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In the Union Now: Understanding Public Sector Union Membership

Jacob Fowles[1] and Joshua Cowen[2]

Abstract

Despite periodic consideration of public sector unions in the public management and administration literature, empirical evidence on the union membership decisions of public employees remains scant. In this article, we begin to address this issue by considering unique data on union membership drawn from a local educational agency in a midsize American city. We find union membership rates to be highest in schools that are hardest to staff and where working conditions may be most difficult. We consider this evidence in light of recent efforts to reform public sector unions in general and teacher unions in particular.

Keywords

public sector unions, union membership, public education

Introduction

When Wisconsin governor Scott Walker won a special recall election in June 2012, political observers framed his victory as the latest in a series of setbacks for American public sector unions. The state's largest newspaper reported that

[1]University of Kansas, Lawrence, KS, USA
[2]Michigan State University, East Lansing, MI, USA

Corresponding Author:
Jacob Fowles, School of Public Affairs and Administration, University of Kansas, 4060 Wescoe Hall, 1445 Jayhawk Blvd., Lawrence, KS 66045, USA.
Email: jacob.fowles@ku.edu

unions were the "clear losers" in Walker's attempt to finish his term as chief executive, as the governor's signature initiative and the key precipitator of his recall was a major reduction in bargaining rights for public employees (Stein, 2012). Governor Mitch Daniels, whose own efforts in Indiana were perhaps even more successful than Walker's, responded to the recall by summarizing the case against unions: "I think, really, government works better without them," Daniels offered, declaring that "fundamental services—education and health care and others—are diminished because so much money is devoured by very high salaries" and that unions hinder "government's ability to deliver" (Wallace, 2012). Although public employee unionization has been studied in "fits and starts" over the past several decades (Riccucci, 2011), the empirical literature is decidedly less developed than that considering the private sector (Nicholson-Crotty, Grissom, & Nicholson-Crotty, 2012). This represents a serious gap in the literature on public administration and management (Riccucci, 2011), particularly given the fact that what theoretical frameworks exist for considering the evidence empirically come from political science and economics (e.g., Hoxby, 1996; Moe, 2011, respectively)—disciplines from which studies of public agencies often explicitly draw.

The controversy surrounding public sector unions is nowhere more pronounced than in the context of publicly provided education. The Walker initiatives in Wisconsin concerned all public employees, but were particularly oriented toward limiting the role of teacher unions. A focus on teachers is perhaps understandable. Teacher unions are members of the largest public sector unions, and any efforts to curb state spending may by necessity include cuts to school districts: Primary and secondary education alone account for more than 20% of total state expenditures and more than 35% of state general fund expenditures (National Association of State Budget Officers, 2011), with an average of 60 cents out of each of those dollars going toward teacher salaries (Cowen, 2009). Furthermore, reform efforts are not limited to political or administrative domains. In California, for example, teacher tenure protections were recently ruled unconstitutional by a state court, dealing teacher labor organizations in the nation's largest state a significant policy blow (*Beatriz Vergara, et al. v. State of California, et al.*, 2014).

Studies of teacher unions are more prevalent than those on other public sectors, but even here, the literature has only begun to renew itself over the past decade. After beginning in the 1970s and developing fully into a multidisciplinary sub-field during the 1980s (e.g., Baugh & Stone, 1982; Eberts & Stone, 1984; Jessup, 1985; Kleiner & Petree, 1988; Kurth, 1987; McDonnell & Pascal, 1979), the literature slowed during the 1990s (e.g., Kerchner & Koppich, 1993; Zigarelli, 1996; Zwerling & Thomason, 1995), culminating in the empirical and theoretical treatment by the economist Caroline Hoxby

(1996). Perhaps in response to the latest salvo of "attack[s]" on teacher bargaining (Strunk, 2012, p. 507), scholars have produced a variety of fresh insights into the political (e.g., Moe, 2005, 2011) and organizational aspects of teacher bargaining (Cohen-Vogel & Osborne-Lampkin, 2007; Hess & Loup, 2008; Moe, 2011; Strunk, 2012; Strunk & Grissom, 2010), as well as the implications of unionization for educational quality (Lovenheim, 2009; Moe, 2009, 2011; Strunk, 2011).

Perhaps not surprisingly, the result of these efforts has yielded a far more nuanced picture of teacher unions than much of the recent public dialogue suggests. The diversity captured in this literature is likely a reflection of the diversity of the operating environments of the unions themselves. A cursory glance at laws governing public sector unionization across the 50 states demonstrates strikingly diverse legal arrangements that, in many states, limit or curtail the union's power and ability to bargain. Looking specifically at public school teachers, Winkler, Scull, and Zeehandelaar (2012) note that 32 states require districts to bargain collectively with their teachers, whereas 14 permit bargaining and 5 prohibit it altogether. Furthermore, even among those states that require or permit bargaining, important differences exist across states and jurisdictions with respect to the nature of the union's relationship with its members. In so-called "Right to Work" states, union dues cannot be involuntarily collected from teachers who forgo union membership; conversely, in other states, all teachers are legally compelled to compensate the union for its role in contract negotiation whether or not they are members of the union itself. Florida, for example, is a mandatory bargaining state but is also a right-to-work state: Districts are compelled to bargain with the unions, but the unions cannot collect dues from those teachers who opt out of union membership. Colorado, however, permits (but does not require) bargaining, but is not a right-to-work state, implying that if a particular district chooses to bargain with the union, that union can collect fees from all employees covered by the resulting contract whether or not those employees choose to formally join the union.

As this review suggests, unions are diverse organizations that play a varied and highly contextualized role across districts, jurisdictions, and states. However, the preoccupation in the extant literature on the role of unions with respect to collective bargaining means that much less is known about unions in the workplace beyond the bargaining table. Certainly, the question of why teachers join a union is different than asking what union activity actually constitutes, but as the debate over whether public sector labor unions in general (and teacher labor unions in particular) are "voice-giving" or "rent-seeking" continues to play out in political arenas, the absence of empirical development in studies of public employees remains troubling.

In the present article, we shed new light on this debate by considering teacher unionization in one local educational agency in a state that permits, but does not require, a school district to bargain with its teachers. The district in question, Fayette County Public Schools (FCPS), encompasses the city and surrounding community of Lexington, Kentucky. We leverage unique data on the variation in union membership rates between each local school under FCPS' jurisdiction, and we describe this variation in terms of rich data on student and community demographics and school productivity. Our results indicate that union membership rates are highest at schools with what education scholars have identified as the most challenging educational conditions: schools with lower levels of academic achievement, higher poverty and minority populations, higher incidence of crime, and schools staffed with teachers of lesser education and experience. We conclude our presentation of this evidence by discussing its implications for both practicing school administrators and scholars studying public sector unionization.

Union Membership and Union Strength

Although large differences persist across states with respect to the bargaining powers enjoyed by unions, Freeman and Han (2012), drawing on the three waves of data from the School and Staffing Survey (SASS) between 1999 and 2008, broadly observe a high degree of within-district stability, in the sense that few districts are observed to adopt a collective bargaining agreement where otherwise none existed or drop formal bargaining in favor of some alternative arrangement. Whether the observed stasis continues after the recent political efforts to curb union influence remains to be seen. Even now, however, the long-standing presence of a bargaining contract in most American school districts is more than a geographic or historical curiosity. Certainly, it is difficult to determine what features of the educational landscape exist because, and only because, the union's influence made them so (Hoxby, 1996; Lovenheim, 2009). One way to address this problem is to simply compare districts with and without bargaining agreements, an approach that implicitly makes the rather heroic assumption that after adjusting for a set of observable characteristics, there is nothing left to explain differences in an outcome of interest other than the fact that some districts bargain and others do not.[1] A more recent approach leverages the substantial variation between existing contracts in different bargaining districts within a single state. In this approach, such variation is linked to differences in district spending, administrative structure, student outcomes, and so on, and becomes in essence a measure of union influence or strength (e.g., Strunk & Grissom, 2010; Strunk & Reardon, 2010). This type of analysis allows insight into the

mechanics behind a union impact, through attention to particular contract provisions and their relationship to district outcomes, net of other factors that may co-vary with both outcomes and contract specifics.

At stake in these attempts to gauge union impacts is not simply a matter of seeking an adequate answer to measuring what unions do but also, fundamentally, what purpose unions serve. If public criticism is a guide, unions exist to provide their members with perquisites such as higher salaries and enhanced job security (Lieberman, 2002; Paige, 2006), a supposition that is accompanied by empirical accounts of union efforts to block reforms on these issues (e.g., Moe, 2003, 2006a, 2006b, 2011, 2013). Other observers have stressed the role that unions might play in protecting teaching as a profession, securing educational funding in difficult economic times (Johnson & Donaldson, 2006; Strauss, 2011), and making working conditions more tolerable in hard-to-staff schools (e.g., Brunner & Squires, 2013; McDonnell & Pascal, 1979, 1988; Moe, 2011; Rose & Sonstelie, 2010; Strunk, 2012). Ultimately, this literature agrees that promoting teacher interests is indeed the primary function of the union, even or perhaps especially at the cost of reduced administrative authority and flexibility (Johnson & Kardos, 2000; Koppich, 2006; McDonnell & Pascal, 1979; Perry & Wildman, 1970).

One way to consider these issues further is to consider not what it means just to be in a unionized industry, firm, or agency, but what it means for individuals to be in a union itself. As the above discussion makes clear, teachers—and other public sector employees—in many states may elect not to join a union even in districts where a collective bargaining agreement is in place; in other settings, teachers may be active members of the local union affiliate even if that professional organization has no standing to collectively bargain with the district. Little empirical literature exists that speaks to this question, especially in a public context. Hundley (1988) presents one of the only such analyses that could be identified in the extant literature. Consistent with the discussion above, he finds that the legal provisions regarding bargaining emerge as substantively powerful predictors of union membership decisions; conversely, individual socioeconomic and demographic characteristics are found to possess negligible predictive power.

Absent the ability to observe the process underlying each teacher's unique decision to participate or not participate in union activity, researchers cannot fully explain why teachers make such choices, but we may nevertheless try to make sense of some patterns that result in the aggregate. In particular, an observation that membership rates are higher in some settings than others may inform the more general debate on unions' purpose and function by highlighting school conditions most clearly associated with high rates of union activity. Obtaining such evidence in isolation poses no underlying

model of union behavior per se. However, as we shall show, the schools in which union membership is highest share a common set of student and neighborhood characteristics that have direct implications for the daily experience of teachers in the classroom. Whether teachers join their union because of that experience—and what they obtain from that membership—are causal questions that we are unable to firmly answer. Our results are, however, suggestive of a pattern in which teachers turn in the aggregate toward a union where working conditions are more difficult.

Public Sector Unions in Kentucky and Fayette County

We draw in this article on data from Fayette County, Kentucky. Kentucky has historically recognized that public employees "have a right to join a national labor union and to organize themselves to carry out their collective wishes" although the state does not recognize the right of public sector workers to strike (*Board of Trustees of the University of Kentucky v. Public Employees Council*, 1978; *Jefferson County Teachers Association v. Board of Education*, 1971). Consistent with Kentucky's home rule doctrine, public employers have no legal duty to engage in bargaining with union representatives, but may opt to do so by choice. Kentucky is not a "Right to Work" state, meaning that agency fees can be collected from all employees covered by a bargaining agreement, even if said employees opt not to formally join the union. This status quo has persisted to present day, although the "union question"—whether or not public sector collective bargaining should be mandatory—continues to be regularly debated by the legislature when its annual session convenes each January.

The FCPS District experimented with bargaining with the Fayette County Educational Association (FCEA), the local affiliate of the National Education Association (NEA), in the late 1970s, adopting a contract that was eventually voided by the court system as violating state bargaining laws by failing to explicitly obtain approval for the contract from non-union members. Since this failed attempt, the FCEA has not successfully reinitialized attempts to formally bargain with the district. Despite the lack of formalized bargaining, FCEA does retain many of the other underlying functions associated with unionization. Like most local NEA affiliates, it is an active political organization within the district. It is also an active professional organization, with members and representatives at each school, just as in bargaining districts. Perhaps the most direct benefit of membership in FCEA is access to the union's national network of attorneys to advise teachers in any

Table 1. Fayette County, Kentucky, and United States Demographic Characteristics.

	Fayette County	Kentucky	The United States
Total population	296,545	4,339,367	308,745,538
% White	75.7	87.8	72.4
% Black	14.5	7.8	12.6
% Hispanic	6.9	3.1	16.3
Median income (in US$)	46,386	40,061	50,221
% below poverty	16.7	17.8	13.9
% college degree	39	20	28

Source. U.S. Census Bureau, 2010 Decennial Census.

employment-related matter, as well as professional liability insurance for each individual (up to US$1,000,000). As in all other districts and public organizations in the state (and across the country), membership in affiliates such as FCEA is wholly voluntary.

Data

The core set of data for this article is comprised of school-by-school union membership rates provided to us by the FCEA, the district's affiliate with the NEA. Fayette County encompasses the city of Lexington, Kentucky's second-largest city and the home of the University of Kentucky. Table 1 provides basic demographic and socioeconomic characteristics of the county and, for comparison purposes, the state and nation as a whole, based on the 2010 Decennial Census.

Fayette County has somewhat higher income and substantially higher education levels compared with both the rest of the state and the nation as a whole. Its percentages of minority residents are more comparable with the broader United States than with other counties in Kentucky. Excluding technical centers and schools offering alternative academic programs,[2] Fayette County contains a total of 51 public schools: 34 elementary schools, 12 middle schools, and 5 high schools.

FCEA provided us with membership rates by school for the 2011-2012 academic year. These rates are calculated by simply dividing the number of dues-paying FCEA members by the total number of teachers employed in each school. To these data, we link school-level student and administrative characteristics we collected from the U.S. Common Core of Data produced by the National Center for Education Statistics, Kentucky's Department of

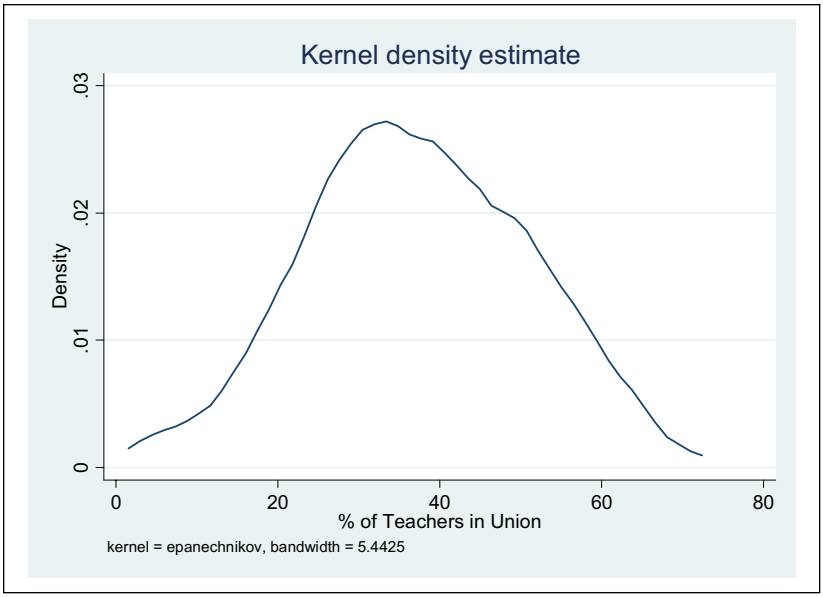

Figure 1. Distribution of union membership rates in Fayette County Public Schools.

Education school accountability reports, as well as data from the U.S. Census Bureau's 2010 American Community Survey and 2010 Decennial Census. Precisely because all schools share the same general fiscal and administrative policies in place at the district level, we posit that the variation in membership rates across schools may be interpreted with respect to differences in the very immediate working conditions faced by teachers at their actual place of employment, thereby providing some insight into the union membership decision itself.

Analysis

Initial Description

We begin by noting that unionization rates range from 7% to 67% across FCPS, with a mean unionization rate of 37.3% across all schools in FCPS. Figure 1 provides a kernel density plot of these rates.

As Figure 1 illustrates, these rates are distributed relatively normally around that mean, and indeed a Shapiro–Wilk normality test fails to reject the null hypothesis of a normal distribution ($z = -1.871$, Prob > $z = .9693$). Next,

Table 2. Pairwise Correlations Between School Unionization Rate and School Characteristics.

	Correlation to unionization rate
Academic index score	−0.432***
Percent student body Hispanic	0.177
Percent student body Black	0.382***
Percent of students receiving free or reduced price lunch	0.407***
School is Title 1 eligible	0.225
School average daily attendance	−0.163
Number of school crime incidences	0.151
Total student enrollment	−0.00940
Student/teacher ratio	−0.342**
Percent of teachers with master's degrees	−0.390***
Average years of teacher experience	−0.292**
Percent of teachers with National Board Certification	−0.338**
Percent of teachers with provisional certification	−0.0643
Percent of teachers not "highly qualified" under NCLB	0.0406
Elementary school	−0.0981
Spending per student	0.254*
Observations	51

Note. NCLB = No Child Left Behind.
*$p < .10$. **$p < .05$. ***$p < .01$.

we consider each school's membership rate against each building's student and staffing characteristics.Table 2 provides simple pairwise correlations between these characteristics and the unionization rate of teachers employed in those schools.

First, we note the consistency of the patterns of union membership reflected in this table. Unionization rates are highest in schools that scholars and policymakers would traditionally consider to be more difficult environments in which to teach: those schools serving higher concentrations of minority students, more students eligible for free or reduced priced lunch, and in schools with lower overall levels of academic achievement. We also note that high union membership is also associated with schools staffed with

Table 3. Pairwise Correlations Between School Unionization Rate and Community Characteristics.

	Correlation to unionization rate
Percent of population unemployed	0.332**
Percent of families below poverty line	0.232
Percent of households without a fluent English speaker	0.198
Percent of population non-White	0.386***
Percent population receiving public assistance	0.179
Percent of population Hispanic	0.344**
Percent of households receiving food stamps	0.434***
Percent of population with less than a HS diploma	0.484***
Percent of families with a single parent	0.366***
Observations	51

Note. HS = high school.
*$p < .10$. **$p < .05$. ***$p < .01$.

teachers with fewer years of experience, lower degree attainment, and fewer teachers holding National Board Certifications, although we observe no correlation between the proportion of teachers holding provisional certification and union membership rates or the proportion of teachers designated as "high quality" under No Child Left Behind (NCLB) guidelines and union membership rates.

Certainly, the considerable demographic variation between the schools inside Fayette County reflects widespread socioeconomic and demographic variation between neighborhoods within its boundaries. It is straightforward to link school location to these neighborhood differences, which we do by merging available tract-level data from the U.S. Census to our data on each school's union membership. As such, Table 3 takes the same approach taken in Table 2 but substitutes germane characteristics of the corresponding Census tract in which the school is located for the school, student, and staffing characteristics. This permits us to analyze the relationship between community characteristics and teacher union membership rates.

The story here is substantively identical to that told above: Union membership rates are higher in schools that are located in areas with higher levels

of unemployment, higher concentrations of minority and Hispanic populations, higher proportions of families receiving food stamps, lower average educational attainment, and higher concentrations of single-parent families. Collectively, these results support the conclusions we reach above—teachers working in schools serving traditionally disadvantaged and historically underserved populations are more likely to join the union than teachers working in schools located in more affluent and White neighborhoods.

Modeling Union Membership

From an administrative standpoint, these basic patterns are informative because they provide a simple and direct way of considering where employees appear more likely to utilize extra-organizational professional support. However, the statistics in Tables 2 and 3 do not isolate any particular relationship from the others, so it is difficult to determine whether in that example, such a correlation is evident because low productivity is important in its own right or because lower performing schools also have higher rates of, say, low-income students who—for whatever reason—may pose a different working environment than a school with wealthier students.

One practical difficulty in developing a multivariate model explaining union membership rates that encompasses the student, school, staffing, and community characteristics we discuss above is the high level of correlation between particular sets of variables. For example, when school enrollment is determined by family residence, the schools with high concentrations of poverty and minority students are those located in high-minority, high-poverty neighborhoods. This does not pose a problem per se if the primary consideration of the multivariate model is its overall explanatory power. The lack of observed independent variation in the regressors included in such a model does not introduce bias in the estimated coefficients, but does introduce the bothersome problem (from a broader policy perspective) of large standard errors for estimated coefficients, leading to a model with reasonable overall predictive power but few (or no) statistically significant predictors—the so-called "multicollinearity problem."

As one might expect, estimating a multivariate regression via Ordinary Least Squares (OLS) predicting unionization rates utilizing the full set of the variables discussed in Tables 2 and 3 displays these exact symptoms.[3] The estimated model has an R^2 of .6330, indicating strong overall explanatory power, but contains few coefficients of individual statistical significance. To diagnose the extent of the effect of multicollinearity, we calculate variance inflation factors (VIFs) for each of the regressors included in the model. General guidelines indicate that a multicollinearity problem exists if any of

the individual VIFs exceed 10 or if the mean VIF for all variables exceeds 1 (Kennedy, 2003). In this pooled model, the VIF of eight individual variables exceeds 10 and the overall mean VIF is 11.81. In general, this tells us that the regressors included in our model—student, teacher, school, and community characteristics—collectively are important predictors of school unionization rates, yet renders us unable to pinpoint the specific variables that are particularly important for this purpose.

We use this result to motivate our utilization of exploratory factor analysis. Exploratory factor analysis is an appropriate technique for two purposes: to explore the interrelationships among a set of variables and for data reduction, through which groups of related variables can be compressed into a fewer number of factors.[4] As discussed above, our decision to utilize factor analytical techniques is consistent with both of these motivations. Conveniently, factor analysis also provides a solution of sorts to multicollinearity problems, albeit at the cost of lost resolution in the identification of the individual effects of regressors on the dependent variable. Accordingly, we utilize the principal factors method on the pooled set of variables discussed above. Analysis of scree and interpretability of results supports the extraction of five unique factors. Following extraction, we subject the factor loadings to orthogonal varimax rotation, thereby eliminating correlation among factors. Table 4 presents the loadings for the five extracted and rotated factors for items with a primary factor loading of greater than or equal to 0.5. We suppress the reporting of secondary loadings for purposes of clarity.

As Table 4 indicates, Factor 1 strongly loads on community socioeconomic and demographic characteristics, including the proportion of families in the school's community who are below the poverty line, and the proportion receiving food stamps. Factor 2 loads heavily on the socioeconomic and demographic characteristics of the student body, the education and experience levels of the teachers, per pupil spending, and the school's student–teacher ratio. Factor 3 considers some characteristics of the school itself: It loads most heavily on the average daily attendance rate and crime rate, and also includes the academic index of the school as well as total school enrollment and school type (primary or secondary). Factor 4 loads on variables that generally relate to the Hispanic population of the school and community, also loading on the proportion of families in the local community without a member speaking fluent English. Factor 5 loads on the two variables related to teacher certification: the proportion of teachers certified on provisional certifications and the proportion of teachers considered "highly qualified" under the NCLB legislation. These five extracted and rotated factors collectively capture nearly 86% of the underlying common variation of the full set of original variables.

Table 4. Factor Loadings.

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Academic index score			−0.747		
Percent student body Hispanic				0.643	
Percent student body Black		0.639			
Percent of students receiving free or reduced price lunch		0.806			
School is Title I eligible		0.697			
School average daily attendance			−0.915		
Number of school crime incidences			0.839		
Total student enrollment			0.723		
Student/teacher ratio		−0.803			
Percent of teachers with master's degrees		−0.708			
Average years of teacher experience		−0.600			
Percent of teachers with National Board Certification					
Percent of teachers with provisional certification					0.813
Percent of teachers not "highly qualified" under NCLB					0.784
Elementary school			−0.746		
Spending per student		0.799			
Percent of population unemployed	0.755				
Percent of families below poverty line	0.828				
Percent of households without a fluent English speaker				0.847	
Percent of population non-White	0.623			0.505	
Percent population receiving public assistance	0.597				
Percent of population Hispanic				0.915	
Percent of households receiving food stamps	0.874				
Percent of population with less than a HS diploma	0.718				
Percent of families with a single parent	0.877				

Note. NCLB = No Child Left Behind; HS = high school.

Having utilized factor analysis to reduce our full set of variables to these five unique factors, we next regress school unionization rates on the five extracted factors. The results of this regression are presented in Table 5.

Table 5. Regression Results (Dependent Variable: School Unionization Rate).

	b	*SE*
Factor 1 (Community socioeconomic and demographic characteristics)	3.709*	1.96
Factor 2 (Student socioeconomic and demographic characteristics)	4.245*	2.22
Factor 3 (School environment)	3.112**	1.31
Factor 4 (School and community Hispanic population)	3.041	2.01
Factor 5 (Teacher certification)	0.637	0.91
Constant	37.265***	1.66
Observations	51	
R^2	.2814	

Note. Robust standard errors reported.
*$p < .10$. **$p < .05$. ***$p < .01$.

Standard errors are calculated utilizing the Huber–White correction and are therefore robust to arbitrary forms of heteroskedasticity.

The results show that coefficients associated with Factors 1, 2, and 3 are statistically significant at the .10 level, although only Factor 3 achieves significance at the .05 level. Factors 4 and 5, which respectively load on the size of the Hispanic and non-English speaking community and the certification characteristics of the teachers, are not found to predict school unionization rates. The results for Factor 1 demonstrate that unionization rates are higher in schools immersed in higher levels of poverty, lower levels of average education, and in communities with higher unemployment and greater proportions of single-parent families. Similarly, the results of Factor 2 are consistent with the pairwise results presented above, indicating that, holding all other factors constant, teachers in schools with higher minority and poor populations are more likely to be union members, as are teachers in schools with lower average teacher experience and lower average levels of educational attainment.

It is the significance of Factor 3 that we believe deserves the most attention. The positive coefficient associated with this factor indicates that as Factor 3 increases, unionization rates increase. Returning to the individual factor loadings, recall that Factor 3 loads negatively with overall school academic achievement and average daily attendance, and loads positively with crime incidence. In other words, teachers join the union at higher rates if they teach in schools with higher crime rates, lower average attendance, and lower

overall academic achievement, holding all else constant. We interpret the statistical significance of this factor as at least suggestive evidence that how a school is managed and run may have ramifications for the individual teachers' decisions to join the union: those working in schools that are better performing (higher attendance, higher academic achievement, lower incidence of crime) given the socioeconomic and demographic characteristics of the community and students have lower unionization rates, whereas the reverse holds for teachers in underperforming schools.

Discussion

In making her "case for reinvigoration" of public sector union research, Riccucci (2011) described several fruitful areas of possible inquiry. Among these were explorations of between-state variability in union power, the growing role of unions in the non-profit sector, the differences between state and federal employee unions, and—in the specific context of the public educational sector—the relationship between teacher unions and educational reform. The analysis presented here is limited along the first parameter, as we have quite explicitly noted that one midsize educational agency cannot generalize to every single state and locale. Furthermore, we also share the same limitation as other recent work on teachers in the field of public administration (e.g., Grissom, 2012; Grissom & Keiser, 2011; Grissom, Nicholson-Crotty, & Keiser, 2012; Meier & Hicklin, 2008; Meier & O'Toole, 2001, 2002, 2003), in the sense that public schools and other public bureaucratic agencies may differ in ways with direct and important empirical and theoretical implications. However, the results here have particular value in setting a baseline for future scholarship on the role of unions beyond the bargaining table, especially in the costly domain of public education.

To see why, we return to the setting that introduces this article. Many state executives, legislatures, and now court systems seem to be pursuing an aggressive agenda designed to curb unionization among public employees, especially among those employed in public education. These efforts have been largely successful from both the practical aspect of regulation and legislation and—if the electoral results in places such as Wisconsin are indicators—from the standpoint of popular opinion. If these developments represent a growing consensus that unions stand in the way of good government and much-needed public sector reform, such a consensus view would fit closely with the notion that unions exist primarily to extract the best terms for their members regardless of agency performance or outcomes.

Our article does not and, ultimately, cannot address the question of whether such a pattern is normatively positive or negative for either teachers or their

students. We simply note that earlier work on teachers has found that enhancing teachers' working conditions is almost by definition the purpose of unionization, especially if it constrains administrators from acting against teachers' interests (Cowen and Fowles 2013; Johnson & Kardos, 2000; Koppich, 2006; McDonnell & Pascal, 1979; Perry & Wildman, 1970). To preserve gains made for individual members, unions have exercised considerable political power—perhaps their chief asset—to block a variety of educational reforms over the years (e.g., Moe, 2003, 2006a, 2006b, 2011, 2013).

As we have noted above, there is a robust literature on the variation in teacher union strength between districts, and in one sense, our findings fit broadly in the general pattern observed there. Nationally, for example, unions appear to be more influential in larger, urban areas, especially those in which working conditions are most difficult (e.g., Brunner & Squires, 2013; McDonnell & Pascal, 1979, 1988; Moe, 2011; Rose & Sonstelie, 2010; Strunk, 2012). Our results confirm that this pattern is visible even between schools within a single district. Moreover, a well-developed literature stresses that, apart from their relationship to unionization itself, working conditions—most notably, the characteristics of the students in each school—are a primary determinant of teacher satisfaction and, with that, strongly influence both recruitment and retention (Boyd, Lankford, & Loeb, 2005; Boyd, et al. 2005; Boyd, Lankford, Loeb, Ronfeldt, & Wyckoff, 2011; Hanushek, Kain, & Rivkin, 2004). Schools with underachieving students and higher rates of poverty are those with the highest rates of union membership in our sample, and these are the same schools that a robust body of literature has documented as having the greatest difficulty recruiting and retaining quality teachers. This evidence does not allow us to conclude that unions actually improve the teaching experience in these classrooms, but it is consistent with a pattern in which teachers at least in the aggregate look in these settings to their union for professional support.

Regardless, our findings reinforce the significant, and to date, underappreciated point that future changes to policies regarding unionization appear to necessarily disproportionately affect high-risk schools. Given that these schools are also those that policymakers and administrators alike seek to systematically staff with effective, high quality teachers, it would seem to follow that explicit recognition and consideration of the potential disparate impacts—be they positive or negative—of changes to the rules regarding unionization comprise a key, and, to date, lesser understood dimension of such discussions. Such studies become increasingly important as policy, social, and demographic shifts continue to introduce meaningful change into the landscape with respect to the powers that unions hold and the role that they play in the workplace.

Appendix

Full Model Regression Results

Dependent variable: School Unionization Rate

	b	*SE*
Academic index score	−0.880*	0.44
Percent student body Hispanic	−0.198	0.45
Percent student body Black	−0.010	0.44
Percent of students receiving free or reduced price lunch	0.474	0.50
School is Title 1 eligible	−17.354*	9.06
School average daily attendance	7.278**	2.98
Number of school crime incidences	−0.037	0.94
Total student enrollment	0.006	0.01
Student/teacher ratio	−6.457	4.52
Percent of teachers with master's degrees	−0.381	0.38
Average years of teacher experience	1.641	2.18
Percent of teachers with National Board Certification	−5.894	62.46
Percent of teachers with provisional certification	0.411	0.83
Percent of teachers not "highly qualified" under NCLB	−0.771	1.65
Elementary school	9.675	8.99
Spending per student	−0.015*	0.01
Percent of population unemployed	0.772	0.54
Percent of families below poverty line	−0.476	0.32
Percent of households without a fluent English speaker	0.107	1.02
Percent of population non-White	−0.134	0.31
Percent population receiving public assistance	−0.408	0.74
Percent of population Hispanic	−0.087	0.78
Percent of households receiving food stamps	0.776	0.51
Percent of population with less than a HS diploma	0.560	0.36
Percent of families with a single parent	−0.229	0.27
Constant	−375.404	291.00
Observations	51	
R^2	.6630	

Note. Robust standard errors reported. NCLB = No Child Left Behind; HS = high school.
*$p < .10$. **$p < .05$. ***$p < .01$.

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Notes

1. See Hoxby (1996) and Lovenheim (2009) for a more formal description of the problems with such an approach. These scholars are primarily interested in the estimate of impact of adopting a teacher contract in the past, not in examining cross-sectional variation in districts at present, but the basic problem faced by both objectives is the same.
2. Fayette County Public Schools (FCPS) have eight of these institutions, which collectively enroll only 874 of FCPS' 40,023 students.
3. The results of this pooled model are presented in the appendix of this article.
4. Some scholars differentiate factor analysis from principal components analysis, arguing that the former is appropriate when seeking to extract latent constructs and the latter is simply a data reduction method (see Julnes, 1999, for instance). Others argue that factor analysis is a superior methodology to principal components analysis in both situations (Costello & Osborne, 2005). Principal components analysis yields substantively identical results to those we present here. These results are available from the authors on request.

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Author Biographies

Jacob Fowles is an Assistant Professor in the School of Public Affairs and Administration at the University of Kansas. His research interests are in the areas of education finance, education policy, and municipal finance. His work has appeared in such journals as The American Review of Public Administration, Public Budgeting and Finance, Research in Higher Education, and Economics of Education Review, among others.

Joshua Cowen is Associate Professor of Education Policy at Michigan State University. Recent work has been published in *The American Review of Public Administration; Educational Evaluation and Policy Analysis; Education Finance and Policy; the Journal of Policy Analysis and Management; Policy Studies Journal;* and *the Journal of Public Administration Research and Theory*. His research focuses on educational reforms, including school choice, accountability and efforts to improve teacher quality.