of increasing the proportion of voucher students increases the likelihood of answering a higher numbered (more religiously orthodox) response on the survey.

H_{08}: The opinions of school leaders about religious mission remain constant over time, even with changes in voucher enrollment.

The empirical analyses cannot reject this null hypothesis. The results of the ordered logistic regression on the changes in answer on the survey and percentage of voucher students was a miniscule -0.008, with a p-value of .834, demonstrating no discernible relationship.

Conclusions

In total, these findings offer a complex picture of the role of mission and religious identity in these schools. If mission coherence is related to student achievement, as the interpretation of the magnitude of the correlation coefficients suggests, that relationship exists in a very noisy milieu that muddles any calculation of significance. This gives some inkling that there is a relationship between mission and student achievement as measured by average student test scores, but in no way makes a definitive link.

The large correlations with various school characteristics offer a bit clearer picture. It does appear that mission is related to the types of student behaviors that would elicit better performance. The largest correlations were related to student behavior, and it appears that in more mission-coherent schools, students behave better and work harder. While this does not clearly show up in their test scores, at least measured in aggregate, it could lead to any number of other outcomes, like increased graduation rates, college attendance or enlistment in the military, or other pro-social behaviors that will lead them to better lives. It also stands to reason that (as I will discuss later) because I measured levels of achievement and not growth the low performing schools on my measure are actually adding more value, but starting in a lower place.

The fact that there is no correlation between voucher enrollment and mission coherence is, quite frankly, a bit surprising. Given the anecdotal evidence cited in the introduction to this dissertation, it appeared that there would be some reluctance on the part of school leaders of more mission-coherent organization to limit the number of voucher students that they admitted, for fear of diluting their mission. That does not appear to have happened. Now, much of this could be driven by the fact that the schools in the sample were predominately voucher-majority schools, with an average voucher enrollment over 80%. However, that is the picture of schools that participate in the Milwaukee Parental Choice Program. While there is little variation in the sample, there is little variation in the population, so we can have confidence in an extrapolation of those findings. Having more voucher students in a school is not related to having a less coherent mission.

These questions become particularly interesting in the context of religious schools. In a way, religious schools have multiple missions. First and foremost, they are schools, not simply ministries, so they have an academic focus. But that academic focus is twinned with a focus on

spiritual, moral, and religious formation of students. Through the various analyses contained herein, I examined the role of mission and religious identity, as well as religious identity independently as it relates to school performance.

One of the first analyses, simply describing religious identity across the three sectors of religious schools (Catholic, Lutheran, and Other Religious) is quite interesting. Catholic schools were found to score a full standard deviation lower than Lutheran schools and more than half a standard deviation lower than other religious schools on the RII. Given the generally laudatory research on Catholic schools, not the least of which was the intense, positive discussion of mission, culture, and community contained within Bryk, Lee, and Holland (1993), this is unexpected. While I cannot offer much more in terms of quantitative analysis, through my work as part of the team of investigators that did the school site visits that become Stewart, Jacob, and Jensen (2012), I was struck by the religiosity of the Lutheran schools that I visited. From the principals to the teachers, the Lutheran schools that I visited were deeply religious, often starting the day with a vespers-like prayer service and frequently mentioning their "call" to teach in a Lutheran school. Many of the schools in Milwaukee, particularly those affiliated with the more doctrinally conservative Wisconsin Evangelical Lutheran Synod (WELS) recruit their teachers from the same, limited number of WELS-affiliated teacher preparation programs in the upper Midwest. As such, it appears that they have done well in developing the type of mission-oriented employees that Downs and Wilson argue are necessary for successful organizations.

It should also be noted that Catholic schools still scored high on this measure. With an average score of 3.26 out 4, it is hard to say that Catholic schools are not deeply religious in their orientation, just not as much as their other denominational counterparts.

But, the variation (shown in table 4.14) between the MCI-RII correlations across sectors deserves some discussion. The Catholic schools had the strongest correlation, with a large magnitude 0.45 and a p-value of 0.12. There was, however, a precipitous drop off with Lutheran schools, with a .15 correlation and a p-value of .619 and other religious schools with a .05 correlation and a .949 p-value. What explains this? In starting with the clearest result, I think that the finding for other religious is the easiest to explain, as the sample size for those schools (4) is so small that is next to impossible to detect any kind of relationship. On the opposite end of the spectrum, the Catholic response being so close to significant explains that the relationship between the religious mission and overall mission of the schools are closely intertwined. It is the Lutheran schools in the middle of the pack that make the picture less clear. One clear explanation is the synod-breakdown between the more religiously orthodox WELS schools (highlighted above) and the less religiously orthodox Evangelical Lutheran Chuch in America (ELCA) schools that are also in the sample. Given two subsets within a small sample of schools, any sort of division will be magnified and will skew the findings away from statistical significance.

Interestingly, and much like the MCI above, there appears to be little relationship between the RII and voucher enrollment. The coefficient for that relationship was practically, and statistically, indistinguishably different from zero. While this backs up the similar lack of a relationship between enrollment and the MCI, it will be complicated by some of the later analyses.

Interestingly, the relationship between RII and test scores, while not statistically significant, paints a more suggestive picture than the relationship between the MCI and test scores. Magnitude-wise, all of the coefficients for tested grades fall above the small correlation threshold of 0.1, and the largest, the -0.22 for 4^{th} grade math, comes the closest to significance,

though it is still far off. Intuitively, this would stand to reason. The more a school focuses on religion, the less it is able to focus on academics. However, while there is a small, suggestive relationship, this analysis does not definitively prove that such a tradeoff must be made.

The closest of all of the correlations to significance came between the MCI and the RII. While not technically crossing the threshold of significance, my analysis has 88.5% confidence that the relationships between the MCI and RII are not due to chance. Again, this is intuitive, if your school has a strong religious identity that is its mission. However, given the somewhat muddy picture of religious identity and its interaction with student achievement, there appears to be some statistical noise that prevents a more clear connection from being made.

Interestingly, the RII does track in predictable ways to particular school climate variables. Not surprisingly, it has the strongest correlation to teacher self-reports of outside attendance of religious services. It also has substantial positive correlation to administrative support, reports of voluntarism, healthiness of school lunch, professional development, safety, student homework completion, and resources. However, unlike the MCI, there are also some strong negative correlations with variables more closely related to positive school culture. Student motivation and student behavior have negative correlations in the 0.235 to 0.274 range, and the largest is associated with having necessary time to plan at -0.286.

What explains these negative findings? It is possible that some of that time to plan is taken up by religious instruction, preparation for religious instruction, and religious services. If schools are working within typical school schedules and calendars, but are allocating time for religious activities, that could eat into teacher preparation time to the point that they would be displeased with the amount of time that they have. On the part of students, it is also possible that they simply dislike religious instruction. This dislike could manifest itself in their motivation and

behavior, which could, in turn, harm their academic achievement. This could also explain the slight negative correlation between religious identity and the sense of community in the school, as student rebellion against the religious orientation manifests itself as rebellion against the school as a whole.

The longitudinal data on principal perceptions of school mission present the most convincing and nuanced picture of religious identity and school culture. The lion's share of school leaders, in both administrations of the survey, chose the question identified as the least religiously orthodox. Given the fact that the vast majority of schools are also overwhelmingly filled with voucher students, there is a clear connection between higher voucher enrollment and the probability of selecting the survey answer that was least religiously orthodox. Interestingly though, at the opposite end of the spectrum, it is also true that the more religiously orthodox a school is, the less likely it is to enroll more voucher students. These initial participation decisions go in the expected directions, with less religiously orthodox schools open to admitting more voucher students and more religiously orthodox schools less inclined.

The multi-year nature of this particular question allows the construct to be tracked over time. The scatter plots of change in voucher enrollment and religious identity resemble more buckshot than any discernible pattern, and the statistical analyses back up the graphical display. The coefficient on the variable for change in voucher enrollment, with the change in religious identity as the dependent variable in the model, is not statistically distinguishable from zero. In fact, it is minuscule, and the p-value is 0.834. It is safe to conclude that change in voucher enrollment over time does not change religious identity, these constructs are determined at the outset of participation in the program. Even when schools are broken down by religion, the pattern, or more specifically, the lack of pattern, remains.

There is a challenge to that conclusion though; the voucher enrollment in schools does not change substantially over time. Therefore, the relationship should not either. While it is true that voucher enrollment does not change substantially for a large number of the schools in the sample, it is also true that that is the case for the population as a whole. Schools that participate in the program overwhelming serve voucher students, so the policy-, or more specifically, the practitioner-relevant question, "will my school change if we let in more voucher students?" is still answered with a "no."

Similarly, it is necessary to try and square the findings that while schools which are generally defined as less religiously orthodox are more likely to admit voucher students, there does not appear to be a relationship between the percentage of voucher students at a school and teacher reports of religious identity. One way to explain this would be simply through data limitations. The low *n* of the study, coupled with a lack of variation in voucher enrollment greatly increases the likelihood of a type II error in my analysis, a false negative. I might very well fail to reject that false null hypothesis because my study did not have the statistical power to detect it in the first place. Given the fact that the larger analysis of principal responses (which had an *n* of 87 and a wider variety of schools with respect to voucher enrollment) found clear, statistically significant results, it is likely that the Type II error explanation is the correct one.

However, it is also possible that there is a disconnect between the school leadership and the teachers. The larger study asked one person in each school what his or her opinion was on the mission of the school, and as Chubb and Moe argued, these goals might not at all be internalized within the rank and file teachers in the school. This means that this incongruous set of findings is driven by measurement error, with one of the two sets of responses not being true measure of mission in the school.

Implications

So what does all of this mean? First, this dissertation does not provide conclusive evidence that greater mission coherence will result in higher academic achievement for students. While it does find an association with other positive attributes of schools, it is less than clear that those will eventually lead to greater student performance. This finding could have occurred because the theorists on organizational mission were wrong, and that their case studies and personal observations simply deceived them into thinking that culture was important when it in fact was not. What is more likely is that one of the following three features of this dissertation failed to completely and accurately ascertain the construct of mission and the measurement of academic achievement.

Mission Agnosticism

This dissertation was purposefully agnostic in categorizing or classifying mission. Some previous works, as cited in chapter two (Blake 2011, Arshad 2003), when looking at mission statements or measures of mission attempted to classify them as either academic, child developmental, or any number of other terms based on what they appeared to emphasize. These authors' hypothesis would seem to be two-fold, first that organizations needed a coherent mission *and* that mission needed to be geared towards particular outcomes in order to increase student achievement. My hypothesis was more straightforward, that simply a more coherent mission, centered on whatever it wanted to be centered on, would be a necessary condition for success.

I also wanted to avoid subjectivity as much as possible in quantifying the measure of mission coherence. Asking people to write what they think in their own words is a subjective enough measure without an external viewer then trying to code and classify the various

responses. By simply counting the words and dividing them into a simple index, it had the purest and least biased measure of mission coherence possible.

However, it may be the case that the mission itself is more important than coherence around it. Perhaps even a less coherent mission, but one that is focused strictly on academic achievement, is more successful in increasing student achievement that a more coherent mission around child development, moral guidance, *and* academic performance. It was quite common for respondents to list multiple things that the school was trying to do for the students, and even in schools where there was high mission coherence, that is, where everyone wrote close to the same response, it could have multiple facets within. Take for example the popular KIPP motto "work hard, be nice" or the Notre Dame ACE Academies "college and heaven." If every teacher wrote those same things as the mission of their school, they would have an extremely coherent mission. However, that mission is not entirely geared towards academic achievement; there are other goals that the schools are working toward. Perhaps a school in which the teachers all talked about "college" but in slightly different ways would be less mission coherent (as I measure it), as each teacher has a different idea of what exactly it means to prepare a student for college, but are overall more successful because they are all pointing in generally the same direction.

It is also possible that many of these schools simply don't put academic achievement at the forefront of their priorities. In the education reform community, and the social science research community, observers and advocates like test scores and graduation rates because they are clear indicators that have been linked to better long-run life outcomes. But they do not tell the whole story, especially in predominately religious schools that see the spiritual and moral development of students as a high priority. So their coherent missions, and high measures of religious identity, are what they want for their schools, and test scores are simply not the best

measure of what they are aiming toward. As such, we should not be surprised when there is not a strong relationship between the two.

The distributional variance in mission needs

I attempted to examine mission coherence at various points in the achievement distribution of the schools, but dividing a sample of 31 into terciles does not leave a great deal of statistical power to make an inference. Therefore, seeing the magnitude of the findings, especially in the low end, gives some hint that there might be a relationship, but there simply was not enough power to have that relationship reach statistical significance. Perhaps increasing the sample would yield the power necessary to make such a conclusion, provided that the relationship held with the new data that would be added. Estimating this relationship would also be greatly aided by the use of individual student value-added data. The overall level of performance of a school masks the value that it possibly adds, as many of the schools in the bottom or middle tercile might be adding a great deal of value but simply starting with lower performing students. This leads to the third, general implication about this study, that student achievement could be measured better.

Mismeasurement of student achievement

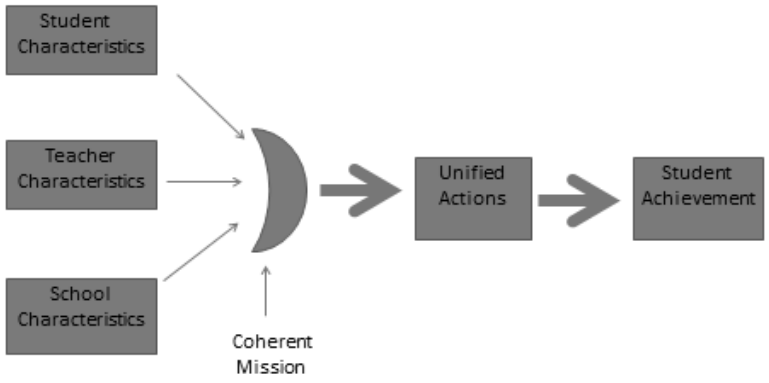
Student-level value added measures are superior to the school-level average of student test scores used in this dissertation (Glazerman et al 2010). Though, as Koretz (2008) points out, while clearly superior, even they should not be used as ultimate or sole measurement of performance. Unfortunately, given data restrictions, I was unable to measure student value-added. Hopefully, future research, conducted by myself and others, will be able to pair the MCI and RII with student-value added data to get a more accurate picture of its relationship with student achievement.

This can be coupled with the general data limitations that plagued this dissertation. Because there was an extremely low *n*, there was limited statistical power to discern relationships between the variables of interest. This is also coupled with the fact that there was not large variation in several of the important variables of interest (voucher enrollment for example). This line of research would be greatly aided by an increase in sample size, and the ability to sample from a population with greater variation in order to tease out meaningful relationships in the data.

Evaluating the logic model

In the introduction to this dissertation I postulated a logic model for schools with coherent missions (Figure 5.1).

Figure 5.1: Coherent Mission Logic Model



Given the results of my analyses, it would appear that there is a connection between the "lens" of mission coherence and the types of unified actions that would be expected to affect student achievement. The next step though, between those actions and ultimate student

achievement is less clear. At least, it is less clear when defining student achievement in terms of student test scores averaged at the school level.

Summation

From prisons to forests, investigation to education, we rely on bureaucracies and bureaucrats to provide much needed social services. It is in the interest of the country to ensure that these organizations function to the best of their abilities. As has been documented in many cases over many years, the level to which these organizations can define a problem to solve and have the freedom and ability to solve it, the more likely they are to succeed. Such success takes vision, leadership, recruitment, training, and continuous upkeep, but it is possible. Organizations, guided and focused by mission, can succeed in overcoming daunting challenges. Given the state of the American education system, the task of educators and the political leaders that oversee them stands as one of the most vexing and simultaneously important tasks of our society. Guided by mission, and empowered by freedom, our school system can serve our children, and make American society better as a result.

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