The Impact of School Characteristics on
Passing and Failing Status of Public Elementary and Secondary Schools
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Social policies for children and youth have experienced frequent philosophical shifts and taken considerably different directions in the past century (Jenson & Fraser, 2006). Many social policies have been created in reaction to certain events or situations. A reactive approach to policy-making has led to inconsistent and fragmented policies and programs that often fall short of addressing the complex individual and social problems that confront many children, youth, and families (Jenson & Fraser, 2006). In 2002, President George W. Bush signed into law the *No Child Left Behind Act* (NLCB). This landmark legislation serves as a powerful example of a reactive approach to policy development and has altered significantly the role of the federal government in public education.

The NCLB requires that all federally funded schools develop standards of performance to improve student achievement and to evaluate these standards to ensure student success (US Department of Education, 2003). NCLB also stipulates that schools that fail to demonstrate Adequate Yearly Progress (AYP) towards full proficiency will face strict corrective action, including reorganization, financial penalties, and school closure (Smith, 2005). Proponents of this legislation provide three underlying purposes of these reforms: 1) to increase educational attainment and economic output in a globalized economy; 2) to decrease inequities in educational opportunities; and 3) to create impartial assessment mechanisms (Hursh, 2005). Further, proponents assert that due to the end of industrialization and the rise of globalization students of color and/or who live in poverty must succeed educationally so that individual and national prosperity continues to thrive (Hursh, 2005).

A Public Health Approach to Policy-Making

Recent developments in our understanding of the onset and persistence of child and adolescent problems demand new ways of thinking about policies and programs for children and youth (Jenson & Fraser, 2006). Based on a risk and resilience framework and ecological systems theory, a public health approach to policy-making requires consideration of the pattern of risk and protection across multiple dimensions in a child's life, including individual, family, peer, school, and community level factors. As risk accumulates across these dimensions, normal development is disrupted and the onset of problem behaviors, such as delinquency, drug use, and school failure, becomes more likely (Jenson & Fraser, 2006). For example, risk factors associated with school failure include special education status, behavioral problems, and reading deficits at the individual level; family conflict and poor attachment at the family level; antisocial behavior and attitudes at the peer level; and poverty at the community level. School level factors capture the largest number of factors related to school failure, including large school size, limited resources, high staff turnover, inconsistent classroom management, higher percentages of poor and minority students, higher student-teacher ratios, insufficient curricular and course relevance, inconsistent adult leadership, and high truancy and dropout rates (Frey & Walker, 2006). Social policies are more likely to be effective when they address the numerous influences that contribute to the onset and persistence of child and adolescent problem behaviors (Jenson & Fraser, 2006).

Criticisms of NCLB

Many investigators argue that the NCLB has failed to improve educational opportunities for minority and economically-disadvantaged populations (Altshuler & Schmautz, 2006; Escamilla, Chavez, & Vigil, 2005; Gerstl-Pepin, 2006; Hursh, 2005; Lipman, 2003; Smith, 2005). For example, several authors have suggested that NCLB has contributed to adverse conditions in public schools and has exacerbated many of the school level risk factors, such as limited resources, high staff turnover, higher student-teacher ratios, insufficient curricular and course relevance, inconsistent adult leadership, and higher truancy and dropout rates (Hursh, 2005; Smith, 2005). Although such criticisms of NCLB are readily available, many of these critiques are based only on reviews of literature (Altshuler & Schmautz, 2006; Hursh, 2005; Smith, 2005) or utilize qualitative methods to understand the context of the lived experiences of poor and minority students (Gerstl-Pepin, 2006; Lipman, 2003). Thus, few studies have used quantitative methods to unpack the effects of school level risk factors, such as minority enrollment, socioeconomic status, truancy and dropout rates, on AYP determinations; and none have explored the influence of these factors at the school level. One recent article that did empirically examine the impact of NCLB on bilingual education was conducted by Escamilla and colleagues (2005). In this study the authors triangulated student achievement data and qualitative interview data from teachers and administrators about their perceptions of Spanish-speaking students. Results revealed that the perceptions of teachers and administrators largely supported the notion that Spanish-speaking students were a primary reason for schools failing to meet AYP despite student achievement data suggesting that these students were some of the highest performers on the standardized tests.

To further understand the impact of NCLB on schools, the current study explores factors associated with failure to meet AYP. Particular emphasis is placed on minority and poverty composition of schools in an attempt to understand the impact of NCLB and accountability-based testing on schools with higher rates of minority and low income students.

Method

Sample

In 2004, 1,667 public schools in Colorado served 766,657 students in elementary and secondary school settings (Colorado Department of Education, 2005). The general student population was 63.5% White and 26.2% Hispanic, with 10.3% representing other minority groups. Approximately 32% of the student population participated in the free and reduced lunch program in 2004. AYP results from the 2004 -2005 academic year were obtained for 1,514 schools. For this analysis, 853 elementary schools and 661 secondary schools were used to examine the impact of certain school level risk factors on AYP status. At the secondary school level, 261 (39.5%) of schools failed to meet AYP. At the elementary school level, 115 (13.5%) failed to meet AYP. Table 1 details the mean percentages of minority enrollment, free and reduced lunch participation (used as a proxy of socioeconomic status), truancy and dropout rates by secondary and elementary schools.

Table 1
Descriptive Statistics for Secondary and Elementary Schools

	Secondary Schools			Elementary Schools		
	N	M	SD	N	M	SD
% of Minority Students	585	32.99	24.85	839	39.32	28.22
% of Free & Reduced Lunch	584	35.95	22.77	839	43.06	27.61
Truancy Rate	565	1.41	2.30	839	0.94	1.23
*Dropout Rate	374	5.11	9.75			

*Dropout rates not available for elementary schools.

Measures

The Colorado Department of Education (CDE) generates yearly reports that summarize AYP determinations and demographic characteristics by district and individual schools. Aggregate data from the 2004 -2005 academic year were used to explore the relationship among school level risk factors and AYP determinations.

Data Analysis

Independent samples t-tests were conducted to assess statistically significant group differences between passing and failing schools across the four independent variables. Logistic regression models were fitted to explore if certain school characteristics increase the likelihood of failing to meet AYP. Logistic regression applies a maximum likelihood estimation after transforming the categorical dependent variable into logits (the natural logs of the probability of the dependent occurring or not) (Garson, 2008; Hosmer, & Lemeshow, 1989).

Results

T-tests results indicate significant group differences between passing and failing schools across minority composition and free and reduced lunch participation. Equal variances cannot be assumed for minority and free and reduced lunch participation at the secondary level and for free and reduced lunch participation at the elementary level. At the secondary school level, the mean level of minority enrollment at failing schools was significantly higher than that of passing schools, $t(414.9) = 14.4$, $p < .001$. Additionally, failing schools had a significantly higher percentage of students participating in the free and reduced lunch program than passing schools, $t(473.8) = 7.5$, $p < .001$. Similarly, at the elementary school level, failing schools had significantly more minority students than passing schools, $t(851) = 16.0$, $p < .001$; and significantly more students participating in free and reduced lunch, $t(168.1) = 14.5$, $p < .001$. Meaned group percentages across elementary and secondary schools and standard deviations are presented in Table 2 for minority enrollment and Table 3 for free and reduced lunch participation.

Table 2
Descriptive Statistics for Minority Enrollment

	Secondary Schools			Elementary Schools		
	N	M	SD	N	M	SD
Pass	331	21.40	16.84	738	34.01	24.52
Fail	254	48.11	25.51	115	73.57	25.77

Table 3
Descriptive Statistics for Free & Reduced Lunch Participation

	Secondary Schools			Elementary Schools		
	N	M	SD	N	M	SD
Pass	331	29.87	19.50	738	38.70	25.91
Fail	254	43.90	24.28	114	70.97	21.49

Results of logistic regression models (Table 4) indicate that certain characteristics of schools in Colorado are associated with failing to meet AYP. In secondary schools, for each percentage increase in minority enrollment, the odds of failing to meet AYP increases by 7.4%. Furthermore, as the percentage of truancy rates increases by one, the odds of failing to meet AYP increases by 24.7%. Free and reduced lunch participation and dropout rates are not associated with increased odds of failing to meet AYP. In elementary schools, for each percentage increase in minority enrollment, the odds of failing to meet AYP increases by 5.2%. Again, free and reduced participation is not associated with failing to meet AYP.

Table 4
Relationships Among School Level Risk Factors and AYP Determinations

	Secondary Schools				Elementary Schools			
	Est	SE	df	Odds Ratio	Est	SE	df	Odds Ratio
CONSTANT	-1.89***	.27	1	.151	-4.77***	.35	1	.008
Minority	.07***	.01	1	1.074	.05***	.01	1	1.052
Free/Reduced Lunch	-.02	.01	1	.983	.01	.01	1	1.004
Truancy Rate	.22*	.09	1	1.247	-.05	.09	1	.956
Dropout Rate	-.02	.01	1	.982				

***p<.001; *p<.05

Minority composition and free and reduced lunch participation are moderately correlated at the secondary and elementary levels ($r = .773$; $r = .821$ respectively) revealing a slight problem with multicollinearity. Multicollinearity can inflate the standard error and affect the reliability of the logistic regression coefficients. While the effects of multicollinearity in this sample appear to be minimal as the correlations do not exceed .90 (Tabachnik & Fidell, 2007), these predictors included in the same model may affect the reliability of the coefficients. This phenomenon may account for the lack of association between free and reduced lunch participation and AYP determinations.

Discussion

The current study explored the relationship among school level risk factors (i.e., minority composition and free and reduced lunch participation) for failure to meet AYP in an attempt to better understand the impact of NCLB. Findings show significant group differences between passing and failing schools across minority enrollment and free and reduced lunch participation at the elementary and secondary school levels. Schools failing to meet AYP have significantly higher percentages of minority students and students participating in free and reduced lunch programs. Results also reveal that as minority enrollment increases the likelihood of failing to meet AYP also increases. Although significant group differences were found between passing and failing schools, results indicate that the percentage of students receiving free or reduced lunches did not increase the odds of failing to meet AYP. Contrary to other evidence that

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accountability based testing mechanisms unfairly penalize poor and low income students (Gerstl-Pepin, 2006; Prince et al., 2006), these findings suggest that schools in Colorado with higher rates of participation in free and reduced lunch programs do not appear to be at greater odds of failing to meet AYP.

Based on these results, it appears that schools with higher minority enrollment fail to meet AYP at greater rates than schools with lower minority enrollment. This suggests that NCLB, with its focus on accountability and standards-based testing, has not reduced educational disparities for minority students in Colorado. As most African American and Hispanic students attend schools that are largely minority in enrollment (Schiller, 2004), the results of this study create cause for concern about the success of NCLB, in its current form, in addressing educational disparities.

Implications for Oppressed Populations

Educational attainment is one of the most important factors in combating poverty and other social issues that currently face the social welfare system (Schiller, 2004). Participation in the workforce, type of job or occupation, the frequency and duration of employment, and wages are all influenced by the amount and quality of education (Schiller, 2004). However, because of the variation in access to and quality of educational opportunities, certain groups of students are not given the opportunity to gain the "cultural capital" necessary to become effective participants in today's globalized and technology-driven economy (Lipman, 2003, p. 342). The disparities in education and subsequent inequalities in workforce participation may be perpetuated, instead of alleviated, by NCLB because of its focus on a single accountability mechanism. As purported by Byrne (1987) and Gil (1992), only significant modifications to the education system, that account for the historic discriminatory policies and practices as well as the underlying influence of poverty, will change the outlook for poor and minority populations. Additionally, educational policy must address the numerous influences that contribute to the onset and persistence of child and adolescent problem behaviors in order to be effective (Jenson & Fraser, 2006).

Implications for Social Work Practice

Given our ethical obligation to social justice, our understanding of complex systems, and our ability to organize diverse groups, social workers are poised to be the perfect vehicle to affect and encourage changes to the existing NCLB policy. Social workers must understand the implications for clinical and community practice. Clinical practitioners working with school-aged children of color need to examine the effects of accountability-based testing on diverse client populations at an individual level. From a community practice perspective, social workers must engage in a public dialogue with committed educators, students, families, and communities about what is in the best interest of our children and the future of this country and give voice to these perspectives within the current political power structures.

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