

Taking Attendance: Teacher Absenteeism across School Types

Albert Cheng
University of Arkansas
axc070@uark.edu

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Abstract

Teacher absenteeism has received increasing attention in educational policy research primarily due to its negative effects on student achievement, especially for students from disadvantaged backgrounds. Using ordinary least squares regression analysis and a nationally-representative sample of U.S. schools, I compare teacher-absence rates in traditional public schools to teacher-absence rates in private, magnet, and charter schools — alternatives often proposed to improve schooling, particularly in urban settings. I find that relative to traditional public schools, Catholic schools have lower rates of teacher absence. In exploring possible reasons for the differences, I find that the results are also consistent with the theory that mission coherency — an aspect of school culture denoting the extent to which members of a school community agree with and are influenced by espoused community norms and values — is an important predictor of teacher-absence behavior, but uncovering the exact causal mechanisms of teacher absenteeism requires additional analysis.

Taking Attendance: Teacher Absenteeism across School Types

Employee absenteeism has long been the subject of empirical and theoretical inquiry in human resource management and industrial organizational research (Chadwick-Jones, Brown, & Nicholson, 1973; Johns, 2003). But the study of absenteeism has only recently gained salience in the area of education policy, especially because teacher-absence rates are noticeably higher than absence rates for workers in other occupations. The U.S Department of Education (2007) estimates that approximately 4 percent of teachers are absent on a given workday, whereas estimates by the Bureau of Labor Statistics (2013) place the national absence rate for all full-time wage and salaried workers at 3.1 percent.

On one hand, teacher absenteeism incurs heavy financial costs as monies that could have been used for other purposes are directed towards providing substitute teachers (Roza, 2007). One estimate based upon national data calculates the annual cost of compensating substitute teachers at nearly \$4 billion (District Management Council, 2004). These funds also could have been better used to serve students in other ways.

More importantly, teacher absenteeism has garnered the attention of educational policy research because it harms student achievement (Ehrenberg, Ehrenberg, Rees, & Ehrenberg, 1991; Tingle, Schoeneberger, Wang, Algozzine, & Kerr, 2012). Such a result is unsurprising because the pace at which the curriculum is covered is delayed and the daily classroom routine is interrupted when a teacher is absent. Moreover, substitute teachers are typically less-qualified instructors than the teachers they replace. Herrmann and Rockoff (2010) conclude that the daily loss in student achievement resulting from having a substitute teacher is comparable to replacing an average teacher with one between the 10th and 20th percentile in terms of teaching effectiveness. Miller, Murnane, and Willet (2008) estimate that for every 10 days a teacher is

absent, student achievement in math falls by 3.3 percent of a standard deviation. Similarly, Clotfelter, Ladd, and Vigdor (2007) estimate that a student's achievement in math and reading falls by 1 to 2 percent of a standard deviation for every 10 days that his teacher is absent. Moreover, the negative effect of teacher absence on student achievement is especially a pressing issue for students from disadvantaged backgrounds. Clotfelter et al. find that teacher-absence rates are higher in schools serving a greater proportion of low-income students. Given these detrimental consequences of absenteeism, understanding the nature of teacher absenteeism is a worthwhile task for stakeholders in education.

Furthermore, policymakers have undertaken numerous efforts to improve educational opportunities for students from disadvantaged backgrounds. For instance, many have proposed expanding options for schooling by providing greater access to magnet, charter, and private schools. Yet to assess the viability of these alternative forms of schooling, it is useful to know whether their teacher-absence rates differ from the teacher-absence rates in traditional public schools. After all, if teacher-absence is more problematic in these alternative schools, then one may question the wisdom of such reforms. On the other hand, if magnet, charter, or private schools have lower rates of teacher absenteeism, then one will have potentially found another reason to support them. At minimum, if there are differences in teacher-absenteeism rates across school types, one can begin to ask why they exist and what can be learned about addressing the problem of teacher absenteeism.

Thus, in this paper, I present a descriptive study that seeks to answer the following research question: Are there systematic differences in absence rates across different types of schools (i.e., traditional public schools, magnet schools, charter schools, different types of private schools)? I also explore whether variation in organizational culture across school types

explains variation in teacher-absence rates. The remainder of the paper is divided into five sections. The first of these sections reviews the employee absenteeism literature, particularly the work pertaining to teacher absenteeism as well as organizational culture, in order to build a theoretical framework explaining why it is reasonable to expect different absence rates across different types of schools. The following section describes the data and methods of the study. Results and a discussion of the results are presented in the third and fourth sections, respectively. The fifth section concludes.

Theoretical Framework and Literature Review

The Role of Organizational Culture

Earlier work to identify the causes of employee absenteeism has focused on analyzing individual-level characteristics, such as age, gender, or years of experience to explain absence patterns (Muchinsky, 1977; Steers & Rhodes, 1978). Since then, however, researchers have argued that employee absenteeism is not merely an individual, utility-maximizing behavior but that group- and organizational-level factors, such as organizational culture, may influence absenteeism rates (Fitzgibbons, 1992; Nicholson & Johns, 1985; Rentsch & Steel, 2003; Rhodes & Steers, 1990).

In educational research, organizational culture is also called *school culture*. School culture consists of the common norms, underlying assumptions, and accepted values of a school community that guide and influence the behavior of its members (Akerlof & Kranton, 2002; Schoen & Teddlie, 2008). Of the many aspects of organizational culture is *absence culture*, a term defined by Johns and Nicholson (1982) as “the set of shared understandings about absence legitimacy in a given organization and the established ‘custom and practice’ of employee absence behavior” (p. 136).

In addition to possessing a unique culture, school communities also vary in the extent to which its members agree with and are influenced by the norms and values espoused by the collective school community — an organizational characteristic called *mission coherency*. More specifically, members of school communities with high mission coherency tend to have greater agreement regarding their norms and values and are more decidedly influenced by them. Rates of absence and the types of absence behavior also tend to vary less among individuals within organizations with stronger mission coherency (Nicholson & Johns, 1985; see also Bryk, Lee, & Holland, 1993).

DiIulio's (1994) and Wilson's (1989) theoretical work explaining the behavior of public officials provides reasons to believe that school or, in particular, absence culture will influence teachers' absenteeism behavior. Teachers are not only rational beings who act in response to individual self-interest but also social creatures who behave according to the norms that are embraced by the school community to which they belong. The organizational identity espoused by their school community and the social interactions that they experience with their colleagues shape and regulate their dispositions and conduct. Thus, teacher absenteeism is influenced not only by age, gender, years of experience, or other individual-level characteristics but also by the social context in the school at which they teach. It follows, then, that studying absenteeism at the organizational level is a sensible approach (Rentsch & Steel, 2003).

In fact, existing empirical work in human resource management and industrial organization has revealed that variation in absence rates is greater across organizations than within organizations, suggesting that organizational differences, rather than differences between individuals within the same organization, are a greater influence on individual absenteeism behavior (Chadwick-Jones, Nicholson, & Brown, 1982; Farrell & Stamm, 1988). Numerous

studies have attempted to measure *group* absence norms by using (a) how often an employee thinks his colleagues are absent, (b) the average absence rates of the organization from past time periods, (c) or the number and types of absences that employees believe to be acceptable in their work group. These studies all demonstrate that *group* absence norms are predictive of *individual* absence rates. Employees are more likely to have higher rates of absenteeism whenever they perceive their work group to be more tolerant of absence (Bamberger & Biron, 2007; Gellatly, 1995; Markham, & McKee, 1995; Mathieu & Kohler, 1990; Xie & Johns, 2000).

Despite this evidence from research in human resource management or industrial organization, few studies in educational research have explored the influence of school absence culture on individual absenteeism, and much of the existing evidence pertains to studies of schools outside of the United States. For example, Gaziel (2004) administered an absence culture scale to 200 Israeli teachers across 20 primary schools and found that absence rates tended to be higher in schools that were more tolerant towards voluntary absence, defined as absences due to uncertified illnesses or vacations. Another analysis of schools in Queensland, Australia concluded that a teacher is more prone to be absent if his coworkers are also more prone to be absent (Bradley, Greene, & Leeves, 2006).

Although absence culture is not the focal point, some analyses in education research do investigate how other aspects of school culture are related to teacher absenteeism. For instance, researchers have used scales to measure *perceived organizational support*, which refers to how much a teacher perceives her colleagues to support her and to care about her well-being (Eisenberger, Huntington, Hutchinson, & Sowa, 1986; Shapira-Lishchinsky & Rosenblatt, 2010). In other words, how and to what extent does a collegial culture among the school staff influence absenteeism? This work has usually hypothesized but not always found that greater perceived

organizational support by an individual teacher is associated with lower absence rates. While it is plausible that a more supportive school culture may, for example, reduce stress or improve job satisfaction, thereby reducing absences, it is also plausible that more supportive groups may have an absence culture that is more tolerant of absenteeism (Gaziel, 2004; Imants & van Zolen, 1995; Xie & Johns, 2000). Notwithstanding the ambiguous results surrounding perceived organizational support, one thing is clear: Organizational-level characteristics, not just individual-level characteristics, are associated with and may even mediate individual teacher absence behavior.

In fact, it is not always clear how individual-level characteristics such as gender, age, and years of teaching experience influence absenteeism. Many empirical studies have confirmed the popular expectation that male teachers are absent less often than female teachers (Clotfelter et al., 2007; Hermann & Rockoff, 2010; Pitts, 2010; Scott & Wimbush, 1991). Other studies of international data have found no statistically significant difference in absence rates between males and females (Gaziel, 2004; Rosenblatt & Shirom, 2004).

The evidence regarding teacher years of experience and age is similarly mixed. Several studies have reported that more experienced teachers or teachers with tenure miss more days of work (Bradley et al. 2007; Clotfelter et al., 2007; Hermann & Rockoff, 2010; Pitts, 2010). Yet several, albeit older, studies do not find any relationship between years of experience and absenteeism (Foldes & Foster, 1989; Gaziel, 2004; Scott & Wimbush, 1991). Regarding age, Clotfelter et al. (2007), Rosenblatt and Shirom (2004), Pitts (2010), and other studies that find higher absence rates among older teachers are contrasted by other studies, such as those by Gaziel (2004) or Scott and Wimbush (1991), which do not detect any relationship between age and absenteeism.

Nicholson and Johns (1985), Johns (2003), and Winkler (1980) argue that the ways age, gender, and experience influence absenteeism are poorly understood, especially when there are numerous factors that mediate the relationship between these characteristics and absenteeism. Perhaps this is why the research has yielded nuanced findings. For instance, studies have found that although female teachers are absent more frequently, male teachers are absent for longer durations of time (Foldes & Foster, 1989; Scott & McClellan, 1990). Hermann and Rockoff (2010) also note that younger female teachers miss more days than older female teachers; among males, age fails to predict absenteeism. One might speculate that younger teachers may be absent more often due to child care responsibilities. At the same time, however, older teachers who are closer to retirement may tend to be absent less often when unused sick days are converted into financial bonuses upon retirement, as Ehrenberg et al. (1991) observe. In short, additional and more delicate inquiry into how individual-level factors such as age, gender, and years of experience mediate absence is necessary (Johns, 2003).

Given that (a) individual-level characteristics do not completely explain why some teachers are absent more often than other teachers within the same organization and (b) organizational culture is a nontrivial factor in explaining absence rates across different organizations, we may reasonably hypothesize that different types of schools, including traditional public schools, magnet schools, private schools, and charter schools, with their own unique cultures will have varying levels of absence rates.

The assumption here, of course, is that different types of schools do indeed have distinct cultures or, at the very least, differences in mission coherency. This is an assumption that I argue is defensible. Consider charter schools, which are public schools that are not constrained by many of the same regulations as traditional public schools and hence have the autonomy to

create their own unique school communities and policies. In particular, charter schools such as KIPP along with others that embrace the “No Excuses” model are aimed at serving students from disadvantaged backgrounds and characterized by a culture of high academic and behavioral expectations that is unlike most schools (Thernstrom & Thernstrom, 2003). It is reasonable to expect teachers who voluntarily decide to teach in these charter schools also embrace these core values, especially since charter schools frequently recruit staff that fit with their mission (DeArmond, Gross, Bowen, Demeritt, & Lake, 2012; Furgeson et al., 2012).

Similarly, magnet schools are public schools that offer a specialized educational program for students who elect to attend those schools. Specialized programs consisting of a particular curricular focus as well as a pedagogical approach can be a unique foundation upon which to build a school mission and culture (Coleman & Hoffer, 1987).

Private schools have historically been established as what Coleman and Hoffer (1987) call *value communities*. A value community is a group of people who share similar conceptions of the good life and norms for how to participate in such a life. For instance, the religious values, traditions, and heritage found in Catholic and protestant schools give shape to and guide the mission, daily operations, and the interactions of shared life between teachers, students, parents, and other members of those school communities (Bryk et al., 1993; Sikkink, 2012). Distinct cultures across school types together with differing levels of mission coherency will likely yield different absence cultures and, hence, absence rates. Indeed, Byrk et al. (1993) have found that school communities with a greater degree of collegiality, care for others, and mission coherency also tend to have lower teacher-absence rates, among other positive outcomes that are of greater benefit to students from disadvantaged backgrounds, relative to students from advantaged backgrounds.

Nonetheless, there is currently a paucity of research examining the differences in absence rates across school types. Bryk et al. (1993) also find that teacher-absence rates are lower in Catholic schools than in traditional public schools. However, their analysis only includes high schools, and they do not make any comparisons across other school types. Miller's (2012) documentation that charter-school teachers are less often absent than traditional-public-school teachers is the only other comparison of absence rates across school sectors; notably, this comparison is not even the main purpose of his analysis. Thus, this present study aims to fill this gap in the literature and to add insight into the relationship between organizational culture and teacher absenteeism by using a larger, richer, more recent, and more comprehensive data set of US schools.

Methods

Data

To determine whether there are differences in absence rates across different school types, I analyze data from the 2007-2008 Schools and Staffing Survey (SASS).¹ SASS is a survey regularly conducted by the National Center for Education Statistics, the arm of the U.S. Department of Education that is responsible for collecting data pertaining to education in the United States. Teachers and administrators from a large, nationally-representative sample of public and private schools are selected to complete a series of questionnaires about their schools. Specifically, responses from nearly 9,000 schools are included in my main analysis.

Responses to SASS are particularly useful for this study because they include a rich set of information about the school, such as its student body, teaching staff, organizational culture, and absence rates. The data not only allow for a broad analysis of a nationally-representative sample

¹ The most recent wave of the SASS consists of data from the 2011-2012 school year but does not include any information of teacher absence. Hence, I use the next most recent data set from the 2007-2008 SASS.

of schools but also include detailed information about the school for a finer-grained picture of teacher absenteeism. Table 1 lists the number of schools by type that are included in the analysis.

<<Table 1 Approximately Here>>

Researcher-Constructed Measures

Teacher absence. SASS asks schools to report the number of full-time teachers that comprise its teaching faculty. Elsewhere, SASS asks schools to report the number of short-term substitute teachers that were teaching on the most recent school day. Dividing the number of short-term substitutes by the size of the full-time teaching staff yields the percentage of teachers who were absent on that school day. This percentage is the teacher-absence rate for each school. It is important to point out that this single-day absence rate can be generalized to the absence rate for the school year. The most recent school day is essentially a randomly-determined day and, therefore, provides an unbiased, though imprecise, measure of the teacher-absence rate for a school in the given year.

It is also worthwhile to point out that the absence-rate calculation only includes short-term substitutes, so the absence rate does not include certain types of absences such as long-term illness or maternity leave where long-term substitute teachers typically replace the original classroom teacher. For this reason, describing the variation of longer absence spells across school sectors is outside the scope of this study, and this consideration is required to properly understand the results.

The average absence rate is 4.35 percent with a standard deviation of 6.16 percent. Out of the over 9,000 schools in the study sample, 3,720 schools reported having no teachers absent on the most recent school day while seven schools reported having 100 percent of teacher absent

on the most recent school day. Also, about 90 percent of schools reported an absence rate that was less than 10 percent.

Mission Coherency Index. Although the main purpose of this study is to determine whether there are differences in absence rates across different types of schools, SASS provides the opportunity to explore whether mission coherency is one of the reasons why differences, if any, exist. As theorized earlier, different school types will have different levels of mission coherency, which may mediate the relationship between absence rates and school type.

In one portion of SASS, a sample of teachers from each school is asked to indicate the extent to which they agree or disagree with the following five statements: (a) “Most of my colleagues share my beliefs and values about what the central mission of the school should be”; (b) “The principal knows what kind of school he or she wants and has communicated it to the staff”; (c) “There is a great deal of cooperative effort among the staff members”; (d) “Rules for student behavior are consistently enforced by teachers in this school, even for students who are not in their classes”; and (e) “My principal enforces school rules for student conduct and backs me up when I need it.”

Responses to these five questions are given on a four-point Likert scale, numerically coded, and then summed for each individual teacher. Finally, individual sums for each teacher are averaged for teachers at the same school. This procedure yields a school-level *mission coherency index*, which will be used in a secondary analysis to explore the relationship between mission coherency and absence rates. For ease of interpretation, this mission coherency index is standardized to have a mean equal to 0 and a standard deviation equal to 1. Higher scores indicate greater mission coherency. The mission coherency index also has a Cronbach’s alpha equal to 0.85, indicating that the scale contains a high degree of reliability.

Empirical Models

Main analysis. For the main analysis, I estimate the following model using ordinary least squares:

$$A_i = \beta_0 + \beta_1 D_i + \beta_2 S_i + \epsilon_i, \quad (1)$$

where A_i is the absence rate of school i and D_i is a vector of dummy variables indicating whether school i is a charter school, traditional public school, magnet school, or a particular type of private school. D_i is the independent variable of interest and reveals whether absence rates differ across school types. And ϵ_i is the error term.

S_i is a vector that controls for school characteristics that may be important predictors of teacher absence rates. Failing to control for these variables may result in omitted variable bias and distort the coefficient estimates. It is plausible, for example, that smaller schools have lower absence rates because teachers who are absent too frequently can be easily noticed by their colleagues and be unfavorably viewed as shirking from their duties (Markham & McKee, 1995; Winkler, 1980). Therefore, S_i includes the size of the teaching staff and other variables such as the percentage of the student population who come from racial minority backgrounds, are classified as needing special education, or participate in the federal free-or reduced-priced lunch program.

S_i also includes various school-level demographic characteristics of the teachers at school i . Controlling for these variables is necessary for valid coefficient estimates. For instance, younger females have often, albeit not always, been shown to absent more often than other employees, so not accounting for factors such as gender or age from the model may bias the results (Hermann & Rockoff, 2010; Steers & Rhodes, 1978). Because SASS does not ask schools to provide such demographic information, I estimate these variables using information

provided in teacher-level surveys. SASS uses stratified random sampling to select a subset of teachers in each school to complete teacher-level surveys. These teachers are asked to state information including their gender, age, years of teaching experience at their current school, total years of teaching experience. I use each teacher's probability of selection into the SASS sample to calculate a weighted average of these characteristics for the teachers at a given school. These weighted averages are then used as measures of the school-level demographic characteristics for the teachers at that school.

I also use the same method to estimate the average teacher salary for each school. This estimate is used to proxy the amount of financial resources available to a school. Financial resources must be accounted for in the empirical models because they affect the ability of schools to offer various sick-leave packages and compensate substitute teachers. These factors, in turn, may influence a teacher-absenteeism behavior. Because SASS does not include detailed financial information about each school, using average teacher salary to proxy a school's financial resources was the most viable option besides omitting this information from the analysis.

Secondary analysis. I also conduct a secondary analysis that consists of two parts. First, I estimate a separate equation in which I replace the absence rate with the mission coherency index as the dependent variable to determine if school type is associated with any pattern in mission coherency. Specifically, this model can be written as the following:

$$C_i = \alpha_0 + \alpha_1 \mathbf{D}_i + \alpha_2 \mathbf{S}_i + \mu_i, \quad (2)$$

where C_i is the mission coherency index for school i and μ_i is an error term. As before, \mathbf{D}_i is a vector of dummy variables indicating school type, \mathbf{S}_i is a vector of school-level characteristics, and μ_i is the error term.

Next, I include the school's mission coherency index as a predictor of its teacher-absence rate. This model is written as follows:

$$A_i = \beta_0 + \beta_1 D_i + \beta_2 S_i + \beta_3 C_i + v_i, \quad (3)$$

where v_i is the error term and other variables are defined they were previously. At the very least, equation (3) reveals if there is any relationship between teacher absence and mission coherency in the first place.

More importantly, concurrently observing the results of equations (2) and (3) indicates whether mission coherency mediates the teacher-absence rates. In particular, we can conclude that mission coherency is a mediator for the effect of school type on absence rates if the following two conditions obtain. First, school type predicts both absence rates and mission coherency in equations (1) and (2), respectively. And second, school type fails to predict absence rate independent of mission coherency, while mission coherency remains predictive of absence rates in equation (3). I present the estimates of these empirical models in the next section.

Results

Results of the main analysis. The estimation results of the main empirical model, which are displayed in Table 2, confirm the hypothesis that there are differences in absence rates between different types of schools. Column 1 lists the results without controls for school, teacher, and student characteristics, whereas column 3 includes those controls. Both models show a similar pattern. Private schools have teacher-absence rates that are about one percentage point lower than traditional public school, a result that is significant at the level of $p < 0.01$. Charter schools also have teacher-absence rates that are nearly one and a half percentage points lower than traditional public schools. However, this difference is only significant at the level of

$p < 0.1$ and becomes statistically insignificant with the inclusion of school-level control variables. Meanwhile, absence rates between magnet-school teachers and traditional public school teachers are statistically indistinguishable across all models.

It is also possible to explore the relationship between private schools and teacher absence rates by partitioning the private schools into their various types. An estimation of empirical model using the disaggregation of private schools suggests that the lower rate of teacher absenteeism among private schools is primarily driven by Catholic schools. Relative to traditional public schools, teacher-absence rates in Catholic schools are almost one and a half percentage points lower. Although teachers in other religious (but non-Catholic) private schools and secular private schools are also less likely to be absent relative to teachers in traditional public schools, the differences are not statistically significant. These results are displayed in columns 2 and 4 of Table 2. Although none of the variables controlling for various school characteristics are ever statistically significant, they point in the expected direction. For example, urban schools appear to have higher rates of teacher absenteeism than suburban schools, as Clotfelter et al. (2007) observe.

<<Table 2 Approximately Here>>

Results of the secondary analysis. As mentioned above, I also conduct a secondary analysis to determine whether mission coherency mediates the differences in teacher-absence rates across school sectors. First, I estimate equation (2) in which the mission coherency index, instead of absence rate is the dependent variable. The results are displayed in Table 3. As expected and shown in column 1, private schools have a greater degree of mission coherency than traditional public schools. Disaggregating private schools into Catholic schools, other religious private schools, and secular private schools, show that all three types of private schools,

not just Catholic schools, tend to have stronger mission coherency (see column 2). These results are robust to controlling for various school-level characteristics (see columns 3 and 4). Notably, several school-level characteristics are associated with mission coherency. For instance, schools with a larger teaching staff, which also are more likely to be larger schools, tend to have weaker mission coherency, while schools in suburban settings tend to exhibit greater mission coherency relative to schools in urban areas. In contrast, magnet schools and charter schools do not exhibit different levels of mission coherency than traditional public schools. Schools serving a greater proportion of students from racial minority backgrounds or who participate in the free- or reduced-price lunch program tend to exhibit less mission coherency.

<<Table 3 Approximately Here>>

Second, I use the model specified in equation (3) to assess whether mission coherency predicts teacher-absence rates. The results are displayed in Table 4. A one-standard deviation increase in the mission coherency index is associated with approximately a 0.3 percentage point decrease in absence rate and is only statistically significant at the $p < 0.1$ level. Moreover, the coefficient estimates for the dummy variables indicating school type remain predictive of teacher absence when the mission coherency index is included as an independent predictor of teacher absence. Whether the mission coherency index is included or excluded in the model specifications, teacher-absence rates in private schools are about 1 percentage point less than the rates in traditional public schools. Likewise, teacher-absence rates in Catholic schools remain about 1.3 percentage points lower than the rates in traditional public schools across all model specifications. I discuss these results in the following section.

<<Table 4 Approximately Here>>

Discussion

This the first study to simultaneously compare and document the differences in absence rates for teachers in a nationally-representative sample of traditional public schools, magnet schools, charter schools, and private schools. The evidence from this present analysis confirms the hypothesis that there are differences in teacher-absenteeism rates across these school types, and the results are consistent with what the limited, past research has found (Bryk et al., 1993; Miller, 2012). Catholic-school teachers are less likely to be absent than teachers at traditional public schools by slightly more than 1 percentage point. This difference in absence rate may be considered substantial given that 90 percent of schools in the study sample have absence rates of less than 10 percent. In terms of effect sizes, these figures are between 21 percent of a standard deviation in absence rates for the entire sample.² Considering the difference in terms of the typical 180-day school year, this difference is about two to three full days of instruction.

Still, it is an open question as to whether this two- to three-day difference in absence rates between traditional public schools and other school types has meaningful impacts on student achievement and other educational outcomes. Murnane et al. (2008) and Clotfelter et al. (2007) estimate that for every 10 days of teacher absence, student achievement falls by approximately between 1 to 3 percent of a standard deviation. So a two- to three-day difference in teacher-absence rates amounts to at least 0.2 to 0.8 percent of a standard deviation. Also recall that Clotfelter et al. find evidence that the decline in achievement is much larger for students from disadvantaged backgrounds. If policymakers judge this reduction in student achievement to be meaningful, especially for students from disadvantaged backgrounds, then policies allowing for greater access to Catholic schools or at least are aimed at nurturing the organizational culture unique to Catholic schools could be sound. Certainly, the similarity in teacher absence rates between traditional public schools and other non-Catholic alternative schools suggests that these

² These are calculated by dividing the coefficient estimates by the standard deviation of absence rates: 1.3/6.16.

alternatives do not harm students through teacher absence, though based on other grounds, there is legitimate debate regarding the merits these different types of schools.

The differences across school types are consistent with but not definitive proof for the theory and the empirical literature that assert that organizational-level factors play a role in influencing absenteeism behavior (Bamberger & Biron, 2007; Bradley, et al., 2007; Bryk et al., 1993; Farrell & Stamm, 1988; Gaziel, 2004; Gellatly, 1995; Markham, & McKee, 1995; Mathieu & Kohler, 1990; Xie & Johns, 2000). Because the research design allows for a descriptive result instead of a causal interpretation, this analysis is unable to establish that these differences exist exclusively because of differences in mission coherency. There may be other unobserved factors besides mission coherency that are associated with both private schools and absenteeism behavior, and these factors could partially explain why this study's results have obtained. For instance, unobservable factors may attract certain types of teachers and influence them to teach in a certain type of school. It is possible that these factors may simultaneously influence absenteeism behavior, resulting in some type of selection bias. Indeed, much of the variation in absence rates is left unexplained by the empirical models; the values of the coefficients of determination (R^2) are low in the estimation of each model specification. A low coefficient of determination, however, does not compromise the validity of the findings.

Nevertheless, with documented differences in organizational culture between schools from different sectors, it is reasonable to suspect that organizational factors are valid explanations for the results (Bryk et al., 1993; Coleman & Hoffer, 1987; Sikkink, 2012; Thernstrom & Thernstrom, 2003). This study provides empirical evidence supporting such theory. Model estimates confirm that a particular organizational factor, namely mission

coherency, is at least modestly tied to absenteeism behavior. Greater mission coherency is associated with lower absence rates.

However, the analysis also demonstrates that all types of private schools (e.g., Catholic, religious but non-Catholic, and non-religious private schools) have greater mission coherency relative to traditional public schools, even though it is only Catholic schools that have lower absence rates. These findings imply that mission coherency, while an important predictor of teacher absenteeism for *all* types of schools, is not the only explanation why *Catholic* schools, in particular, have lower rates of absenteeism relative to traditional public schools. Indeed, the scale used to measure mission coherency may not capture all the elements of school culture that significantly affect absence rates. Alternatively, the mission coherency index is agnostic towards the actual absence culture that a school community holds: It is possible that a school is extremely lenient towards absences and allows its teachers to be absent for a wider-range of reasons. This school would possess a high absence rate despite having high mission coherency — a result that has been documented in other studies (Gaziel, 2004; Imants & van Zolen, 1995; Xie & Johns, 2000). In sum, the estimates of equations (2) and (3) do not provide conclusive evidence that mission coherency mediates teacher absence. But nor is there evidence to disprove the theory that mission coherency plays no mediating role: There is a robust, negative correlation between mission coherency and teacher-absence rate. Further investigation is required to explain the causes of lower absence rates.

Likewise, the results of this study do not disprove the role that individual, utility-maximizing behavior plays in determining absence behavior. There is substantial research demonstrating that different configurations of sick-leave and compensation policies affect an employee's assessment on whether it will be in his greater self-interest to attend or to be absent

from work (Ehrenberg et al., 1991; Jacobsen, 1989; Winkler, 1980; see also Clotfelter et al., 2007). Yet sick-leave and compensation policies are, in part, also constitutive aspects of organizational culture. These policies not only are codified reflections of the norms and values espoused by the school community but also shape the behavior of members of that community. Thus, even the view that sick-leave and compensation policies influence teachers through an individualistic, rational-choice-theory model is incomplete, though not entirely wrong or useless. Sick-leave and compensation policies cannot be severed from the organizations that created them and give them a context to exist. Ultimately, additional research is required to more effectively disentangle the interaction between individual, utility-maximizing behavior and the influence of organizational culture and their respective effects on absenteeism behavior.

Admittedly, the study could have further benefited from a finer-grained measure of absence rate. In particular, listing the type of absence would help to judge whether differences in absence rates are problematic because it may be unwarranted to criticize absences that occur for legitimate reasons. For example, teachers may be absent on a short-term basis to attend professional development, and if traditional-public-school teachers attend professional development more often, then the higher absence rates in traditional public schools may not be cause for concern. To make such an argument, one must show that traditional public-school-teachers are indeed absent more often due to professional development relative to private and charter schools and additionally show that the benefits (e.g., gains in student achievement) from attending professional development are greater than the costs (e.g., reductions in student achievement) of being absent to attend professional development. The best evidence, however, suggests that professional development does not unequivocally lead to gains in student achievement; several well-designed studies of professional development show no impacts on

student achievement (Garet et al., 2008, 2011). Other reasons for absence, such as chronic illness and maternity leave may be regarded as legitimate, but long-term absences are excluded from the analysis by the construction of the absence-rate variable. Like all empirical work, better data would ultimately shed additional insight onto the validity of existing theories.

Conclusion

Employee absenteeism has been widely researched for several decades and only recently has the topic of teacher absenteeism gained prominence among researchers. Although individual-level teacher characteristics may influence teacher absenteeism rates, organizational or group-level characteristics also play an important role. This study is the first to simultaneously compare rates of teacher absence among a nationally-representative set of private, charter, magnet, and traditional public schools. Documenting the lower rates of teacher absenteeism in charter and private schools, when compared to traditional public schools, is a valuable contribution to the employee absenteeism literature as well as the educational policy research on private and charter schools. If teacher absence is a problem, as some scholars have argued, then describing the nature of the problem, such as documenting patterns across school sectors, is the first step to addressing it.

These results raise the question: Why does variation in teacher absence rates exist across school types? What unique, institutional characteristics of private, charter, magnet, and public schools drive these differences? The results are consistent with the theory that mission coherency plays an important role in mediating absenteeism behavior, but given the limitations of data and observational research design, I am unable to offer definitive proof or to ascertain what, exactly, causes variation in absence rates. I leave these unanswered questions, along with the implications that these answers present, to future research inquiry.

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Table 1: Descriptive Statistics of the Study Sample

Type of School	Number of Schools
Private Schools	
Catholic Schools	667
Other Religious Private Schools	863
Secular Private Schools	437
Total Private Schools	1,967
Charter Schools	265
Magnet Schools	168
Traditional Public Schools	7,139

Table 2: Teacher Absence Rates across School Types

	Dependent Variable: Teacher Absence Rate			
	(1)	(2)	(3)	(4)
<i>School Type^a</i>				
Charter Schools	-1.431* (0.758)	-1.431* (0.758)	-1.278 (0.801)	-1.248 (0.805)
Magnet Schools	0.0746 (0.606)	0.0746 (0.606)	-0.171 (0.696)	-0.183 (0.695)
Private Schools	-1.015** (0.453)		-0.914** (0.455)	
Catholic Schools		-1.745*** (0.214)		-1.377*** (0.477)
Other Religious (Non-Catholic) Private Schools		-0.447 (0.690)		-0.496 (0.702)
Secular Private Schools		-1.385 (0.927)		-0.938 (0.978)
<i>School-Level Control Variables</i>				
Female Teachers (%)			0.439 (0.501)	0.472 (0.494)
Average Teacher Age			0.0658 (0.0482)	0.0660 (0.0485)
Average Teacher Salary (in thousands of dollars)			0.0137 (0.0162)	0.0156 (0.0170)
Size of Teaching Staff			-0.00117 (0.00357)	-0.000874 (0.00358)
Average Years of Teaching Experience			-0.0374 (0.041)	-0.0369 (0.040)
Average Years of Teaching Experience at Current School			-0.0427 (0.0439)	-0.0412 (0.0438)
Students from Racial Minority Backgrounds (%)			0.351 (0.560)	0.326 (0.555)
Students Participating in Free- or Reduced-Price Lunch (%)			-0.422 (0.549)	-0.366 (0.544)
Special-Education Students (%)			0.0110 (0.008)	0.0111 (0.009)
English-language Learners (%)			1.017 (1.170)	0.987 (1.166)
<i>Urbanicity^b</i>				
Suburban			-0.459 (0.356)	-0.467 (0.358)
Town			-0.0301 (0.404)	-0.0339 (0.403)
Rural			0.345 (0.462)	0.316 (0.464)
Constant	4.450*** (0.113)	4.450*** (0.113)	3.606 (2.539)	3.439 (2.523)
State Fixed-Effect	No	No	Yes	Yes
Observations	9,539	9,539	8,927	8,927
R ²	0.005	0.006	0.029	0.030

Note: Standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01. ^aOmitted category is traditional public schools.

^bOmitted category is schools located in urban areas.

Table 3: Mission Coherency across School Types

	Dependent Variable: Mission Coherency			
	(1)	(2)	(3)	(4)
<i>School Type^a</i>				
Charter Schools	-0.023 (0.147)	-0.023 (0.147)	-0.003 (0.140)	0.010 (0.139)
Magnet Schools	-0.103 (0.146)	-0.103 (0.146)	-0.012 (0.139)	-0.017 (0.140)
Private Schools	0.589*** (0.034)		0.354*** (0.059)	
Catholic Schools		0.359*** (0.046)		0.530*** (0.070)
Other Religious (Non-Catholic) Private Schools		0.787*** (0.046)		0.318*** (0.083)
Secular Private Schools		0.463*** (0.070)		0.185*** (0.069)
<i>School-Level Control Variables</i>				
Female Teachers (%)			0.315*** (0.087)	0.329*** (0.087)
Average Teacher Age			0.003 (0.004)	0.003 (0.004)
Average Teacher Salary in thousands of dollars			-0.002 (0.003)	-0.001 (0.003)
Size of Teaching Staff			-0.006*** (0.001)	-0.006*** (0.001)
Average Years of Teaching Experience			0.008 (0.005)	0.008 (0.005)
Average Years of Teaching Experience at Current School			-0.008 (0.006)	-0.007 (0.006)
Students from Racial Minority Backgrounds (%)			-0.276*** (0.092)	-0.287*** (0.091)
Students Participating in Free- or Reduced-Price Lunch (%)			-0.177** (0.083)	-0.154* (0.083)
Special-Education Students (%)			-0.002 (0.001)	-0.002 (0.001)
English-language Learners (%)			0.277* (0.153)	0.265* (0.153)
<i>Urbanicity^b</i>				
Suburban			0.105** (0.050)	0.102** (0.051)
Town			0.004 (0.059)	0.002 (0.059)
Rural			0.036 (0.059)	0.025 (0.059)
Constant	0.033 (0.021)	0.033 (0.021)	0.060 (0.234)	-0.012 (0.239)
Observations	8,960	8,960	8,927	8,927
R ²	0.059	0.067	0.125	0.130

Notes: All models control for the state in which the school is located. Standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01. ^aOmitted category is traditional public schools. ^bOmitted category is schools located in urban areas.

Table 4: Teacher Absence Rates and Mission Coherency

	Dependent Variable: Teacher Absence Rate				
	(1)	(2)	(3)	(4)	(5)
Mission Coherency	-0.361*** (0.135)	-0.260* (0.155)	-0.279* (0.149)	-0.315* (0.173)	-0.330* (0.170)
<i>School Type^a</i>					
Charter Schools		-1.325* (0.788)	-1.325* (0.788)	-1.279 (0.799)	-1.245 (0.803)
Magnet Schools		-0.125 (0.619)	-0.127 (0.619)	-0.175 (0.685)	-0.188 (0.683)
Private Schools		-1.073** (0.446)		-0.802* (0.461)	
Catholic Schools			-1.740*** (0.228)		-1.316*** (0.468)
Other Religious (Non-Catholic) Private Schools			-0.667 (0.539)		-0.321 (0.677)
Secular Private Schools			-1.045 (1.161)		-0.833 (1.003)
<i>School-Level Control Variables</i>					
Female Teachers (%)				0.538 (0.518)	0.580 (0.509)
Average Teacher Age				0.0668 (0.0486)	0.0670 (0.0489)
Average Teacher Salary (in thousands of dollars)				0.0132 (0.0164)	0.0153 (0.0172)
Size of Teaching Staff				-0.00316 (0.00385)	-0.00292 (0.00388)
Average Years of Teaching Experience				-0.0350 (0.0400)	-0.0343 (0.0392)
Average Years of Teaching Experience at Current School				-0.0452 (0.0447)	-0.0436 (0.0446)
Students from Racial Minority Backgrounds (%)				0.264 (0.575)	0.231 (0.568)
Students Participating in Free- or Reduced-Price Lunch (%)				-0.478 (0.549)	-0.416 (0.545)
Special-Education Students (%)				0.0104 (0.00782)	0.0105 (0.00909)
English-language Learners (%)				1.104 (1.170)	1.074 (1.167)
<i>Urbanicity^b</i>					
Suburban				-0.426 (0.344)	-0.433 (0.346)
Town				-0.0290 (0.399)	-0.0332 (0.397)
Rural				0.356 (0.461)	0.324 (0.463)
Constant	4.210*** (0.121)	4.473*** (0.108)	4.473*** (0.108)	3.625 (2.538)	3.435 (2.527)
State Fixed-Effect	No	No	No	Yes	Yes
Observations	8,960	8,960	8,960	8,927	8,927
R ²	0.003	0.008	0.009	0.031	0.032

Note: Standard errors in parenthesis. *p<0.1; **p<0.05; ***p<0.01. ^aOmitted category is traditional public schools.

^bOmitted category is schools located in urban areas.