The Politics of Latino Education: The Biases of At-Large Elections

David L. Leal
The University of Texas at Austin
Valerie Martinez-Ebers
Texas Christian University
Kenneth J. Meier
Texas A&M University

This paper investigates the determinants and consequences of Latino political representation in the field of K-12 education. The first task is to examine the association between Latino population and the Latino presence on school boards. We then investigate if Latino representation is affected by the electoral structure of school boards, as scholars have reached differing conclusions on whether atlarge and ward systems hinder or enhance minority descriptive representation. The next step examines the consequences of Latino representation, specifically whether board membership is associated with the share of Latino school administrators and teachers. The regression results show that Latino population positively affects Latino board representation, but that at-large systems hinder descriptive representation. The primary determinant of Latino administrators is Latino school board membership, and the primary determinant of Latino teachers is Latino administrators. In sum, at-large elections negatively influence Latino educational representation, which produces a ripple effect that ultimately reduces the share of Latino teachers.

Latinos are now the largest minority group in the United States, but numbers alone are no guarantee of political influence. The traditional view of how minorities gain access to the benefits of the U.S. political system is via education, but research has long established that access to education itself is inherently political. The Latino community has for many generations struggled for educational equity but has faced numerous structural and other impediments. We therefore investigate the political dynamics of Latino education in the field of K-12 education, a subject of major academic and policy consequence.

This paper specifically will examine the politics of Latino representation on school boards and whether such descriptive representation has substantive effects. The first question is whether Latino population size is associated with the Latino presence on school boards. We then investigate if such representation is affected by the electoral structure of school boards because scholars disagree whether at-

large and ward systems influence minority representation. Third, we test whether such descriptive representation influences the proportion of Latino administrators and teachers. Because the most recent prior research on these questions used data from the late 1980s, this paper provides needed evidence on how current conditions have changed given the dramatic growth in the Latino population.

School board representation is an integral aspect of the political system. School boards in America are the most local electoral unit in the federal system. Almost 100,000 people serve on 15,000 boards, and they constitute the largest bloc of elected officials in America. Overseeing the education of forty-five million public school students, they are entrusted with annual school expenditures of approximately three hundred billion dollars (Toch and Glastris 1994).

Boards are involved in all aspects of school policy. They hire and fire superintendents, set the curricula, decide spending priorities, and adopt reform plans. Although many decisions are in practice left to superintendents and other administrators, school boards are tasked to oversee these experts (Wirt and Kirst 1989). Boards, therefore, shoulder much responsibility for the quality of public education in America.

The question of Latino representation in school policymaking might be less urgent if Latino educational achievement were high, but this is far from the case. While education may be the best way to escape poverty and realize the American dream, many Latinos find their hopes prematurely dashed through low educational achievement. A report by the White House Initiative on Educational Excellence for Hispanic Americans (1999) documents how Latino underachievement in education begins as early as kindergarten and continues through higher education. By the age of nine, Latino children perform below their non-Latino peers in the subjects of reading, mathematics, and science. Their overall scores on the National Assessment of Educational Progress (NAEP) are also consistently below average. One-third of Latino students between the ages of 15 and 17 are enrolled below grade level, and Latinos are less likely to take college preparatory courses in high school.

The high Latino dropout rate is well known: 1998 data show a dropout rate of 30%, in comparison to 14% for African Americans and 8% for Anglos. Overall, Latinos perform lower than most groups on standardized tests, and they have the lowest high school graduation rates and four-year college enrollments of all racial and ethnic groups in the country (Riley and Pompa 1998; Secada et al. 1998).

Latinos also attend schools that are increasingly segregated in terms of race, ethnicity, and class (Orfield and Yun 1999). They often face institutional racism and cultural biases at school in terms of programming, curriculum, and tracking and ability grouping practices (Carrasquillo 1994; Grossman 1995; Spring 2000). In sum, Latinos are arguably the most educationally disadvantaged of all groups in the United States today (Riley and Pompa 1998).

Whether the dismal state of Latino education is related to political dynamics is a key question for political scientists to investigate. Meier and Stewart was one of the first investigations of this possibility. Using regression analysis and controlling for intermediary factors, they discovered that Latino students were subject to more suspensions and expulsions, were underrepresented in gifted and talented classes, and were overrepresented in special education classes. Not only were such practices associated with lower student achievement, but they also served as "a substitute for segregation" (1991, 197).

Meier and Stewart also discovered that such treatment was associated with community political power. Most importantly, Latino representation on school boards was associated with better educational conditions. In districts with more Latino representation, Latino students experienced greater access to equal education and less "second-generation" discrimination. There also appeared to be a ripple effect, whereby more Latino school board members led to more Latino school administrators, which in turn led to more Latino teachers.

Others have found evidence that Latino representation on school boards is associated with policy outcomes of interest to this community. Leal and Hess (2000), for instance, found that the percentage of school board members who are Latino is positively associated with funding for bilingual education programs, even after controlling for objective student need for bilingual education. Board representation is, therefore, not just symbolic or of interest to a small number of activists but is inseparable from the aspirations of the larger community.

The first empirical part of this paper investigates the relationship between Latino population and the Latino presence on school boards. The overall literature on representation discusses two general linkages between constituents and representatives. The first is indirect representation, whereby a legislature may collectively represent the people even if there is no clear link between specific legislators and specific constituents (Weisberg 1978). Policy outcomes are therefore congruent with public opinion, even if elected officials are not actively trying to represent their constituents.

The second form of representation is direct. This takes place when the votes of a legislator are linked to the interests of his or her constituents. Elected officials in this scenario take seriously the delegate view of representation, as opposed to the trustee view exemplified by Edmund Burke in his famous letter to Bristol. Pitkin (1967) named this substantive representation and contrasted it with descriptive representation. The latter takes place when a constituency elects a representative who shares key traits but not necessarily policy views.

This paper begins by examining the descriptive representation of Latinos on school boards. While descriptive representation does not always lead to substantive representation, voters generally see a connection. This is not to say that Anglo school board members cannot adequately represent Latino constituencies, as many have undoubtedly done so. In a similar way, a lawyer may be able to represent a district of farmers. Farmers, however, may want their elected representatives to share an agricultural background. Not only would the latter likely know more about farming, but they could be better trusted to fight for farm interests behind closed doors in Washington.

This issue of trust is particularly important in the study of representation. Hall noted that many key legislative activities take place out of public view, such as "Building a coalition for a legislative package, drafting particular amendments, planning and executing parliamentary strategy, [and] bargaining with or persuading colleagues to adopt one's point of view" (1996, 2). Constituents must trust that members are acting in a way that furthers their interests, as there are few ways for them to monitor such legislative behaviors.

Bianco further observed that "many kinds of behavior that are not usually thought of as rational choices, such as voters' desire to be represented by 'someone like them,' are the product of a systematic, predictable calculus—moreover, a calculus aimed at securing favorable policy outcomes" (1994, ix). Voters therefore "focus on attributes because they cannot be the product of calculation and provide a clearer signal of a candidate's policy concerns" (62). In this way, descriptive representation is a shortcut voters use to increase the likelihood of their interests being served.

Electing a member of one's group to office also has symbolic value. As Davidson and Oleszek wrote, "When a member of an ethnic or racial minority goes to Congress, it is a badge of legitimacy for the entire grouping. Such legislators speak for people like them throughout the nation" (2000, 133). What is true for Congress at the national level is also true for school boards at the local level.

Prior studies of Latino representation in local political entities have documented its low levels. Scholars usually derive a statistic of group representation through the Engstrom and McDonald (1981) method, which regresses minority population on minority descriptive representation. Taebel (1978) found a Latino representation index of .44 for 60 large urban city councils, meaning an underrepresentation of 56%. Karnig and Welch (1979) found a similar city council ratio of .45 for 124 southwestern cities. Fraga, Meier, and England (1986) noted a ratio of .77 for 35 school districts in very large cities, and Meier and Stewart (1991) found it was .86 for a larger population of districts.

The second part of this paper examines whether specific types of electoral mechanisms affect the level of Latino descriptive representation. Historically, such representation was impeded by a variety of legal and extralegal tactics. Literacy tests, poll taxes, and simple intimidation were effective tools against the electoral participation of Latinos as well as African Americans and poor Anglos. These have largely passed from the political scene, but election laws originally adopted with discriminatory intent may still affect political representation.

School board membership is chosen through three means: elections by ward, elections at-large, and by appointment. Progressive reformers at the turn of the twentieth century advocated at-large elections as one prong in a larger effort to isolate school boards and city councils from the influence of political parties, immigrants, those of lower socioeconomic status, and the vagaries of the democratic process generally (Tyack 1974). This reform proved a substantial obstacle to minority communities, as minority candidates often lack the resources to launch district-wide campaigns and find it difficult to attract Anglo votes.

In recent decades, underrepresented minority groups used the *Voting Rights Act of 1965* as "the legal foundation for creation of district-based elections to replace at-large elections to city councils and other multimember bodies" (Bezdek, Billeaux, and Huerta 2000, 209). The above authors described the example of Corpus Christi, where the efforts of the Mexican American Legal Defense and Education Fund (MALDEF) led to the replacement of eight at-large city council seats with five ward seats and three at-large seats.¹

Whether at-large elections have discriminatory effects on minority representation is the subject of debate in the political science literature, and one with important practical ramifications. Some scholars have found that ward systems are positively associated with Latino representation on school boards (Davidson and Korbel 1981; Meier and Stewart 1991; Polinard, Wrinkle, and Longoria 1990, 1991). Others, however, have discovered no statistically significant effects (Fraga, Meier, and England 1986; Welch and Karnig 1978).

These varying findings are also present in different decades. Using data largely from the 1980s, Fraga, Meier, and England (1986) arrived at different conclusions than did Polinard, Wrinkle, and Longoria (1991) and Meier and Stewart (1991). Studies using data from the 1970s (Davidson and Korbel 1981; Welch and Karnig 1978) similarly arrived at opposite conclusions. In light of these differences across time, it is desirable to investigate representational dynamics with a contemporary survey.

A new study is also needed because the Latino population is located in a very different social and political space than was the case in the 1970s and 1980s. The 2000 Census revealed how this group is expanding throughout the United States, and many educational jurisdictions that have historically educated few Latino children are now encountering significant and growing numbers of such students. The state with the fastest-growing Latino population, for instance, is not Texas or California but North Carolina. The Latino population of this state increased by just over 440% from 1990 to 2000, growing from 69,020 to 372,964 people. The next largest growth rates were found in Arkansas (337%), Georgia (324%), and Tennessee (284%). The issues of Latino representation on school boards and the quality of education received by Latino children are therefore relevant to a growing number of states and regions. Consequently, a study using current data is vital to understanding how Latino educational representation fares in this new and expanding context.

The above dynamics are a larger and more noticeable continuation of previous trends. As Meier and Stewart noted, the school districts in their sample "have not had a stable enrollment composition over time. The average district increased its Hispanic enrollment by about ten percentage points since 1968 (Table 1–3). Some districts, of course, have become substantially Hispanic during this time period"

¹Many school boards have incorporated both ward and at-large elections under the theory that minorities can benefit from coalition building and win some of the at-large seats. McDonald and Engstrom (1992), however, suggested that this did not transpire in practice.

(1991, 31). They surveyed districts with at least 5,000 students, of whom at least 5% were Latino. Their total number of usable observations was 145; in comparison, our survey includes 857 such districts. Given these Latino population trends, additional studies might also be useful after each future census.

There is also a contemporary interest in Latinos that was largely absent in previous decades. Latino influence is now more strongly felt and more frequently commented upon in both politics and popular culture. This suggests that the role of Latinos in the contemporary political system may be qualitatively as well as quantitatively different than in previous decades.

In addition, given the extensive litigation over city council districts in recent decades, school boards are also probably the last place where at-large districts are still permitted in the presence of racial polarization. For those interested in whether and how electoral structures affect the representation of minorities on political bodies, school boards are the only arena to study. This was much less the case in the 1970s and 1980s, so a new study of school boards is the best way to investigate whether and how electoral structure can influence representation.

A related literature explores the impact of electoral systems on minority representation on city councils. Davidson and Korbel (1981) and Bezdek, Billeaux, and Huerta (2000) argued that ward districts increase Latino representation. On the other hand, Zax (1990) argued that residential segregation was a more important determinant than electoral method in the election of Latino officials. MacManus (1978) found that at-large plans did not impair the city council representation of African Americans and the Spanish speaking, although the details of the system and the socioeconomic environment were important. Taebel (1978) argued that city council size was more relevant for Latino representation than the electoral system. Rabinovitz and Hamilton (1980) suggested that a mixed system was better than a ward system for the representation of blacks on city councils.

Some have argued that electoral systems affect the representation of African Americans but not Latinos. Karnig and Welch (1979) and Welch (1990) found this was the case for city councils. One explanation is that Latinos are not subjected to the same degree of residential segregation as African Americans (Lopez 1981).

The third part of this paper investigates the consequences of descriptive representation, specifically whether the share of Latino board members is associated with the share of Latino school district employees. Administrators and teachers influence the quality of education received by students, and teachers in particular wield much power in their classrooms as "street level bureaucrats" (Lipsky 1980; on the substantive issue see Hess and Leal 1997 and Meier and Stewart 1991).

There is widespread agreement in the professional education community that minority students gain academically when they are taught by minority teachers. Empirical evidence for these propositions is less common than their assertion, however, although a growing number of scholars are testing this hypothesis in a

variety of settings. Hess and Leal (1997) examined the relationship between teacher race/ethnicity and student achievement in large urban school districts. They found that the proportion of minority teachers was positively associated with the college matriculation of all students. While they noted that the hiring of minority teachers might serve as a proxy for unobserved school conditions relevant to student achievement, the article provides intriguing evidence that minority teachers may promote the learning of both minority and Anglo students.

Meier, Wrinkle, and Polinard (1999) and Meier et al. (2001) tested how the percentage of minority teachers was associated with the student pass rates of standardized exams required by the state of Texas. They found that pass rates were higher for both minority and Anglo students in districts with a larger share of minority teachers (although see Nielsen and Wolf 2001). Meier, Wrinkle, and Polinard (1999) suggested an explanation based on discriminatory hiring practices. Districts less focused on the quality of educators than on their race will on average hire less competent teachers, thereby negatively affecting the educational outcomes of all students.

Dee (2001) argued that this question needed a randomized experimental methodology to accurately understand whether racial dynamics were factors in student achievement. He examined test score data from the Tennessee Project STAR (Student Teacher Achievement Ratio) class-size experiment, finding significant math and reading improvements among students randomly provided same-race teachers. There are also a number of more qualitative studies of Latino student achievement that highlight the importance of Latino faculty and staff (Garcia 2001; Nieto 1999; Reyes, Scribner, and Scribner 1999; Valdes 1996).

Substantial evidence also suggests that the Latino community wants more Latinos teaching their children (Nieto 1999; Romo and Falbo 1996). While the above debate asks whether minority teachers improve the educational outcomes of minority and Anglo children, this dynamic is less important from the perspective of representation theory. Many scholars have investigated whether elected officials and political institutions are responsive to constituents, but there is less discussion of the more difficult question—whether constituent wishes are objectively in their best interests. The presence of minority teachers is, therefore, an important indicator of political responsiveness to minority communities regardless of its effect on minority students.

The only previous research on board representation and the minority presence in teaching faculties and educational administrations is Meier and Stewart (1991). They found the share of Latino school board members was positively associated with Latino administrators but not with Latino teachers. They did find, however, a positive correlation between Latino administrators and Latino teachers.

Data and Methods

Data for this paper derive from three sources. Information on school board selection structures, school board ethnicity, administrator ethnicity, teacher eth-

nicity, and student ethnicity were obtained from an original survey. All school districts with more than 5,000 students were sent mail surveys in June 2001.² Nonrespondents received two follow-ups by mail. Up to six phone calls were then placed to nonrespondents in an effort to contact as many of the districts as possible; the phone interviews collected information only on the school board variables. A final attempt was made via email.

Of the 1,831 surveyed districts, 1,751 provided data on school boards (95.6%) and 1,532 (83.7%) on teachers and administrators. The actual numbers in the regression analysis are somewhat lower due to missing data for other variables. Nonrespondents on the electoral information were no different from respondents in terms of size of district, ethnic distribution in the district, and similar census data on which comparisons could be made. For the teacher and administrator data, district sizes were the same but nonrespondents were from locations with slightly smaller Latino populations. Given that the distinction between respondents and nonrespondents could not explain as much as 1% of the variance in any variable where measures existed, we are confident that any selection biases in the survey are slight and do not affect the results presented.³

Population figures and other demographic variables for 2000 were available from the 2000 census. Additional information used to check the accuracy of student enrollment figures on the survey were from the U.S. Department of Education (2001).

Findings

School Board Representation

The first step in assessing the level of descriptive representation is to examine the simple relationship between Latino population and Latino school board representation (both variables are expressed as a percentage of the total) as suggested by Engstrom and McDonald (1981). This equation essentially predicts the expected value of representation for a given level of population. The first column of Table 1 presents this seats-population relationship for all districts. The level of explained variation is consistent with past models for school board representation reported by Meier and Stewart [.60 (1991, 92)] and Fraga, Meier, and England [.77 (1986)]. Both previous studies, however, excluded districts with

² Districts with more than 5,000 students were surveyed for two reasons. First, these districts educate the overwhelming majority of Latino students, as they are located in the areas with the largest Latino populations. Our school districts had a total Latino population in 2000 of 32.84 million, which is 93% of the 35.3 million Latinos in the overall population. Second, there are significant data collection problems in many of the smaller districts. They often do not keep the type of records that larger districts do, particularly in terms of EEO data, as it is the larger districts that are regularly surveyed by the EEOC.

³ We also checked to see if the districts lost from the sample because of missing data were different from those included in the analysis. The only difference we can find is that the districts with missing data are slightly smaller than other districts, which is not a major concern.

Variable	All Districts	Minority Districts	Majority Districts	Five Percent - Latino	
variable -	Districts	Districts	Districts	Lumo	
Intercept	-3.66	-1.36	-68.54	-8.97	
	(13.05)	(6.12)	(7.54)	(13.57)	
Population	.71	.43	.72	.84	
_	(57.48)	(40.44)	(13.50)	(40.44)	
R-squared	.66	.33	.64	.66	
Standard error	9.54	6.89	19.20	12.72	
F	3,304.37	793.62	182.14	1,635.55	
N of cases	1.739	1,633	106	857	

TABLE 1

The Representation Relationship: Latino School Boards

Numbers in parentheses are t-scores.

fewer than 5% Latino students; Fraga et al. also only included districts with more than 25,000 students.

Two coefficients from the first regression in Table 1 merit discussion. First, the slope coefficient reveals that for each one percentage point increase in Latino population, Latino representation on the school board increases by .71 percentage points. In short, the translation of population into representation is only 71% effective. This figure should not be interpreted by itself as the precise estimate of underrepresentation, however. The intercept (–3.66) is negative and significant, thereby indicating a threshold effect. At low levels of population, increases in Latino population have no influence on expected representation levels. Only after a threshold is breached does population predict a positive value for expected representation. That "threshold" can be estimated by using the regression equation to predict the level of population where estimated representation will be at least zero. In the present situation, the threshold is 5.2%.

The findings in the first column suggest that the relationship between representation and population is not linear. The next two columns therefore show the same regression for districts where Latinos are a minority of the population and districts where they are a majority of the population. Previous arguments about electoral structure and representation presuppose the group in question, in this

⁴We use population as the base for all our regressions rather than voting-age population, estimated population who are citizens, or school enrollment for both an empirical reason and a normative reason. Empirically, the measures are highly correlated. The R² between voting-age population and population is .9963, and between enrollment and population it is .9631. Using other measures of population changes the size of the coefficients but has no impact on the statistical significance of any findings. The population numbers also predict representation better than any of the other three measures. In normative terms, to paraphrase the Supreme Court, these electoral units were created to represent populations, not citizens or school age children or even voting-age populations.

case Latinos, constitutes a minority of the total population. After all, if Latinos have a voting majority, then they can use at-large elections in the same manner as Anglos do when there is an Anglo majority.

The .71 coefficient for all districts drops to .43 in minority districts but jumps to .72 in majority districts. Comparing these figures directly is somewhat misleading simply because the intercepts are so dramatically different. Majority districts, for example, have an expected representation value of 17.5% for districts that are 50% Latino but 100% for districts with 98% or more Latinos. Both sets of findings strongly suggest that nonlinear estimates of the expected value of representation should be examined.

Before moving to the nonlinear estimates, the last column provides a comparison to the Meier and Stewart results by limiting the analysis to districts with at least 5% Latino population. Two things are immediately apparent. The representation coefficient increases to .84, essentially the same as the .86 coefficient reported by Meier and Stewart (1991, 92). The difference in intercepts in the two analyses, however, suggests caution in comparing these two values.

Table 2 estimates nonlinear equations linking population to representation. The differences between minority and majority jurisdictions are once again dramatic. In minority Latino districts, the population-squared term is significant and adds additional explanation to the overall equation. In majority districts, the nonlinear terms induce massive collinearity so that neither coefficient is significant and the level of explained variation has not changed at all.

These findings suggest that when Latinos are a minority of the population, the population-representation relationship is nonlinear, with larger percentages

TABLE 2

The Nonlinear Population-Representation Relationship:
Latino School Boards

Dependent variable = Percent Latinos on School Board								
Variable	Minority	Districts	Majority	Districts				
Intercept	-1.3619	.0135	-68.54	-46.31				
	(6.12)	(.05)	(7.54)	(.81)				
Population	.4315	.0683	1.72	1.08				
	(28.17)	(1.45)	(13.50)	(.66)				
Population Squared		.0096		.00				
		(17.33)		(.39)				
Adjusted R-squared	.33	.35	.64	.63				
Standard error	6.89	6.76	19.20	19.20				
F	793.62	445.75	182.14	90.41				
N of cases	1,633	1,633	106	106				

Numbers in parentheses are t-scores.

Tolerances for nonlinear equations, minority districts .10, majority districts, .0061.

getting significantly more representation than smaller percentages. The insignificant intercept for minority districts also eliminates the problematic threshold effect of the linear estimation. The insignificant linear term in this model suggests that it can be dropped from the analysis with no loss of information. The best interpretation for majority districts, however, is that the relationship between Latino population and Latino representation remains linear.

The now traditional way to assess the bias of electoral systems is to run an interaction between the various selection plans and population within a single regression (Engstrom and McDonald 1981). As noted above, there are three major selection plans for school districts: at-large systems, ward systems, and appointed systems. For those districts with less than 50% Latinos, the current sample contains 985 pure at-large systems (where all board members are elected at-large), 443 pure ward systems, and 53 pure appointed systems. The remaining 163 systems contain mixed combinations of the three selection types.

We created three variables for each district: the proportion of members elected from wards, the proportion elected at large, and the proportion appointed. Scores of 1.0 on any of these variables indicate a pure system, and lower scores indicate fewer members selected in the manner indicated by the variable. This process permits us to retain the 163 districts that do not have pure selection systems; the precise characteristics of these mixed systems are the subject of future research. To continue our distinction between majority and minority districts, these equations are estimated for both sets of districts with the hypothesis that structure matters when Latinos are a minority but does not matter when they are a majority.

Table 3 investigates this relationship for districts where Latinos are a minority. Adjusting for the nonlinear population coefficient, the regression contains five variables: Latino population squared, the ward selection percentage, the appointed selection percentage, ward selection multiplied by Latino population squared, and appointed selection multiplied by Latino population squared. This regression equation can then be used to derive representation estimates for each of the three pure systems.

Because several of the variables reduce to zero when other systems are in place, three equations can be derived from the results in Table 3:

At-Large Elections Representation = $.5283 + .0094 \times Population^2$ Ward Elections Representation = $-.1743 + .0148 \times Population^2$ Appointed Representation = $.8701 + .023 \times Population^2$

Because the various intercepts are not different from the at-large intercept, they can basically be ignored in discussions. Suffice it to say that while the at-large intercept is significantly different from zero, its size is trivial (that is, at 0% Latino population, the expected value of representation is .5%). The larger size of the population-squared coefficient for ward elections shows that they generate higher

TABLE 3

The Detrimental Impact of At-Large Elections: Latino School Boards

Variable	Slope	t	tol.	Slope	t	tol.
Intercept	.5283	2.25	_	.5282	2.25	
Latino Population Squared	.0094	21.45	.70	.0094	21.53	.70
Ward System	7026	1.77	.83	7054	1.78	.83
Ward x Population Squared	.0054	6.17	.67	.0054	6.20	.67
Appointed System	.3418	.33	.79	-1.2978	1.11	.63
Appointed x Population Squared	.0136	5.91	.78	_	_	_
Appointed x Population	_	_	_	.5112	6.21	.62
R-squared	.38			.38		
Standard error	6.61			6.60		
F	201.41			202.60		
N of cases	1,628			1,628		

Analysis includes districts only with less than 50% Latino population.

levels of Latino representation than at-large systems. Appointed systems generate the largest levels of representation, as found previously by Meier and Stewart (1991). For instance, with a Latino district population of 5%, expected Latino representation is .8% in at-large systems, .2% in ward systems, and 1.4% in appointed systems. With a Latino population of 25%, the respective numbers increase to 6.4%, 9.1%, and 15.2%; at 45%, the figures are 19.6%, 29.9%, and 47.2%.

The clear conclusion from Table 3 is that both *electoral* systems systematically underrepresent Latinos when they are a minority of the population, but at-large elections are significantly more detrimental to Latino representation than ward elections. It is unclear why some prior research found a lack of bias in at-large systems, but one possibility is that analyses that do not distinguish between majority and minority Latino districts may sometimes produce incorrect results. It is also possible that past research indicating differential ward and at-large effects was substantively correct but derived using incorrect models. Only a reanalysis of the data from previous projects would determine if this is the case.

We might also investigate some additional dimensions of the school board representation process, as Table 3 incorporated only two types of independent variables: population and selection plan. Such a regression overlooks the fact that Latinos are generally poorer, less well educated, less likely to own homes, and less likely to be citizens—all factors that affect voter turnout (Leighley 2001). Several demographic variables were therefore added to the equation in Table 3: percent of Latinos with college degrees, percent noncitizens, percent living in poverty, and median Latino family income. This new regression, which is not presented because of space considerations, shows that only the percentage of Latinos

who were noncitizens added any statistically significant explanation to the equation, and in that case the substantive impact was very small. To reduce Latino representation by 1.3 percentage points, fully one-half of all Latinos would need to not be citizens.⁵

As noted above, the theoretical arguments about electoral structure and ethnic minorities assume that ethnic minorities are a numerical minority. When Latinos become a numerical majority, electoral structure should have little effect on representation because they can simply use majoritarian electoral systems, such as at-large elections, to their advantage. To determine whether or not majority status changes the relationship between structure and representation, we replicated our analysis with the 106 school districts with a Latino majority. The equations in Table 4 include both linear relationships for population (as found in Table 2) and nonlinear relationships for population for comparison purposes.

Despite the substantial size of the coefficients for ward-based systems in both equations, none of the relationships are statistically significant. In short, when Latinos are a majority, there is no difference in the representational consequences of at-large elections compared to ward-based elections.

This finding should be qualified somewhat based on two additional bits of evidence. First, the equations are marked by a high degree of collinearity, thus making statistical significance difficult to obtain; tolerance levels for the linear relationship are especially low. At the same time, a joint f-test comparing the equations in Table 4 with those in Table 2 shows that the four additional variables as a group do not add a statistically significant level of explanation (F-test for the nonlinear specification = 1.67 with 4, $100\,\mathrm{df}$, p = .16; F-test for the linear specification = 2.01, p = .10). Second, the appointive system relationships do appear to be somewhat different, with coefficients that approach or modestly exceed traditional levels of statistical significance. Because the translation of descriptive representation into substantive representation has been called into question in the literature (Meier and Stewart 1991), we leave the precise meaning of the relationships in appointive systems for future research.

Administrative Representation

Political representation on urban legislatures, be they city councils or school boards, has been linked to greater access to jobs for the represented group (Eisinger 1982; Mladenka 1989). Although there is some question as to whether the causal relationship runs from elected officials to employment or from employment to elected officials (Meier and Smith 1994), we will assume, as does the overwhelming majority of the literature, that the process flows from the top down—that is, representation on school boards increases representation in admin-

⁵One reason why citizenship does not matter more than it does is that school district elections have very low turnout (often as little as 5% of registered voters). We also tried an interaction of the Latino population and the citizenship variable, but it was statistically insignificant.

TABLE 4
Selection Process Does Not Affect Latino Representation When Latinos Are a Majority

Dependent variable = Percent Latinos on School Board									
	Linear	Population		Squared	Population				
Variable	Slope	t	tol.	Slope	t	tol.			
Intercept	-65.40	6.21	_	-7.0380	1.25				
Latino Population	1.68	11.33	.71	.0116	11.25	.71			
Ward System	-23.48	1.11	.04	-10.0413	.88	.15			
Ward × Population	.34	1.15	.04	.0020	.98	.14			
Appointed System	106.94	1.84	.04	48.6729	1.45	.11			
Appointed × Population	-1.71	2.12	.04	0119	1.96	.11			
R-squared	.65			.64					
Standard error	18.82			18.96					
F	39.46			38.55					
N of cases	106			106					

Analysis includes districts only with more than 50% Latino population.

istrative positions, and both in turn increase representation at the street level (in this paper, the teachers).

The first equation in Table 5 shows the relationship of Latino school board representation and population with the percentage of Latino administrators for minority districts. Population can be interpreted as a labor pool characteristic. Administrators are hired from a pool of individuals, a percentage of which will be Latino. To control for variation in the composition of the labor pool, therefore, the Latino population percentage is needed. In addition, the quality of this labor pool is affected by factors such as education levels, income, and even citizenship. Table 5 therefore controls for the Latino population percentage with college degrees, living in poverty, and who are not citizens.

Even with these controls, Latino board members are positively associated with more Latino administrators; a one percentage point increase in Latino board members is associated with a .16 percentage point increase in Latino administrators, ceteris paribus. The level of explained variation in Table 5 reveals that the hiring of Latino administrators is a far more predictable process than the election of school board members.

⁶The relationships in this table may all be nonlinear. When squared terms are added for both variables, all four slopes are positive and statistically significant. The level of explained variation increases by only three percentage points, however, and the literature does not contain any arguments about a nonlinear relationship.

TABLE 5

Latino Board Representation and Latino Administrators

Dependent variable = Percent Latino Administrators

Districts

	Minority	Distr	icts	Majority Slope	Districts	
Variable	Slope	t	tol.		t	tol.
Intercept	774	2.22	_	-26.866	2.85	
Latino Population	.327	30.31	.59	.391	2.40	.31
School Board Representation	.156	11.89	.68	.319	4.40	.33
Latino Non-Citizens	026	3.97	.89	359	2.55	.74
Latino College Graduates	.031	3.18	.68	1.619	3.76	.82
Latino Poverty	.014	1.44	.82	1.040	5.69	.66
R-squared	.62			.76		
Standard error	3.50			13.33		
F	450.86			65.63		
N of cases	1,371			101		

Table 5 also demonstrates how much other factors affect administrative hiring. The major influence on the percentage of Latino administrators hired is the percentage of Latino population, a percentage that reflects both the potential political clout of the Latino community as well as the potential pool of candidates for administrative positions. As expected, administrative representation increases with the percentage of college-educated Latinos. Even though citizenship is not a requirement for holding an administrative position in a school system, noncitizenship likely correlates with other factors that disadvantage Latinos, so the negative relationship is expected. The positive relationship between Latino poverty and administrative representation is likely a function of job opportunities. In communities with low poverty levels, well-paying jobs in the private sector are likely to attract many Latinos who might opt to be school administrators. High levels of poverty make safe, although lower paying, jobs in school systems more attractive. Even though each of these three relationships is statistically significant, their substantive impacts are relatively minor.

The second equation shows the same set of relationships for districts with a Latino majority. All relationships remain statistically significant although the size of the relationships, except for population, changes dramatically. The school board representation coefficient is now better than twice the size it was for minority Latino districts. Such a relationship is consistent with the notion that Latino representatives will be less constrained in pursuing their own interests in Latino majority jurisdictions than in jurisdictions where they are a minority. The other labor pool factors also increase in importance, thus suggesting that majority districts might be pushing up against the constraints of the size of the qualified labor force. The important finding in this second equation, however, is that Latino rep-

	Minority	Distr	icts	Majority	Districts	
Variable	Slope	t	tol.	Slope	t	tol.
Intercept	058	.28	_	-32.268	7.16	_
Latino Population	.200	21.62	.36	.539	4.20	.30
School Board Representation	.055	5.93	.62	012	.19	.28
Latino Administrators	.290	16.04	.38	.467	6.04	.24
Latino College Grads	.013	2.06	.70	.890	2.54	.75
Latino Poverty	005	.72	.83	.435	2.64	.50
R-squared	.74			.82		
Standard error	2.35			10.43		
F	773.52			94.15		
N of cases	1,365			102		

TABLE 6
The Determinants of Latino Teachers

resentation in majority districts differs from Latino representation in minority districts in significant ways.

Teacher Representation

Our final empirical analysis examines the determinants of Latino teachers. Well-developed models of teacher ethnicity in the literature suggest that labor pool characteristics (the size of the Latino population and the education levels of that population), Latino administrators, and Latino board members will be significantly linked to teacher representation. The strongest determinant of Latino teachers, however, is likely to be the percentage of Latino administrators.⁷

Table 6 reveals such a pattern. In Latino minority districts, a one percentage point increase in Latino administrators is associated with a .29 percentage point increase in Latino teachers, all other things being equal. Latino population also plays a role, but its impact is substantially less. Both Latino board representation and Latino college percentage have marginally significant relationships, but their direct substantive impact is small.⁸

⁷One potential question is what percentage of Latino teachers in the sample are bilingual education teachers. There are no national statistics on this question, but a separate Texas school data set indicates that less than 5% of Latino teachers are bilingual education teachers.

⁸To more fully explain this result, one might ask whether (1) non-Latino administrators resist hiring Latino teachers, (2) Latino administrators make extra efforts to hire Latino teachers, or (3) Latino teachers prefer to work for schools with relatively large numbers of Latino administrators. We cannot be certain which of these dynamics is taking place, but for the purposes of our study, it does not make a large difference whether one, two, or even all three are at work. The regressions show that the presence of Latino administrators leads to more Latino teachers, and it is beyond the scope of our paper to determine the relative importance of these three potential explanations.

The relationships for Latino majority districts are even more clear cut. Latino population, Latino administrators, and labor force characteristics matter, but school board representation does not. A one percentage point increase in Latino administrators is associated with a .47 percentage point increase in Latino teachers, all other things being equal. The corresponding impact for Latino population is a .54 percentage point increase.

The relative magnitude of the school board and administrators findings makes sense because administrators hire teachers and much of this process takes place in the schools rather than in front of the board. A number of researchers have indeed noted the indirect impact of school boards on many district decisions, as much power has devolved to administrators over time. In Latino minority districts, the impact of school board members is very small; in Latino majority districts, the influence cannot be distinguished from zero. Board members may lack a direct way to influence the composition of these street level bureaucrats. If the causal sequencing is correct, however, Latino school board members have a substantial indirect effect on teacher composition by affecting the ethnicity of school administrators.

Conclusions

This is the first paper in a national study designed to update and expand the findings of previous research regarding the political factors and policy practices that influence educational outcomes for Latino students. Multiple studies suggest greater minority representation in the educational policy process translates into more positive outcomes for minority students (Meier, Stewart, and England 1989; Reyes, Scribner, and Scribner 1999; Spring 2000). Meier and Stewart went further in their assessment of the importance of Latino representation when they identified it as the *one* contributing variable that can be manipulated or changed by "concerted political efforts and appropriate policy decisions" (1991, 210). In this report we focus on descriptive representation with the objective of improving our ability to explain and predict the population-representation relationship.

A contemporary study of this topic is useful for several reasons. First, research in the 1970s and the 1980s arrived at different conclusions about the influence of electoral structure on minority educational representation. Second, the Latino population is now located in a different social and political situation. The 2000 Census revealed how this group is expanding throughout the United States, and many educational jurisdictions that have historically educated few Latino chil-

⁹See Tyack (1974) for a discussion of how the responsibility for teacher hiring changed over time. Other research further suggests that the impact of Latino board members on the hiring of Latino teachers is real although indirect (Wirt and Kirst 2001, 164).

¹⁰ One might ask whether any of the above relationships vary according to which Latino national-origin group comprises the majority of the district population. We were able to test this possibility by separately analyzing majority Mexican-American districts and majority Puerto Rican districts. The regression results derived from these subsamples were very similar to those derived from the overall sample. There were only two plurality Cuban-American districts, however, and there were no majority or plurality districts for other Latino national-origin groups.

dren are now encountering significant and growing numbers of such students. A new and comprehensive national study is therefore important to understanding how Latino educational representation fares in this new and expanding context.

Third, to advance the methodology of analysis, the paper tests for a nonlinear population effect, which was not conducted in the educational representation literature. We also separately examine majority Latino population districts and minority Latino population districts, which was not done by previous research. Lastly, given the extensive litigation over city council districts, current school boards may represent the last opportunity to investigate whether and how electoral structures affect minority representation on political bodies in contemporary America.

Overall, our findings highlight the complexity of the relationship between Latino populations and their representation on school boards. Looking strictly at levels of population and levels of representation on school boards, earlier studies found Latinos significantly underrepresented. Our analysis shows this trend continues and appears to be growing.

The presence of a threshold effect, however, suggests that a nonlinear specification may be appropriate. We also note that Latinos (like any group) may be able to profit from at-large districting when they are a majority of the population. We test a squared population term and divide the sample into majority and minority Latino districts. The nonlinear Latino population variable is significant in the minority Latino districts and adds additional explanation to the overall equation. Both population variables are insignificant in the majority Latino districts and the model contains significant collinearity, however, thus suggesting that in these districts the relationship between Latino population and Latino representation remains linear.

A key question in the literature is the ethnic bias of different selection plans. Our study supports the findings of earlier research showing minority population translating into minority school board seats at a substantially higher rate with ward elections than with at-large elections. Our findings show that at-large election systems usually disadvantage Latinos; the obvious policy recommendation is that at-large systems should be replaced by single-member systems.

Interestingly, appointment systems appear more efficient than ward elections. We contend that the circumstances in appointment systems, however, are fundamentally different from elections. These differences may produce higher representation but potentially change the impact of representation. Why? The attitudes and priorities of political appointees may more closely reflect those of community elites rather than the general population, or appointees simply may behave differently than elected officials. Further study is clearly needed on the political context of appointment systems and its effect on appointee attitudes and behaviors.

We also explored other population demographics that were hypothesized to influence the low level of Latino representation on school boards. Based on theories of participation and group power, we expected the political resources of the population—income, education, and citizenship—to play a role. We found that the low socioeconomic status of the Latino population has no effect on the relationship. The percentage of the population that is ineligible to vote (noncitizens) has a negative effect, not surprisingly, but the size of that impact is trivial.

Finally, although our models predicting Latinos in lower positions of school authority basically mirror those previously reported, our analysis serves to emphasize the linkage between descriptive and substantive representation. While characteristics of the available labor pool play a role in predicting the presence of Latino administrators and teachers, they are overshadowed by the importance of having Latinos at higher levels of authority. Latino representation on school boards is significantly associated with increases in the percentage of Latino administrators, and the percentage of Latinos in administration is the most important variable determining the presence of Latino teachers. As we know the Latino community wants more Latinos teaching their children, greater Latino school board representation is therefore more likely to lead to education policies congruent with community wishes.

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References

Bezdek, Robert, David Billeaux, and Juan Carlos Huerta. 2000. "Latinos, At-Large Elections, and Political Change: Evidence from the 'Transition Zone.'" *Social Science Quarterly* 81 (March): 207–25.

Bianco, William. 1994. *Trust: Representatives and Constituents*. Ann Arbor: University of Michigan Press.

Carrasquillo, Angella. 1994. "A Rationale for Hispanic Representation in Instructional Materials." The Journal of Educational Issues of Language Minority Students 14 (Winter): 115–26.

Davidson, Chandler, and George Korbel. 1981. "At-Large Elections and Minority Group Representation: A Re-Examination of Historical and Contemporary Evidence." *Journal of Politics* 43(4): 982–1005.

Davidson, Roger, and Walter Oleszek. 2000. Congress and Its Members. Washington: Congressional Quarterly Press.

Dee, Thomas S. 2001. "Teachers, Race and Student Achievement in a Randomized Experiment." NBER Working Paper Series, Working Paper 8432. Cambridge: National Bureau of Economic Research.

- Eisinger, Peter K. 1982. "Black Employment in Municipal Jobs: The Impact of Black Political Power." American Political Science Review 76 (June): 380–92.
- Engstrom, Richard, and Michael McDonald. 1981. "The Election of Blacks to City Councils." American Political Science Review 75 (June): 344–54.
- Fraga, Luis R., Kenneth J. Meier, and Robert E. England. 1986. "Hispanic Americans and Educational Policy: Limits to Equal Access." *Journal of Politics* 48(4): 850–76.
- Garcia, Eugene. 2001. Student Cultural Diversity: Understanding and Meeting the Challenge, 3rd ed. Boston: Houghton Mifflin.
- Hall, Richard. 1996. Participation in Congress. New Haven: Yale University Press.
- Grossman, Harvey. 1995. Special Education in a Diverse Society. Boston: Allyn & Bacon.
- Hess, Frederick, and David Leal. 1997. "Minority Teachers, Minority Students and College Matriculation: A New Look at the Role-Modeling Hypothesis." *Policy Studies Journal* 25 (Summer): 235–48.
- Karnig, Albert, and Susan Welch. 1979. "Sex and Ethnic Differences in Municipal Representation." Social Science Quarterly 60 (December): 465–81.
- Leighley, Jan E. 2001. Strength in Numbers? The Political Mobilization of Racial and Ethnic Minorities. Princeton: Princeton University Press.
- Lipsky, Michael. 1980. Street Level Bureaucracy. New York: Russell Sage Foundation.
- Leal, David, and Frederick Hess. 2000. "The Politics of Bilingual Education Expenditures in Urban School Districts." *Social Science Quarterly* 81 (December): 1064–72.
- Lopez, Manual Mariano. 1981. "Patterns of Interethnic Residential Segregation in the Urban Southwest." Social Science Quarterly 62 (March): 50–63.
- MacManus, Susan. 1978. "City Council Election Procedures and Minority Representation." Social Science Quarterly 59 (June): 153–61.
- McDonald, Michael, and Richard Engstrom. 1992. "Minority Representation and City Council Electoral Systems: A Black and Hispanic Comparison." In *Ethnic and Racial Minorities in Advanced Industrial Democracies*, eds. Anthony Messina, Luis Fraga, Laurie Rhodebeck, and Frederick Wright. New York: Greenwood Press, pp. 127–42.
- Meier, Kenneth J., and Kevin B. Smith. 1994. "Representative Democracy and Representative Bureaucracy: Examining the Top Down and the Bottom Up Linkages." *Social Science Quarterly* 75 (December): 790–803.
- Meier, Kenneth J., and Joseph Stewart, Jr. 1991. *The Politics of Hispanic Education*. Albany: State University of New York Press.
- Meier, Kenneth J., Joseph Stewart, Jr., and Robert E. England. 1989. *Race, Class and Education: The Politics of Second Generation Discrimination*. Madison: University of Wisconsin Press.
- Meier, Kenneth J., Robert D. Wrinkle, and J. L. Polinard. 1999. "Representative Bureaucracy and Distributional Equity: Addressing the Hard Question." *Journal of Politics* 61(4): 1025–39.
- Meier, Kenneth J., Warren S. Eller, Robert D. Wrinkle, and J. L. Polinard. 2001. "Zen and the Art of Policy Analysis: A Response to Nielsen and Wolf." *Journal of Politics* 63(2): 616–29.
- Mladenka, Kenneth R. 1989. "Barriers to Hispanic Employment Success in 1,200 Cities." *Social Science Quarterly* 70 (June): 391–407.
- Nielsen, Laura B., and Patrick J. Wolf. 2001. "Representative Bureaucracy and Harder Questions: A Response to Meier, Wrinkle, and Polinard." *Journal of Politics* 63(2): 598–615.
- Nieto, Sonia. 1999. The Light in Their Eyes: Creating Multicultural Learning Communities. New York: Teachers College Press.
- Orfield, Gary, and John Yun. 1999. Resegregation in American Schools. http://www.law.Harvard.edu/groups/civilrights/publications/resegregation99.html. Cambridge: The Civil Rights Project, Harvard University. Accessed: June 1, 2000.
- Pitkin, Hanna. 1967. The Concept of Representation. Berkeley: University of California Press.
- Polinard, J. L., Robert Wrinkle, and Thomas Longoria. 1990. "Education and Governance: Representational Links to Second Generation Discrimination." Western Political Quarterly 43 (September): 631–46.

- Polinard, J. L., Robert Wrinkle, and Thomas Longoria. 1991. "The Impact of District Elections on the Mexican American Community: The Electoral Perspective." Social Science Quarterly 72 (September): 608–14.
- Rabinovitz, Francine, and Edward Hamilton. 1980. "Alternative Electoral Structures and Responsiveness to Minorities." National Civic Review 69 (July): 371–401.
- Reyes, Pedro, Jay D. Scribner, and Alicia Paredes Scribner, eds. 1999. Lessons from High-Performing Hispanic Schools. New York: Teachers College Press.
- Riley, Richard, and Delia Pompa. 1998. *Improving Opportunities: Strategies from the Secretary of Education for Hispanic and Limited English Proficient Students*. Washington: U.S. Department of Education.
- Romo, Harriet D., and Toni Falbo. 1996. *Latino High School Graduation: Defying the Odds*. Austin: University of Texas Press.
- Secada, Walter, Rudolfo Chavez-Chavez, Eugene Garcia, Ciprano Munoz, Jeannie Oakes, Isaura Santiago-Santiago, and Robert Slavin. 1998. No More Excuses: The Final Report of the Hispanic Dropout Project. Washington: U.S. Department of Education.
- Spring, Joe. 2000. American Education, 9th ed. Boston: McGraw-Hill.
- Taebel, Delbert. 1978. "Minority Representation on City Councils." Social Science Quarterly 59 (June): 142–52.
- Toch, Thomas, and Kukula Glastris. April 18, 1994. "Who's Minding the Schools?" U.S. News & World Report, 78–79.
- Tyack, David. 1974. The One Best System: A History of American Urban Education. Cambridge: Harvard University Press.
- U.S. Department of Education, National Center for Education Statistics. 2001. Common Core of Data: Public Elementary/Secondary School Universe Data, 1998–99. Washington: U.S. Department of Education
- Valdes, Guadalupe. 1996. Con Respeto: Bridging the Distance between Culturally Diverse Families and Schools: An Ethnographic Portrait. New York: Teachers College Press.
- Weisberg, Robert. 1978. "Collective vs. Dyadic Representation in Congress." *American Political Science Review* 72 (June): 535–47.
- Welch, Susan. 1990. "The Impact of At-Large Elections on the Representation of Blacks and Hispanics." Journal of Politics 52(4): 1050–76.
- Welch, Susan, and Albert Karnig. 1978. "Representation and Blacks on Big City School Boards." Social Science Quarterly 59 (June): 162–72.
- White House Initiative on Educational Excellence for Hispanic Americans. 1999. Latinos in Education: Early Childhood, Elementary, Secondary, Undergraduate, Graduate. ERIC Clearinghouse on Urban Education.
- Wirt, Frederick M., and Michael W. Kirst. 1989. Schools In Conflict: The Politics of Education. Berkeley, CA: McCutchan Publishing Company.
- Wirt, Frederick, and Michael Kirst. 2001. *The Political Dynamics of American Education*. Richmond, CA: McCutchan Publishing Company.
- Zax, Jeffrey. 1990. "Election Methods and Black and Hispanic City Council Membership." Social Science Quarterly 71 (June): 339–55.
- David L. Leal is assistant professor of government, The University of Texas at Austin, Austin, TX 78712-1087, (dleal@gov.utexas.edu). Valerie Martinez-Ebers is associate professor of political science, Texas Christian University, Fort Worth, TX 76129, (v.martinez@tcu.edu). Kenneth J. Meier is Charles Puryear Professor of Liberal Arts and professor of political science, Texas A&M University, College Station, TX 77843-4348, (kmeier@polisci.tamu.edu).

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