Latino Representation and Education:

Pathways to Latino Student Performance

Ashley Ross
Ph.D. Student
Department of Political Science
Texas A&M University
aross@politics.tamu.edu

Stella Rouse
Ph.D. Candidate
Department of Political Science
Louisiana State University
srouse1@lsu.edu

Kathleen Bratton
Associate Professor
Department of Political Science
Louisiana State University
bratton@lsu.edu

Paper prepared for the Seventh Annual Conference on State Politics and Policy, Austin, Texas, February 22-24, 2007. We are grateful to Dr. Ken Meier for making his data available.

Latinos are the largest and fastest growing minority group in the U.S., particularly among children—those who have the most at stake in the education system (U.S. Census Bureau 2000; Llagas 2003).[1] As illustrated by Table 1, the rapid growth in the number of Latinos has resulted in a rise in Latino enrollment at elementary and secondary schools. At the same time, the challenges faced by Latino students in education have been well-documented. The national drop-out rate for Latino students is substantially higher than for others, and Latino students score substantially lower than Anglo students on standardized tests (National Center for Education Statistics 2002). Moreover, Latino students are more likely than other students to face challenges related to immigration (Darder, Torres, and Gutierrez 1997; Gibson 2002); most students who are classified as "limited English proficient" are Latino (Riley and Pompa 1998).

Not surprisingly, the question of Latino student achievement has drawn a great deal of scholarly attention in the last two decades. As a practical matter, it is clearly crucial to explore ways to improve the educational performance of Latino students. As Meier and Stewart (1991) note, political representation on school boards, and school board policy in general, is one explanatory variable that can be in the short term manipulated by those with an interest in improving educational outcomes. While much of the scholarly interest in the educational outcomes of Latino students draws on policy and public administration research, scholarship also draws upon theories of political representation. This extant research focuses on the link between descriptive representation (or the degree to which a representative body mirrors the population in terms of important political characteristics, such as race, gender and ethnicity) and substantive representation, or the degree to which an elected body provides policy outcomes that match the interests of the represented community. Generally, scholars explore whether greater representation of Latinos on school boards influence a variety of outcomes, including the ethnic composition of school administrators and teachers, as well as student educational outcomes.

In this paper, we bring together these different avenues of research by taking a much more comprehensive approach than earlier works that examined educational outcomes for Latino students. Specifically, we focus on the indirect effect school board representation has on educational outcomes for Latino students, operating through the direct effects of political representation on administrators, teachers, and resources. This study contributes to our

[1] Most scholarly work that references people of Spanish origin use the terms "Hispanic" and "Latino" interchangeably. For purposes of uniformity we use the term "Latino" in this paper.

knowledge regarding the mechanisms that may be manipulated by policy-makers as well as the Latino community in improving Latino educational performance.

The first section of the paper outlines the literature on Latino representation and Latino student performance. The concept of representation is discussed and past findings regarding the link between Latino representation and Latino educational outcomes are highlighted. The second section builds an argument for presenting a path analytic model as a way to interpret concepts of representation and to understand the effects of both political and bureaucratic factors on Latino education. In section three we present the data and specify the models to be analyzed. Results of the structural equation model are examined in section four. In the last section we discuss conclusions of our analysis and offer some suggestions for future research on Latino education using this type of modeling.

Previous Literature

Latino representation has been widely studied, from city councils (Shockley 1974) to national and state legislatures (Kerr and Miller 1997; Bratton 2006) to school boards (Meier and Stewart 1991). These analyses confirm that Latino representatives do affect policy change beneficial to the Latino community, which is to say that they actively and substantively represent their constituency. Substantive representation is linked to descriptive representation or the demographic characteristics of the representative. [2] In other words, past research demonstrates that Latino representatives, by being Latino, descriptively represent their community. This translates into substantive representation when the representative exercises some choice on behalf of the represented (Meier 1993).

Descriptive representation occurs when a representative shares similar demographic characteristics and traits as his or her constituency. This type of representation is tied to the idea that groups elect individuals to represent them that are similar to themselves. Many scholars argue that descriptive representation is necessary for minority groups to gain significant access to the democratic process (Canon 1999, Mansbridge 1999, Haynie 2000, Swers 2002, Tate 2003). These authors also suggest that members of a particular minority group are best qualified to represent that demographic. The most salient demographic characteristic among groups and

[2] Descriptive representation is often referred to as "passive representation" and substantive representation is also labeled as "active representation" in the Latino education literature (Meier and Stewart 1991; Meier and O'Toole 2006).

representatives is race. Racial links are symbolic of shared political attitudes and values (Meier and Stewart 1991). Literature on Latino education has consistently argued for the necessity of descriptive representation (at least at the local school board level) in order for the education policy needs of Latinos to be advocated (Fraga, Meier, and England 1986; Meier and Stewart 1991; Leal et al. 2004).

Whereas descriptive representation is a demographic characteristic, substantive representation is a process (Meier 1993). Substantive representation involves active choices by the representative to advance the interests of his or her constituency. Substantive representation has been significant in the study of minority politics since it is the predominant way minority groups have received representation. Meier (1993) contends that substantive representation is achieved when (1) the demographic characteristic is highly salient, such as race; (2) representatives have the discretion to act; and (3) policy decisions are directly relevant to the descriptive characteristic, such as education policy that directly affects Latinos. The mechanism by which Latino representatives act on behalf of Latinos begins with descriptive representation—the demographic characteristic of race—but the discretion individual representatives have and the policy area in which they may exert influence affects their substantive representation as well.

Past studies have shown that political representatives—school board members—are able to affect the number of Latino school administrators and teachers hired, but their impact on Latino students is often debated. On the other hand, bureaucratic representatives—administrators and teachers—have been directly linked to Latino student performance. Much of this may be due to the proximity of teachers to students and the discretion teachers may exercise in areas that directly influence student performance. However, previous analyses have not clearly demonstrated the direction and magnitude of relationships between Latino political and bureaucratic representation and the links among Latino representatives and Latino student educational achievement.

Fraga, Meier, and England (1986) were one of the first to analyze the association between Latino political and bureaucratic representation and student performance in urban school districts. The authors found that Latino school board members were significantly and positively associated with higher numbers of Latino teachers; however Latino school board representation was not linked to Latino student performance. Nonetheless, Latino teachers were correlated with lower dropout and higher graduation rates of Latino students. They concluded that “more Latino school

board members can increase the number of Latino teachers, and more Latino teachers can contribute to higher educational achievement for Latino students" (Fraga, Meier, and England 1986: 871).

In a similar study, Polinard, Wrinkle, and Longoria (1990) analyzed Texas school districts. The authors support Fraga, Meier, and England's (1986) conclusions, finding that Latino school board representation is positively correlated with the proportion of Latino teachers and Latino administrators. Specifically, their path analytic model establishes a direct association between Latino school board members and Latino teachers as well as Latino school board members and Latino school administrators. Additionally, they found a direct relationship between Latino school administrators and Latino teachers. Also, they noted a positive correlation between Latino teachers and Latino student assignments to bilingual programs.

Comparable to Polinard, Wrinkle, and Longoria's (1990) analysis, Meier and Stewart (1991) demonstrated with a national dataset that Latino representation on the school board is correlated with better educational outcomes. In a series of regression analyses, they found that Latino school board members were related to greater numbers of Latino school administrators, which in turn was associated with higher numbers of Latino teachers. Latino teachers were correlated with fewer Latino students placed in mentally-retarded and bilingual classes as well as higher numbers of Latino students placed in gifted classes and higher numbers of Latino high school graduates.

Further dissecting the relationships between Latino administrators, teachers, and students, Meier (1993) examined 12 Florida school districts. Meier observed that Latino teachers were associated with more positive outcomes for Latino students in the areas of academic grouping, discipline, and performance. The same relationship did not hold between Latino administrators and Latino student performance, with the exception of drop-outs. In short, Latino administrators did not affect Latino students directly. However, Latino administrators above a critical mass—Meier calculates it to be around 25 percent—were shown in analyses to directly impact Latino student outcomes.

Applying the research techniques and hypotheses of studies completed in the 1980's and 1990's, Leal, Martinez-Ebers, and Meier (2004) tested the relationships between Latino school board members, administrators, and teachers in the 21st century context of an expanded Latino

population. Supporting previous analyses, the authors demonstrated that more Latino school board members were positively associated with more Latino school administrators, and that more Latino school administrators were related to more Latino teachers. In school districts where Latinos compose a minority of the population, Latino school board representation is positively associated with Latino teachers, even when accounting for administrators. Similarly, Meier, Juenke, Wrinkle, and Polinard (2005) found in a study of Texas school districts that the relationship between school board members and teachers is indirect and mediated by school administrators.

Even though the bulk of studies assumed that the causation flows from Latino school boards members—political representatives—to administration to teachers—bureaucratic representatives—Meier and O'Toole (2006) asserted that the causal arrow runs in both directions. The authors stated "the number of Latinos on the school board was affected by the number of Latinos in administration and on the teaching faculty, and the number of Latinos on the board affected the number of Latino administrators and Latino teachers. Relationships in both directions were strong and approximately the same size" (Meier and O'Toole 2006: 186). Additionally, the empirical analysis showed that Latino school board representation is positively linked to Latino student performance. However, based on causal theory, the authors maintained that the relationship between Latino school board members and Latino students was "almost certainly" indirect (Meier and O'Toole 206: 185).

In sum, the body of literature focusing on Latino school board composition establishes that Latino political representation on school boards does shape school district policies to favorably impact the Latino community. Moreover, the impact of Latino school board members on the performance of Latino students is assumed indirect. Latino school boards are associated with more Latino administrators, which are related to more Latino teachers, whom are correlated with more positive Latino student outcomes. This assumption of causality is a crucial component of the theoretical connection between Latino political representation, Latino bureaucratic representation, and Latino students. However, this assumption has been tested only through a series of regression analyses in most studies. And as Meier and O'Toole (2006) point out, these relationships are complex and may be reciprocal. Beyond Polinard, Wrinkle, and Longoria (1990), no previous analyses have clearly demonstrated the direct and indirect relationships between political representation, bureaucratic representation, and student performance. A model is needed to clearly delineate the effects of both political and bureaucratic representation on

Latino educational outcomes and build consensus regarding the causal relationships among these variables.

Model Development: Mapping the Causal Links that Affect Latino Education

As discussed above, research on the determinants of Latino education policy focuses primarily on political and bureaucratic representation. There is a general assumption in the literature of a "top-down" process, whereby political factors affect bureaucratic elements, which in turn influence policy outcomes and educational performance (Meier, Juenke, Wrinkle, and Polinard 2005). Researchers often make implicit assertions about the relationship among variables within this process. However, empirical analyses usually segregate political and bureaucratic variables (see Polinard et al. 1990 and Meier and O'Toole 2006 as exceptions), or imply the indirect effect of one variable upon another (i.e. school board influence on student achievement). These implicit assertions often occur with little analysis or discussion about how variables in the entire process may interact with one another. Even though regression estimates can show the significant (or insignificant) effects of certain independent variables upon dependent variables, less is surmised about the causal relationships of these measures.

In Figure 1 we present a conceptual model to examine the causal connections between political, bureaucratic, and performance variables that are hypothesized to affect Latino educational attainment. We argue that, consistent with the concepts of representation, the "top" point in the path analytic model is Latino political representation, as measured by school board composition. We expect that school districts with a higher percentage of Latino students will have more Latinos on school boards, as maintained by descriptive representation theory. In turn, we expect that school boards with more Latino school board members will also positively affect the number of Latino administrators and Latino teachers in a district; descriptive representation will lead to substantive representation.

Further, in line with the theory of representative bureaucracy, which according to Meier and O'Toole, is a theory "that considers such questions as when minority bureaucrats are likely to act in ways that benefit minority citizens" (2006: 180), we argue that Latino administrators should also have a positive effect on the number of Latino teachers in a district; and that Latino teachers, themselves acting as "street level bureaucrats" (Lipsky 1980), will improve the educational attainment of Latinos (Meier, Wrinkle, and Polinard 1999).

We also assert that the number of Latino students in a district influences variables all the way down the model. We have previously mentioned the hypothesized effect of Latino students on school board composition. In addition, we expect that an increase in the number of Latino students will have a positive influence on the number of Latino school board administrators and Latino teachers. Similarly, an increase in Latino students should also increase the amount of expenditures per student, and positively influence Latino educational achievement.

A rise in the number of Latino students should also cause an increase in the overall number of low income students, since poverty is a major issue in the Latino community (Stokes 2003). In turn, we expect that an increase in the number of low income students will negatively impact overall student achievement.

The effect of Latino students on teacher experience is theoretically unclear. One argument is that an increase in Latino students will lead to more experienced teachers, since it is experienced teachers who are better equipped at tackling the wide Latino achievement gap. On the other hand, many experienced teachers are unwilling to teach in high minority school districts because of a lack of resources.

[Figure 1 about here]

Data and Methods

Our path model is analyzed for 1,040 public school districts in Texas for the year 2001. The data used in this study come from a larger data set collected by Dr. Ken Meier of Texas A&M University, "The Texas Minority Education Study, Project for Equity, Representation, and Governance" (2005). The data set was compiled using information obtained primarily from the Texas Education Agency and supplemented with an original survey, as well as other supporting data sources.[3] Texas is chosen as the sample for this research because it is a very heterogeneous state with similarly diverse school districts (Meier and O'Toole 2006). Texas also has a large Latino population dispersed throughout the state, which makes it a good test case for exploring the determinants of Latino student performance.

[3] The only variable included in this data set not directly obtained from the Texas Education Agency is the "percent Latinos on school boards" (school board ethnicity) measure. This variable was created using government Census data of school boards, information from the Texas Association of School Boards and annual compilations of the National Association of Latino Elected Officials (NALEO). The data was also supplemented by phone surveys. For more details on how this variable was constructed, see Meier and O'Toole 2006 (appendix).

The data for this study include a variety of political, bureaucratic, and achievement measures that are commonly recognized in the literature as potential influences on Latino student performance. The actual number of cases in our model ranges from 1040 to 959 (percent of Latino students that pass the TAAS), indicating a relatively low number of missing data. Descriptive statistics for the variables used in this study can be found in the appendix.

Our first variable of interest is political representation measured as the number of Latinos that serve on school boards. School boards, as the most basic units of representation, are involved in all areas of education. Leal et al. state that school boards, "shoulder much of the responsibility for the quality of public education in America" (2004: 1225). A descriptive representation view of school board composition posits that the number of Latinos on school boards significantly impacts Latino student achievement. Descriptive representation translates to substantive representation when Latino members of the board actively choose policies that benefit the Latino community, or appoint administrators whom they feel will implement Latino-friendly policies. This measure is the percentage of Latinos on school boards as a total of all school board members in a district.

The theory of representative bureaucracy suggests that minority administrators and teachers, who are at the "front lines" of implementing education policy, have a substantial effect on the academic performance of minority students (Hess and Leal 1997; Meier, Wrinkle, and Polinard 1999). We include two variables of bureaucratic representation in our model that capture the number of Latino administrators and the number of Latino teachers that are employed in each school district. These variables are measured as a percentage of total administrators, and as a percentage of total teachers, respectively.

Literature on Latino education also finds that, not just the presence of minority teachers is needed to affect minority student attainment, but that teacher experience is also an important factor. Meier et al. say of teachers that they "are a crucial element in a student's educational environment." And that "as a profession based on lifelong learning, there should be some advantage to teachers with adequate experience…" (1999: 1029). Our model contains a variable that captures the average years of teacher experience. This measure should positively correlate with Latino student performance.

Intuitively it makes sense that more money spent on education will lead to better educational outcomes. However, there is a debate in the literature about the tangible and direct benefits of monetary expenditures upon educational attainment. Studies conducted by Hanushek (1981, 1998) find a negative correlation between expenditures and achievement; while other research has shown positive, but minimal impact from expenditures (Figlio 1998). And yet other work has shown that monetary resources appear to make a difference over time (Wenglinsky 1997). Research on the effects of expenditures on minority and Latino student attainment has also produced mixed results. Most of the research finds mediating factors affecting a direct significant link between expenditures and achievement (Meier et al. 1999; Leal and Hess 2000; Meier and O'Toole 2006). Our conceptual model hypothesizes a positive link between monetary resources, and both overall student achievement and Latino student achievement. Although there are different types of education expenditures, our variable, "per pupil spending", consists only of per student expenditures for instructional purposes.[4] As Meier and O'Toole (2006) argue, this may better tap into the direct impact of expenditures upon Latino student performance.

Educational attainment of Latino students and students in general is measured in our model as the percentage of students that pass the TAAS (Texas Assessment of Academic Skills). This test is given to children every year from grades 3 to 8, and is a requirement for high school graduation (Slobogin 2001). Although there are other measures of achievement, passage rates for the TAAS provide a good way to gauge educational attainment throughout the careers of students.[5]

Lastly, we include a poverty variable in our model. Meier et al. write that "poverty is a serious constraint on student performance" (1999: 12028). As previously mentioned, poverty disproportionately affects the Latino population. Over 27 percent of Latino children live in low-income homes, and Latino poverty has been linked to poor educational attainment (Brindis, Driscoll, Biggs, and Valderrama 2002). Poverty is measured as the percentage of students who are eligible for free or reduced lunches at school, and the variable is named "low income students".

[4] Expenditures can also be measured as teacher salary and the amount of financial aid received by school districts from both federal and state government.

[5] In other studies on Latino education, student achievement measures have included percent of students that obtain a certain score on college entrance exams and the number of students enrolled in advanced placement (AP) classes.

We employ structural equation modeling (SEM) to test the linkages among our variables. This technique consists of a series of regression equations which are fitted simultaneously using maximum likelihood (ML) as the model estimator.[6]

Findings

The statistical model from our path analysis is illustrated in Figure 2. In Table 2, we also provide a summary of the regression results. Additionally, Table 3 decomposes the path coefficients of our model into direct, indirect, and total effects. Overall, our model supports past work in this area. A clear "top-down" process is occurring as evidenced by the direct and indirect effects running from Latino political representation to bureaucratic representation to student performance.

One significant issue in structural equation modeling is how well the model "fits" the data. The assumptions from "absolute fix" indexes (e.g. X^2 goodness of fit test) are usually violated in SEM. Therefore, researchers rely on "adjunct" or "incremental fit" indices to test goodness of fit. Two common fit statistics used in Structural Equation Models are the Tucker-Lewis Index (TLI) and the Root Mean Square Error of Approximation (RMSEA)[7] With the criterion for these indices being above .95 for TLI and below .06 for RMSEA (Hu and Bentler 1999), it appears that our model fits fairly well to the data (TLI = .991, RMSEA index = .061).

[Figure 2 about here]

[Table 2 about here]

[Table 3 about here]

In addition to the fit of the model, our data and results generally support our hypotheses. First, the number of Latino students has a large impact on the number of Latino school board members, administrators, and teachers, as hypothesized. As our statistical model indicates, the number of Latino students in a school district positively and significantly affects the number of Latino representatives on school boards (path coefficient = .787), the number of Latino

[6] Maximum Likelihood is the standard method of estimating free parameters in structural equation modeling (Hoyle and Panter 1995), and is appropriate over other regression estimators when there is missing variables, as is the case with our study.
[7] For more information on fit criteria, see Hu and Bentler (1999).

administrators (path coefficient = .255), and the number of Latino teachers (path coefficient = .134). We also observe the statistically significant impact of Latino students on the percentage of low income students (path coefficient = .674), further highlighting the poverty problem in the Latino community. Contrary to our expectations, however, the percentage of Latino students does not significantly impact Latino student achievement or overall student achievement. Also, there is not a statistically significant relationship between Latino students and the amount of instructional expenditures per student. This may indicate that school districts are not allocating necessary monetary support to keep up with the increasing Latino school age population. The pathway between Latino students and teacher experience was also insignificant, reinforcing the hypothesized ambiguity of this relationship.

Second, the model supports the causal chain between political representation, bureaucratic representation, and students. The number of Latino school board members—political representation—has a statistically significant effect on both the number of Latino administrators and Latino teachers—bureaucratic representation. The direct path coefficients are 0.634 and 0.217, respectively. Whereas, Latino school board members indirectly influence Latino teachers to a larger degree (path coefficient = 0.414). However, this indirect association is smaller than the direct correlation between Latino administrators and teachers (path coefficient = .652). Similarly, teachers, acting in the role of "street level bureaucrats" have a significant and direct impact on Latino educational performance (path coefficient = .128). This effect is larger than the indirect effect between Latino school board members and Latino student achievement (path coefficient = .081), highlighting the influential role teachers play in the educational achievement of Latino students. Clearly, the casual connection between Latino school board members, administrators, teachers, and students is substantiated by our findings.

Third, our results demonstrate the importance of district resources on educational performance. Instructional expenditures per student significantly impacts both total student achievement and Latino student achievement, although the effect of the former is much stronger than the latter (significant only at .10 level). Also, as expected, the relationship between low income students and overall student achievement is negative and significant (path coefficient = -.552). Considering this finding in conjunction with the correlation between overall student achievement and Latino student achievement (path coefficient = 0.768), it is clear that the resources of the district are crucial to the educational performance of all students. Unfortunately, as we pointed out above, minorities are often concentrated in low income districts; therefore, it is

evident that districts exist with a high proportion of minority students, but without the resources to educate them. This lends further support to the well established impact of poverty on educational attainment of minorities.

Fourth, the findings highlight the importance of human resources—teachers. Teachers with more experience significantly impact overall student achievement, but not Latino achievement. This result is similar to Meier et al. (1999: 1030) who find teacher experience to have a positive effect on Anglo students and all students, but a negative effect on Latinos.

Our results comport quite well with causal assumptions outlined at the beginning of the study and alluded to throughout the Latino education literature. Until now most studies have assumed an indirect relationship between political representation and student outcomes. Our path coefficients support the implicit "top down" model that has connected Latino representative "inputs" with education "outputs." The findings demonstrate descriptive representation—the racial link between Latino school board representatives and the Latino community—is translated to substantive representation. The election of Latino school board members is statistically related to the number of Latino administrators, which is associated with the number of Latino teachers. In turn, the number of Latino teachers does impact Latino student performance. We may assume in line with Meier's (1993) contention that substantive representation is achieved in this policy area because: (1) the demographic characteristic of race (being Latino) is highly salient; (2) representatives have the discretion to act; specifically we see a direct and significant relationship among representatives and outcomes in which they have discretion, such as school board members and hiring of administrators; and (3) policy decisions are directly relevant to the descriptive characteristic; in this case Latino representatives are choosing hiring or educational policies that directly affect Latino student performance. In sum, our results bolster the "top-down" argument of Latino representation and student performance and offer evidence of the translation of descriptive representation to substantive representation.

Conclusion

Past research on Latino representation and Latino educational performance neglected to empirically sort out the direct and indirect effects of representation and student achievement. The central assumption in these studies outlines a casual chain running from Latino political representation—school boards—to Latino bureaucratic representation—administrators and teachers—to Latino student performance. We have supported this central argument with a path

analytic model and shown the direct and indirect effects of Latino political and bureaucratic representation on Latino student performance. Furthermore, our results establish that descriptive representation does become substantive representation in the area of education policy for Latinos.

Not only does our model contribute to the body of literature on Latino representation and education, it underscores the importance of school board elections and school district hiring practices. Latino political representation directly and substantially affects the numbers of Latino administrators and teachers. Therefore, policies to promote the representation of Latinos are needed. Specifically, as past research has shown, ward elections should be more widespread in minority Latino districts (Leal, Martinez-Ebers, Meier 2004; Meier, Juenke, Wrinkle, and Polinard, 2005). Furthermore, the hiring practices of school districts should promote minority administration candidates, particularly in minority-prominent districts. Likewise, Latino teacher hiring is important in districts with high percentages of minorities. Sponsorship of Latino administrators and teachers in districts with sizeable Latino student populations may improve educational outcomes, as suggested by our findings.

Although our study enhances our understanding of the effect of Latino representation on Latino student performance, it suffers from several limitations. First, this analysis may be considered a "snap-shot" of the data. The addition of multiple years in a cross-sectional analysis of Texas districts would greatly enhance the generalizability and validity of these results. Second, the model may need refinement in its specification. Past studies have asserted an interactive effect between Latino school board members and teachers in influencing Latino student performance (Polinard, Wrinkle, and Longoria 1990). This should be explored in more detail to determine the influence of the interaction on Latino educational outcomes in our model. Third, additional dependent variables should be tested. Analyses of Latino representation have employed measures of class assignments (gifted, bilingual, mentally-retarded), drop out rates/graduation rates, and disciplinary actions in determining the effects of political and bureaucratic representation on Latino student performance. These variables should be included in our study to determine the robustness of our model.

Even though educational attainment is an axiom in our society, it is clear that understanding the paths involved in translating political and bureaucratic actions into student performance remains a complicated and often ambiguous endeavor. This study provides an illustrative path analytic model for disentangling these relationships. Our results reveal a more

comprehensive explanation of how both direct and indirect measures affect Latino education policy. Future research should explore how this process can be altered to provide more tangible and successful outcomes for the largest and most educationally challenged minority group in the country.

Table 1

Percentage Distribution of Public Elementary and Secondary School Students by Racial / Ethnic Group (by % Minority of School: Fall 2000)

Race / Ethnicity	>10%	10-24%	25-49%	50-74%	75-89%	≥ 90%
White Non-Latino	28	19	19	13	8	14
Black Non-Latino	43	26	20	8	2	1
Latino	2	7	15	20	19	38
Asian	7	15	23	22	18	15
American Indian / Alaska Native	9	19	27	17	8	20

Note: Numbers may not add up to 100 due to rounding.
Source: Llagas (2003).

Figure 1
Conceptual Model of Latino Education

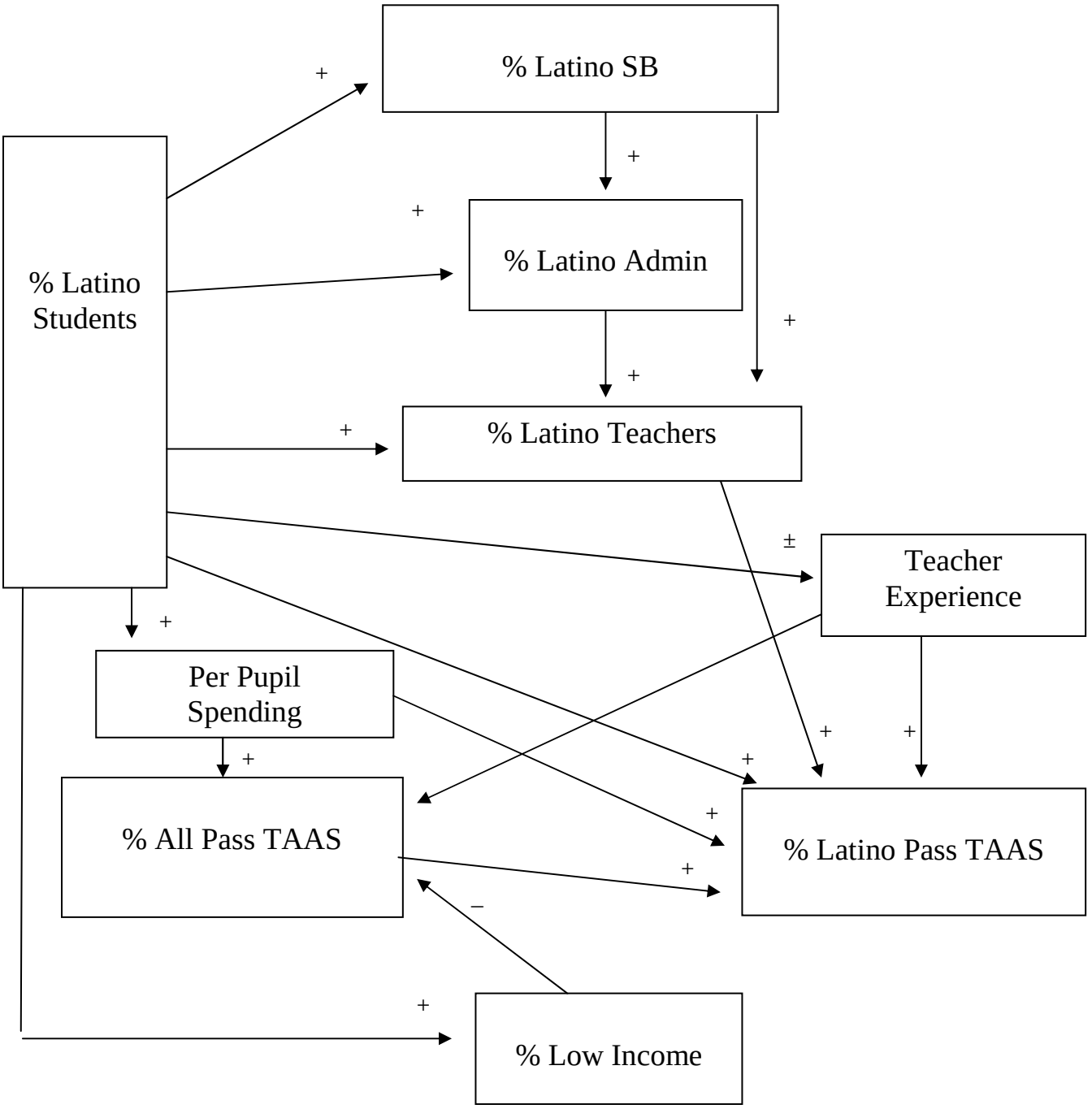
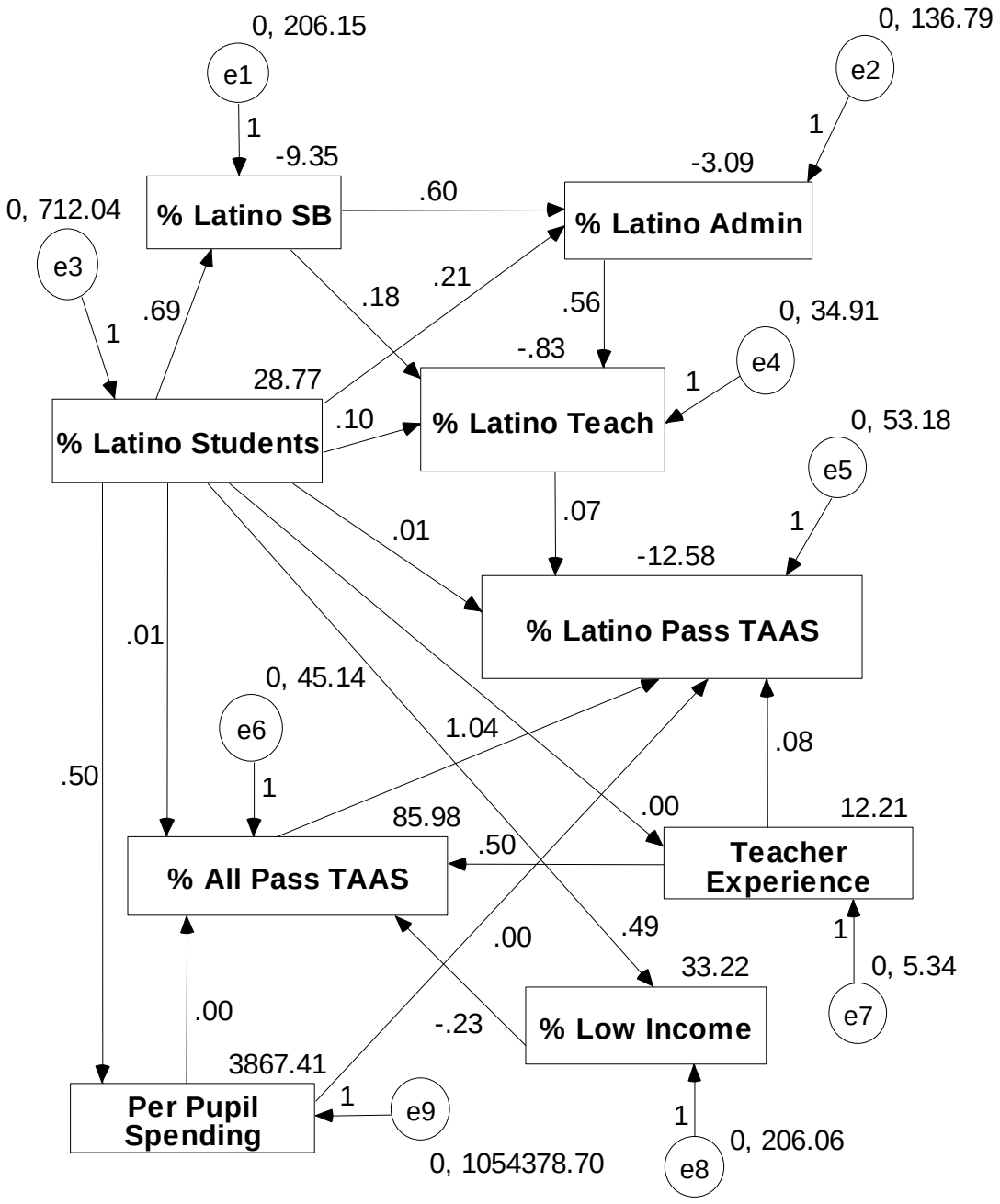


Figure 2
Statistical Model of Latino Education



*Parameter Estimates are shown as unstandardized coefficients

Table 2
Structural Equation Model: Matrix of Regression Results (Parameter Estimates)

Variables	Latino SB Members	Latino Administrators	Latino Teachers	Low Income Students	Teacher Experience	Instructional Expenditures	Student Achievement	Latino Student Achievement
Latino Students	0.687** (0.017)	0.211** (0.022)	0.096** (0.012)	0.491** (0.017)	0.001 (0.003)	0.497 (1.194)	0.011 (0.011)	0.011 (0.015)
Latino SB Members		0.604** (0.025)	0.178** (0.016)					
Latino Administrators			0.562** (0.016)					
Latino Teachers								0.073** (0.020)
Low Income Students							-0.229** (0.015)	
Teacher Experience							0.505** (0.090)	0.078 (0.103)
Instructional Expenditures							0.001** (0.000)	0.001* (0.001)
Student Achievement								1.043** (0.031)

*p≤ .10, **p≤ .01
Standard Errors in Parenthesis

Table 3

Path Coefficients: Direct, Indirect, and Total Effects (standard coefficients shown)

			Direct	Indirect	Total
Latino Students	→	**Latino SB Members**	**.787**	**0**	**.787**
Latino Students	→	**Low Income Students**	**.674**	**0**	**.674**
Latino Students	→	**Teacher Experience**	**.007**	**0**	**.007**
Latino Students	→	**Instructional $$**	**.013**	**0**	**.013**
Latino Students	→	**Latino Administrators**	**.255**	**.499**	**.754**
Latino Students	→	**Student Achievement**	**.036**	**-.370**	**-.334**
Latino Students	→	**Latino Student Achievement**	**.027**	**-.154**	**.128**
Latino Students	→	**Latino Teachers**	**.134**	**.663**	**.797**
Latino SB Members	→	**Latino Administrators**	**.634**	**0**	**.634**
Latino SB Members	→	**Latino Teachers**	**.217**	**.414**	**.631**
Latino SB Members	→	**Latino Student Achievement**	**0**	**.081**	**.081**
Latino Administrators	→	**Latino Teachers**	**.652**	**0**	**.652**
Latino Administrators	→	**Latino Student Achievement**	**0**	**.083**	**.083**
Latino Teachers	→	**Latino Student Achievement**	**.128**	**0**	**.128**
Low Income Students	→	**Overall Student Achievement**	**-.552**	**0**	**-.552**
Low Income Students	→	**Latino Student Achievement**	**0**	**-.424**	**-.424**
Teacher Experience	→	**Overall Student Achievement**	**.145**	**0**	**.145**
Teacher Experience	→	**Latino Student Achievement**	**.016**	**.111**	**.128**
Instructional $	→	**Overall Student Achievement**	**.084**	**0**	**.084**
Instructional $	→	**Latino Student Achievement**	**.039**	**.064**	**.103**
Overall Student Achievement	→	**Latino Student Achievement**	**.768**	**0**	**.768**

Bibliography

Bratton, Kathleen A. 2006. "The Behavior and Success of Latino Legislators: Evidence from the States." *Social Science Quarterly*, 87(5): 1136-1157.

Brindle, C.D., A.K. Driscoll, M.A. Biggs, and L.T. Valderrama. 2002. "Fact Sheet on Latino Youth: Income and Poverty." Center for Reproductive Health Research and Policy, Department of Obstetrics, Gynecology and Reproductive Health Sciences and the Institute for Health Policy Studies. University of California: San Francisco.

Canon, David T. 1999. *Race, Redistricting and Representation: The Unintended Consequences of Black Majority Districts.* Chicago: University of Chicago Press.

Carnoy, Martin, Susanna Loeb, and Tiffany L. Smith. 2001. "Do Higher State Test Scores in Texas Make for Better High School Outcomes?" Paper prepared for Consortium for Policy Research in Education Report Series.

Darder, Antonia, Rodolfo D. Torres, and Henry Gutierrez. 1997. *Latinos and Education: A Critical Reader*. New York: Routledge.

Figlio, David N. 1999. "Functional Form and the Estimated Effects of School Resources." *Economics of Education Review*, 18 (2): 241-52.

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.

Hanushek, Eric A. 1981. "Throwing Money at Schools." *Journal of Policy Analysis and Management*, 1 (1): 19-41.

Hanushek, E.A. 1998. "Conclusion and Controversies about the Effectiveness of School Resources." *Economic Policy Review*, 4 (1): 11-28. Federal Reserve Bank: New York.

Haynie, Kerry. 2000. *African American Legislators in the American States.* New York: Columbia University Press.

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.

Hoyle, Rick H. and Abigail T. Panter. 1995. "Writing About Structural Equation Models." In *Structural Equation Modeling: Concepts, Issues, and Applications.* Rick H. Hoyle, ed. Thousand Oaks, California: Sage Publications.

Hu, L. and Bentler P.M. 1999. "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria versus New Alternatives." *Structural Equation Modeling*

Kerr, Brink. and Will Miller. 1997. "Latino Representation: It's Direct and Indirect." *American Journal of Political Science*, 41 (3): 1066-71.

Leal, David L. and Frederick M. Hess. 2000. "The Politics of Education Expenditures in Urban School Districts." *Social Science Quarterly*, 81 (4): 1064-1072.

Leal, David L., Valerie Martinez-Ebers, and Kenneth J. Meier. 2004. "The Politics of Latino Education: The Biases of At-Large Elections." *The Journal of Politics* 66 (4): 1224-44.

Lipsky, David. 1980. *Street Level Bureaucracy.* New York: Russell Sage Foundation.

Llagas, Charmaine. 2003. *Status and Trends in the Education of Hispanics* (NCES 2003-008). Washington DC: National Center for Education Statistics, U.S. Department of Education.

Mansbridge, Jane. 1999. "Should Black Represent Blacks and Women Represent Women? A Contingent Yes." *Journal of Politics* 61 (3): 628-57.

Marshall, Melissa. 2006. "Parental Involvement and Educational Outcomes for Latino Students." *Review of Policy Research* 23(5): 1053-1076.

Meier, Kenneth J. 1993. "Representative Bureaucracy: A Theoretical and Empirical Exposition." *Research in Public Administration*, 2: 1-35.

Meier, Kenneth J. 2005. "The Texas Minority Education Study." Project for Equity, Representation, and Governance, Texas A&M University.

Meier, Kenneth J., Carl Doerfler, Daniel Hawes, Alisa k. Hicklin, and Rene R. Rocha. 2006. "The Role of Management and Representation in Improving Performance of Disadvantaged Students: An Application of Bum Phillips's 'Don Shula Rule'". *Review of Policy Research* 23(5): 1095-1110.

Meier, Kenneth J. and Joseph Stewart Jr. 1991. *The Politics of Hispanic Education*. Albany: State University of New York Press.

Meier, Kenneth J. and Laurence J. O'Toole, Jr. 2006. "Political Control versus Bureaucratic Values: Reframing the Debate." *Public Administration Review*. Essays on Reframing Bureaucracy: March-April.

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.

National Center for Education Statistics. 2002. *Status and Trends in the Education of Hispanics.* Washington DC.

Polinard, J.L., Robert d. Wrinkle, and Thomas Longoria. 1990. "Education and Governance: Representational Links to Second Generation Discrimination." *The Western Political Quarterly* 43 (3): 631-46.

Riley, Richard W. and Delia Pompa. 1998. *Improving Opportunities: Strategies from the Secretary of Education for Hispanic and Limited English Proficient Students*. Washington DC: A Response to the Hispanic Dropout Project, U.S. Department of Education. <available at: http://www.ncela.gwu.edu/pubs/hdp/improving.htm>

Slobogin, Kathy. 2001. "Education, Texas Style: Effectiveness of Yearly Testing Questioned." *CNNFYI.com*, February 27. <available at: http://cnnstudentnews.cnn.com/2001/fyi/teachers.ednews/02/23/texas.tests/index.html>

Stokes, Atiya Kai. 2003. “Latino Group Consciousness and Political Participation.” *American Politics Research* 31 (4): 361-78.

Swain, Carol M. 1993. *Black Faces, Black Interests: The Representation of African Americans in Congress.* Cambridge: Harvard University Press.

Swers, Michele. 2002. *The Difference Women Make: The Policy Impact of Women in Congress.* Chicago: University of Chicago Press.

Tate, Katherine. 2003. *Black Faces in the Mirror: African Americans and Their Representatives in the U.S. Congress.* Princeton: Princeton University Press.

U.S. Census Bureau. 2000. “Fast Facts for Congress.” <available at: http://fastfacts.census.gov>

Wenglinski, Harold. 1997. “How Money Matters: The Effect of School District Spending on Academic Achievement.” *Sociology of Education*, 70 (3): 221-37.

Appendix: Variables and Summary Statistics

Variable	N	Mean	SD	Min	Max
% Latino Students	1040	28.767	26.696	0	100
% Latino SB Members	1037	10.386	23.271	0	100
% Latino Administrators	1036	9.208	22.045	0	100
% Latino Teachers	1040	8.995	19.114	0	98
Avg. Teacher Experience	1040	12.231	2.311	.80	20.70
Instructional Expenditures per student	1039	3881.744	1027.415	1587	15537
% Latinos that Pass TAAS	959	78.619	10.752	33.30	100
% All Students that Pass TAAS	1040	84.178	8.072	45.20	100