Article

Economic and Demographic Predictors of Inclusive Education

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Abstract

This study investigated economic and demographic predictors of levels of inclusion of students with disabilities in 129 school districts. Multiple regression analysis was utilized to address the following research questions: (a) Is there a relationship between economic factors and percentage of highly included students with disabilities in general education when controlling for demographic factors? and (b) Is there a relationship between demographic factors and percentage of highly included students with disabilities in general education classrooms when controlling for economic factors? Results suggest a significant relationship between the economic variables of general education expenditure and special education expenditure, and the amount of time students with disabilities are included in general education classrooms. Implications for practice and future research are discussed.

Keywords

inclusion, special education, demographic factors, multiple regression

Including students with disabilities in the general education classroom is a key feature in the Individuals with Disabilities Education Improvement Act (IDEA) of 2004. Within IDEA 04, the Least Restrictive Environment (LRE) section indicates that students with disabilities should be included in general education classrooms with the support of supplemental aids and services unless it is impossible to provide an appropriate education with these supports. Throughout the years, varying (and sometimes contradictory) interpretations of this concept have created debate among scholars (e.g., Brantlinger, 1997; Fuchs & Fuchs, 1994) as well as debate in the courts (e.g., *Daniel R. R. v. State Board of Education*, 1989). There are groups of practitioners and researchers whose position is that students with disabilities should be included in general education all of the time (Causton-Theoharis & Theoharis, 2008; McLeskey, 2007; Stainback & Stainback, 1992), whereas others believe that this "full inclusion" should be reserved only for certain students with disabilities while other students need to be removed from general education and educated in separate, segregated settings (Fuchs & Fuchs, 1994; Kauffman, 1993; McLeskey, 2007). Differences in the implementation and interpretation of this policy not only relate to ideological variations in how best to educate students with disabilities, but also to factors such as district expenditure (Fraturra & Capper, 2006), socioeconomic status (Coutinho, Oswald, & Best, 2002; Donovan & Cross, 2002), and race/ethnicity (De Valenzuela, Copeland, Qi, & Park, 2006).

As we begin to educate students with disabilities more often in inclusive educational settings (McLeskey, Henry, & Hodges, 1999), teasing out the intersectionality of these societal factors becomes more and more essential. The potential impact of investigating these relationships includes provision of more educational equity for students with disabilities from diverse backgrounds (Artiles, Harris-Murri, & Rostenburg, 2006) and changes in policy design and implementation that better serve individuals with and without disabilities (Gabel, 2007). We see the beginnings of the impact on policy and practice through research conducted by individuals such as Donovan and Cross (2002) and De Valenzuela et al. (2006), to name just a few of the many scholars and policy makers who are beginning to highlight educational inequities perpetuated by policy and implementation of policy and then making calls for possible policy reform. In addition, researchers have also begun to draw attention to the intersectionality of student-level, family-level, and social-level factors associated with special education policy and practice (Connor, Gabel, Gallagher, & Morton, 2008; Farrell, Dyson, Polat, Hutcheson, & Gallannaugh, 2007; Hosp & Reschly, 2004).

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This study seeks to tease out some of this intersectionality by investigating economic and demographic predictors associated with inclusion of students with disabilities. Given the complicated relationships of various economic and demographic factors associated with special education, the authors identified a need to investigate these relationships specifically within the realm of inclusion of students with disabilities in general education classrooms. The research questions addressed in this study are: (a) Is there a relationship between economic factors and percentage of highly included students with disabilities in general education when controlling for demographic factors? and (b) is there a relationship between demographic factors and percentage of highly included students with disabilities in general education classrooms when controlling for economic factors?

Factors Associated With Inclusive Education

Previous research and policy related to social-level and student-level variables such as expenditure, race, and socioeconomic status associated with special education will provide the context in which this research and research questions are situated. The provision of educational equity for students with disabilities is at the forefront of research on special education in the United States and abroad (Oswald, Coutinho, Best, & Singh, 1999; Hosp & Reschly, 2004; Farrell et al., 2007). Investigations of relationships between expenditure and provision of special education services (Baker & Zigmond, 1995; Odom et al., 2001) provided mixed results. Investigations into the links between special education services and poverty suggest positive correlations among poverty, related socioeconomic factors, and placement in various disability categories (Hosp & Reschly, 2004), as well as educational environments ranging from complete inclusion in general education to a separate setting (O'Connor & Deluca Fernandez, 2006). Additionally, the relationship between race and disability label, as well as educational environment, has been examined and subsequently caused many researchers to raise questions regarding racial inequity in special education (Donovan & Cross, 2002; Ferri, 2005). As the larger body of research is examined, expenditure, socioeconomic factors, race, and other demographic factors emerge as central issues in special education and inclusive education.

Expenditure and Special Education

Allocation of funds for general and special education services varies among districts. A major concern regarding this issue is the relationship between cost and provision of special education services within districts (Frattura & Capper, 2007; McLaughlin & Warren, 1994). The central question is: Is it more expensive to provide services for students in the general education classroom or within a segregated setting? Researchers have investigated this question from various perspectives. An evaluation of five special education models across five states conducted by Baker and Zigmond (1995) stated that inclusive programs were more costly than pull-out programs. However, multiple studies have indicated that inclusive special education service delivery does not cost more (Frattura & Capper, 2007; Odom et al., 2001). In fact, Beloin and Peterson (2000) suggested that schools have begun to include students in general education classrooms in an effort to save money. Frattura and Capper (2007) noted that separate funding sources for general education and special education services cause significant increases in district expenditures. Other studies have come to inconclusive results regarding expense and suggest that demographic factors such as size of the school and district impact the cost of inclusive education (Pruslow, 2001).

A central concern regarding the results of this research is how they will affect the provision of special education services in a school district. For many district administrators, money is a key concern. How will their decisions about programming be affected by the prospective cost of inclusive educational services? How will these decisions play out in the allocation of funds for general education and special education? Those are the underlying questions guiding this study.

Socioeconomic Factors and Special Education

In addition to district factors such as expenditure, variables such as student socioeconomic status have been shown to correlate with special education services and disability labels placed on students (Hosp & Reschly, 2004; O'Connor & Deluca Fernandez, 2006). It is now generally accepted that higher poverty equates with a higher risk of being labeled with a disability (Oswald, Coutinho, & Best, 2002). It can also be a factor in which disability label (e.g., specific learning disability or mental retardation) is given to a student (Oswald et al., 2002). Furthermore, schools with high poverty levels may be less able to provide students with appropriate special education services (Fierros & Conroy, 2002). This research indicating the relationship of disability label and restrictiveness of setting, along with amount of educational funding and provision of special education services, make socioeconomic status a natural predictor of how much students with disabilities are included in general education classrooms.

Race/Ethnicity and Special Education

Along with socioeconomic status, scholars and policy makers have identified many links between race and disability identification (De Valenzuela et al., 2006) and between race and restrictiveness of special education setting (Fierros & Conroy, 2002). The placement of minority

students in special education and their underrepresentation in gifted and talented programs is not only evident, it is a crucial policy issue in need of further investigation (Donovan & Cross, 2002). The significant disproportionate representation of Black students in special education categories such as mental retardation and emotional disturbance reported by the U.S. Department of Education (2007) and the underrepresentation of all minority categories (excluding Asian/Pacific Islander) in gifted and talented programs (Donovan & Cross, 2002) support this claim. Research has suggested that Black, Hispanic, and Native American students are more likely than White students to be placed in special education (Hosp & Reschly, 2002), resulting in overrepresentation of the latter in special education. The overrepresentation of Black students in disability categories such as mental retardation and emotional disturbance—that are traditionally more often placed in segregated settings than other disability categories (U. S. Department of Education, 2007)—compounds the issue. However, the numerous policies and practices included in the referral, assessment, and placement of students with disabilities are a complicated entity in which issues associated with race and special education are not easily teased out because of the intersectionality of race and various other demographic and economic factors.

Legislation and Policy

IDEA (2004) does not set specific provisions for referring, evaluating, and placing students with disabilities (Donovan & Cross, 2002), leaving the methods for how these processes are carried out open for interpretation. Often, researchers and policy makers offer differing methods for these processes (Mellard, Deshler, & Barth, 2004). Therefore, lack of uniformity within states and school districts in regard to these procedures does not come as a surprise. Additionally, the root of the problems regarding overrepresentation (and consequently increasing levels of segregation) may lie in the lack of clarity. Many researchers argue the need for new evaluation procedures that offer a more nonbiased evaluation of minority students (see, e.g., Chamberlain, 2005; Fore, Burke, & Martin, 2006). Similarly, the same argument can be made for placement of students in general education or special education settings, making issues of placement and inclusion a central policy concern. To drive policy that supports all students, we must begin to tease out the factors influencing placement of students in inclusive and segregated settings.

Purpose of the Study

Previous studies have investigated the influence of demographic and economic factors on placement in special

education (Farrell et al., 2007; Hosp & Reschly, 2002; Oswald et al., 2002). Other researchers have examined the cost of including students with disabilities in general education classrooms (Beloin & Peterson, 2000; Frattura & Capper, 2007; Odom et al., 2001). However, a need still exists for research that attempts to investigate the unique variance of each variable, while controlling for the other, using the construct of "level of inclusion" within a moderate to large sample of school districts. This study seeks to investigate the unique relationship between economic and demographics factors, and the level of inclusion of students with disabilities in general education classrooms at the district level.

Method

Data and Sampling

Data were compiled from the New York State Education Department report to the legislature on the educational status of the state's schools (NYSED, 2005) and the Common Core of Data (CCD; National Center for Education Statistics, 2006); and were then entered, recoded, and analyzed using SPSS software. No problems with missing data were encountered because of the complete nature in which the data were received from the original sources. Purposeful sampling of these data was conducted to focus on a specific population (Patton, 1990) in a region in central New York State, and a sample of 129 school districts was selected. This sample was chosen because of its diversity of school districts and to gain information about a targeted area established by a grant project with which the authors are affiliated. School districts of various sizes with a range of racial/ethnic backgrounds and socioeconomic levels are represented within the sample.

The sample is diverse on many levels (see Table 1). These districts represent 14 counties. The majority of the districts were suburban and rural, with a smaller number of urban school districts represented. The total student population in each district ranges from 259 to 22,123 students ($M = 2,147$ students). Percentage of special education students ranges from 6.9 to 19.7 ($M = 13.2$). The percentage of highly included students ranges from 36 to 98 ($M = 62$). The districts vary in demographic and economic factors, including percentage of minority students (range = 11.4–30.7, $M = 21$), poverty level, as indicated by percentage of students receiving free or reduced-price lunch (range = 4.3–75.6, $M = 37.2$), and median family income (range = \$31,375–\$79,405, $M = \$45,698$).

Operationalizing Inclusion

The outcome variable in this study is the percentage of students who are highly included. In this study the authors use

Table 1. Descriptive Information for District-Level Variables

Variable	M	SD	Minimum	Maximum
Highly included students (%)	62	12.32	36	98
Student population	2,147.4	2,531.8	259	22,123
SE students (%)	13.2	2.4	6.9	19.7
Minority (%)	21.0	4.5	11.4	30.7
Free/reduced-price lunch (%)	37.2	14.2	4.3	75.6
Median family income	45,689.5	8,444.2	31,375	79,405
PP expenditure (SE)	12,632	2,845	1,941	22,390
PP expenditure (GE)	6,836.5	841.6	5,376	10,550

Note: GE = general education; PP = per pupil; SE = special education.

the term *highly included* to refer to the population of students with disabilities spending less than 20% of the day outside general education. This construct includes students with a range of disabilities. These students are identified as having 1 or more of the 13 federal categories of disability listed in IDEA (2004) and have a range of abilities and need for supports. The variable is intended to act as a proxy for level of inclusion of students with disabilities in general education classrooms in each school district. The NYSED (2005) report indicated level of inclusion of students receiving special education services in public schools in the following categories: (a) *high*: spending 20% or less of the day outside the general education classroom; (b) *moderate*: spending 21% to 60% of the day outside the general education classroom; (c) *low*: spending more than 60% of the day outside the general education classroom; and (d) *no inclusion*: educated in a completely separate setting. Therefore, if a school district reported that 29% of students with disabilities spent less than 20% of their school day outside general education, then 29% of the population of students with disabilities were considered (by the authors of this study) to be *highly included*.

Predictor Variables

The predictor variables include both economic and demographic data. Economic variables include: (a) yearly expenditure per special education student, (b) yearly expenditure per general education student, (c) income, and (d) poverty level. Yearly expenditure per student is the amount of money each school district reported spending on each student (with a disability or in general education) in the 2005–2006 school year. The income variable is the median household income for households with children in each school district. The poverty variable is the percentage of children in each school district receiving free or reduced-price lunch. To receive a free or reduced-price lunch, students' families must show need for this assistance by providing

evidence of an income considered below the poverty level (U. S. Department of Agriculture, 2008). Demographic variables include: (a) race/ethnicity (percentage of Black and Hispanic students in each district); (b) proportion of students with disabilities (percentage of students with disabilities); and (c) size of the school district (number of students in the district). The race/ethnicity variable includes the percentage of Black and Hispanic students in each district. The authors used this construct because of previous research suggesting the overrepresentation of students from these particular racial/ethnic categories in special education and more specifically in segregated special education service delivery settings (Ferri, 2005; Hosp & Reschly, 2004). Proportion of students with disabilities was considered an important demographic variable because the authors suspected this may impact the level of inclusion of students with disabilities. For example, service delivery models may differ based on number of students with disabilities being served in the school district. This variable is the percentage of the total population of all students who are students with disabilities in each district. Lastly, the total number of students in the school district was used to represent the size of the school district and was utilized in the study because of previous research indicating the possible influence of this variable on special education services (Pruslow, 2001).

Data Analyses

Hierarchical multiple regression analysis, also known as sequential regression, was used in this study. This type of analysis determines the unique contribution of one set of variables while controlling for another set of variables (Keith, 2006). Furthermore, multiple regression analysis can be used to study complex relationships among numerous variables (Cohen, Cohen, West, & Aiken, 2003). This is a key reason why it lends itself to research in the social sciences. When studying phenomenon in complex social systems, we must account for many unique factors that are interrelated. Each relationship among each factor is unique. This analysis allows researchers to identify the unique contribution of each variable, as well the contribution of combinations of variables, and thus account for some of these complex relationships when studying a particular phenomenon (Keith, 2006).

School systems are a perfect example of a complex, multifaceted system that shares relationships with many "outside" societal factors. The special education systems at the national, state, and local levels are all influenced by policy and shaped by societal factors such as demographics and economics, and these relationships are complex and multidimensional. Therefore, regression analysis lends itself particularly well to research in the field of special education.

In this study, hierarchical multiple regression analysis was used to determine the unique variance of a block of

variables made up of economic predictors (yearly per pupil expenditure for special education students, yearly per pupil expenditure for general education students, percentage of students receiving free or reduced lunch, median family income) while controlling for demographic predictors (race/ethnicity, percentage of special education students, number of students in the district). Another analysis was used to determine the unique variance of the block of demographic variables while controlling for economic predictors. To determine the unique contribution of each block of variables, each block was added in last in the equation (Keith, 2006). For example, adding the demographic variables in the first block allows the researcher to control for those variables and analyze the relationship of the economic variables and the dependent variable while controlling for the demographic variables.

The dependent variable of level of inclusion, constructed by percentage of highly included students, remained constant in both analyses. The first analysis was designed to determine the unique contribution of the economic predictors to the outcome variable. Data were entered sequentially. The block of demographic variables was entered first, followed by the second block of economic variables. The second model was designed to determine the unique contribution of the block of demographic predictors to the outcome variable. Data were entered in two blocks. The block of economic variables, including expenditure, was entered first, followed by the second block of demographic variables.

Results

Prior to conducting the hierarchical multiple regression analysis, Pearson correlation coefficient analysis was performed to assess the correlation between each variable individually (Leech, Barrett, & Morgan, 2008; see Table 2). Results of the Pearson correlation coefficient analysis indicated that the percentage of highly included students correlated significantly ($r = -.224$) with the percentage of students receiving free or reduced-price lunch. It is also important to note that some of the independent variables highly correlated with each other. Percentage of special education students positively correlated with the percentage of minority students ($r = .527$), and negatively correlated with median family income ($r = -.390$). The number of students in a school district correlated positively with median family income ($r = .229$) and negatively with general education expenditure ($r = -.208$). The percentage of minority students correlated negatively with median family income ($r = -.203$) and positively with the percentage of students receiving free or reduced-price lunch ($r = .260$). Median family income correlated negatively with percentage of students receiving free or

reduced-price lunch ($r = -.835$). The percentage of students receiving free or reduced-price lunch correlated positively with general education expenditure ($r = .215$).

Results of the first analysis are shown in Table 3. Results indicate the demographic variables alone did not significantly predict levels of inclusion, $F(3, 124) = 1.4$, $p = .247$ (see Table 3). However, all of the economic variables together significantly predicted percentage of highly included students, $F(4, 120) = 3.5$, $p = .010$, accounting for 8.2% (adjusted $R^2 = .082$) of the variance in the level of inclusion of students with disabilities. The beta weights presented in Table 3 suggest that the predictor variables of general education expenditure and special education expenditure account for a significant amount of variance in the level of inclusion of students with disabilities.

Results of the second hierarchical regression analysis are shown in Table 4. Results indicate that the group of economic factors alone significantly predicts level of inclusion, $F(4, 123) = 3.8$, $p = .006$. The adjusted R^2 of .08 suggests that these economic factors account for 8% of the variance when added alone. The group of economic and demographic predictors together did not significantly predict percentage of highly included students with disabilities, $F(3, 120) = 1.1$, $p = .36$. The beta weights suggest that when entered along with demographic and economic variables, general education expenditure and special education expenditure are the only variables that significantly account for variance in level of inclusion.

Discussion

The results indicate that the school districts with higher percentages of students with disabilities being educated in general education classrooms spend more per pupil on general education. For example, school districts with percentages of highly included students, closer to the maximum of 98% (see Table 1), are likely to spend more money per pupil on general education students. Results also indicate that school districts with higher percentages of highly included students spend less per pupil on special education. This suggests that school districts with percentages of highly included students closer to the maximum of 98% (see Table 1) are likely to spend less money per pupil on special education students. A possibility for these relationships may be that school districts employing more inclusive models are following a trend of school districts that are beginning to merge special education funding and resources (Frattura & Capper, 2006). Odom et al. (2001) found similar results in their research, indicating school districts that are educating higher percentages of students with disabilities in general education classrooms spend less per pupil on special education.

Table 2. Pearson Correlation Coefficients for Variables

Variable	1	2	3	4	5	6	7	8
1. Highly included students	—	−.141	.087	−.132	.205	−.224*	.075	−.402**
2. % SE	—	—	.068	.527**	−.390**	.403**	.137	−.148
3. Student population	—	—	—	−.043	.229**	.009	−.208*	.004
4. Minority	—	—	—	—	−.203*	.260**	.104	−.058
5. Income	—	—	—	—	—	−.835**	−.155	.147
6. Free/reduced-price lunch	—	—	—	—	—	—	.215*	−.121
7. Expenditure (GE)	—	—	—	—	—	—	—	.065
8. Expenditure (SE)	—	—	—	—	—	—	—	—

Note: GE = general education; SE = special education.
*Correlation significant at the .05 level (2-tailed). **Correlation significant at the .01 level (2-tailed).

Table 3. Summary of Hierarchical Regression Analysis for Economic Predictors ($N = 129$)

Variable	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Minority	−0.194	0.287	−0.071	−0.94	0.28	−0.03
Percent SE	−0.557	0.531	−0.110	−0.483	0.559	−0.095
Student population	0.057	0.055	0.091	0.088	0.062	0.141
Income				−5.66	0.000	−0.039
Free/reduced-price lunch				−0.212	0.152	−0.244
Expenditure (GE)				0.515	0.231	0.206*
Expenditure (SE)				0.000	0.000	−0.216*
R^2	0.033			0.247		
Adjusted R^2	0.009			0.082**		
F for change in R^2	0.139			3.46**		

Note: GE = general education; SE = special education.
*$p < .05$. **$p < .01$.

Table 4. Summary of Hierarchical Regression Analysis for Demographic Predictors ($N = 129$)

Variable	Model 1			Model 2		
	B	SE B	β	B	SE B	β
Income	0.000	0.000	0.089	−5.66	0.000	−0.039
Free/reduced-price lunch	−0.152	0.136	−0.175	−0.212	0.152	−0.244
Expenditure (GE)	0.410	0.222	0.164	0.515	0.231	0.206*
Expenditure (SE)	0.000	0.000	0.211*	0.000	0.000	−0.216*
Minority				−0.094	0.280	−0.034
% SE				−0.483	0.559	−0.095
Student population				0.088	0.062	0.141
R^2	0.109			0.133		
Adjusted R^2	0.080**			0.082		
F for change in R^2	3.77**			1.09		

Note: GE = general education; SE = special education.
*$p < .05$. **$p < .01$.

The level of inclusion did not show a significant relationship to race or the percentage of special education students within any district. This finding is inconsistent with results from other research in this area (Ferri, 2005; Hosp & Reschly, 2004). The U.S. Department of Education (2007) reported that

compared to students with disabilities from other racial/ethnic groups, black students with disabilities were least likely to be educated in the regular classroom for most of the school day (38.6 percent). White students with disabilities were the most likely to be educated in regular classrooms for most of the school day (54.7 percent). (p. 64)

Possible reasons for the lack of relationship among race and inclusion in this study may be sample demographics or sample size. Future research should incorporate larger more diverse samples to investigate this issue more extensively.

Percentage of highly included students negatively correlating with percentage of students receiving free or reduced-price lunch suggests that these variables are related. Beloin and Peterson (2000) indicated that including students with disabilities is often related to the socioeconomic status of students in the district. Similar to the bias due to socioeconomic status acknowledged in the special education referral process (Donovan & Cross, 2002), this suggests possible bias in the special education placement process as well. Similar research conducted by Hosp and Reschly (2004) found that economic factors are related to the disproportionate number of minority students in special education. Given these relationships, the individual correlations among the dependent variables of percentage of highly included students and percent of students receiving free or reduced-price lunch is worthy of further inquiry. An individual child's socioeconomic status or the socioeconomic status of the student population at the school or district may impact level of inclusion of students with disabilities. These issues must remain a principal focus of educational policies as these policies such as No Child Left Behind (2001) and IDEA (2004) continue to be debated, reshaped, and reformed.

Limitations

Limitations of this study exist in areas of sampling, variable constructs, level of analysis, and data analysis. This study did not use random sampling. The researchers chose to sample this region in central New York State because of their involvement in a research grant within this particular region. However, there may be something inherently different in this sample of school districts from other school districts not included in this sample. This makes generalizability of results of this study to other areas in New York State and throughout the United States difficult. Furthermore, although the sample size is large enough to yield statistical significance, a larger sample may allow for more generalizability of results.

The word *inclusion*, although used often in education, can have many definitions and assumes a certain ambiguity (Friend & Pope, 2005). Another limitation of the construct of the dependent variable is that it does not account for many

school and classroom factors associated with inclusion. The researchers acknowledge that the simple construct of percentage of students with disabilities spending less than 20% of the day outside general education does not address many of the important classroom-level and school-level factors that allow students with disabilities to be full members of the general education classroom community. For example, Artiles and Kozleski (2007) defined inclusion as a practice that creates community and belonging in classrooms that reaches across race, gender, and ability. It is important to keep in mind that the construct of students with disabilities spending less than 20% of the day outside general education is intended as a proxy for inclusion in this analysis. It does not does not give us specific information about specific types and quality of services being provided. Therefore, one must be careful to equate inclusion in general education with educational equity or increased educational outcomes.

Although multiple indicators were used to operationalize economic and demographic factors, the list used in this study was not exhaustive, and the addition of other variables may add more to future analyses. Variables such as average level of mother's education, average tax revenue, and employment rates are all constructs of economic factors used in previous research and could be used in future research on this topic. Furthermore, general education expenditure and special education expenditure does not account for any intermingling of funds. Percentage of English language learners (ELLs) has been used as a demographic factor in previous research. This variable was considered for this study, but was not used due to the low number of ELLs in all districts in the sample. As there has been mixed results on overrepresentation and underrepresentation of racial/ethnic groups in particular disability categories (Fierros & Conroy, 2002), the construct of the race/ethnicity variable may require adjustment. Comparison across urban, suburban, and rural communities may also have been used in demographic factors. However, the researchers identified the size of the school district as a proxy for this variable.

Implications for Practice

Overall, the findings that levels of highly included students with disabilities positively correlates with general education expenditure and negatively correlates with special education expenditure has many implications for future practice. Administrators should begin to reconsider how special education and general education funding streams may be used to benefit all students. Although teachers and school leaders do not have influence over student factors such as race/ethnicity and socioeconomic status, they may certainly have influence on the use and allocation of funds. Just as researchers and practitioners alike have argued for the intermingling of general education and special education services and programs (Stainback &

Stainback, 1984), others have argued for intermingling of funds (Frattura & Capper, 2006). Although deciphering actual costs of inclusion may be difficult (McLaughlin & Warren, 1994), administrators and school leaders may want to consider how they allocate resources for students receiving special education services and if those resources may benefit more students when provided in an inclusive setting. School leaders and researchers involved in inclusive school reform may want to look at expenditure and economic resources and how they impact the effectiveness of inclusive education and school reform efforts.

The negative correlation between high levels of inclusion and students receiving free or reduced-price lunch should send up a red flag to practitioners and policy makers involved in the special education referral, evaluation, and placement process. As we begin to look for reasons behind this relationship, making those involved in the process more aware of this connection may ultimately lead to use of less biased practices in placement of students. Donovan and Cross (2002) noted that educators often refer students for special education services because they feel they cannot deal with them anymore and that these students are often from low socioeconomic backgrounds and/or minority students. Although higher segregation of students is a result, it is not a solution. Problem solving among practitioners and policy makers must address this issue.

Implications for Future Research

Results from this study indicate that the economic factor of per pupil expenditure is worthy of consideration when examining inclusion at the district level. Additional variables related to levels of inclusion should continue to be examined. Although this analysis was conducted at the district level, further analysis of the relationship between these variables could also be conducted at the school or state level. Investigating these variables in different ways, such as comparing how resources and funds are being allocated in districts with high levels of inclusion, or how funds and resources are being allocated in school districts with low levels of inclusion, may help create deeper understanding of the relationship between variables. Future research must continue to examine how race, socioeconomic status, and disability are related to inclusive education on individual and school levels as well. Also, further research may incorporate other factors that possibly influence inclusive education at the district level such as district leadership and administrative support.

The idea of merging not only general education and special education funding streams but also supports and services has existed in the discourse of special education for many years (Frattura & Capper, 2006; Reynolds, Wang, & Walberg, 1987). However, certain scholars argue this merger will cause special education services to be completely

eliminated and that students with disabilities will no longer be receiving the supports they need (see, e.g., Fuchs & Fuchs, 1994). This may require additional investigation into the use of funding and its relationship with inclusion of students with disabilities, and achievement of all students.

Investigation of demographic and economic variables on a more intimate qualitative level will also add to this research. It is important that the personal experiences of students with and without disabilities, teachers, and administrators within these school systems be represented. Observations and interviews that address demographic and economic variables at an individual and school level, will assist in providing a clearer understanding of these variables at work.

Conclusion

In this new era of accountability, this study brings about many factors associated with inclusive schooling that policy makers may take into account. Money is often an issue in education and it is important to adopt models of education that use money in ways that best serve all students. Each study on this topic allows researchers and policy makers to view educational systems involved with including students in new ways.

In addition to allocation of resources, we must continue to interrogate bias surrounding placement in inclusive versus segregated settings and incorporate solutions to this issue in future policy. Although acknowledging this bias may be easy, reasons for this bias and the best way to reform these practices presents a much more complicated issue. However, we must persist in challenging current practices entrenched in cultural models to improve policy and practice (Woodside-Jiron, 2004). This entails continuing to question and investigate current practices and policies in special education; delving into the complicated relationships within these entities.

Many regard including students with disabilities in general education classrooms with their "nondisabled" peers and allowing those students access to the general education curriculum as a social justice issue. When discussing including students with disabilities in general education, Fraturra and Capper (2007) state,

> The population of oppressed and dehumanized students in our schools is growing. If we continue to function in the same manner as we have over the past five decades, we will continue to create schools composed of students who belong and those students who do not. (p. xxvii)

It is imperative to investigate the structures of our educational systems to shed light on how those systems may oppress individuals they intend to serve.

This study sought to illuminate some of the demographic and economic predictors of inclusive education. Administrators and school leaders must be aware of economic and demographic variables when developing and instituting policies and practices. Ignorance to the influence of these variables on inclusion may lead to policies and practices that continue to segregate and create inequities based on ability, socioeconomic status, and race.

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References

Artiles, A. J., Harris-Murri, N., & Rostenburg, D. (2006). Inclusion as social justice: Critical notes on discourses, assumptions, and the road ahead. *Theory Into Practice*, *45*(3), 260–268.

Artiles, A. J., & Kozleski, E. B. (2007). Beyond convictions: Interrogating culture, history, and power in inclusive education. *Language Arts*, *84*(4), 357–364.

Baker, J., & Zigmond, N. (1995). The meaning and practice of inclusion for students with learning disabilities: Themes and implications from five case studies. *Journal of Special Education*, *29*(2), 163–180.

Beloin, K., & Peterson, M. (2000). For richer or poorer: Building inclusive schools in poor urban and rural communities. *International Journal of Disability, Development and Education*, *47*(1), 15–24.

Brantlinger, E. (1997). Using ideology: Cases of nonrecognition of the politics of research and practice in special education. *Review of Educational Research*, *67*(4), 425–459.

Causton-Theoharis, J., & Theoharis, G. (2008). Creating inclusive schools for all students. *School Administrator*, *65*(8), 24–28.

Chamberlain, S. P. (2005). Recognizing and responding to cultural differences in the education of culturally and linguistically diverse learners. *Intervention in School and Clinic*, *40*(4), 195–211.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/ correlation analysis for the behavioral sciences* (3rd ed.). Mahwah, NJ: Lawrence Erlbaum Associates.

Connor, D. J., Gabel, S. L., Gallagher, D. J., & Morton, M. (2008). Disability studies in inclusive education—implications for theory, research, and practice. *International Journal of Inclusive Education*, *12*(5), 441–457.

Coutinho, M. J., Oswald, D. P., & Best, A. M. (2002). The influence of sociodemographics and gender on the disproportionate identification of minority students as having learning disabilities. *Remedial and Special Education*, *23*(1), 49–59.

Daniel R. R. v. State Bd. of Educ., 874 F 2d. 1036, 1045 (5th Cir. 1989).

De Valenzuela, J. S., Copeland, S. R., Qi, C. H., & Park, H. (2006). Examining educational equity: Revisiting the disproportionate representation of minority students in special education. *Exceptional Children*, *72*(4), 425–441.

Donovan, M. S., & Cross, C. T. (Eds.). (2002). *Minority students in special and gifted education.* Washington*, DC: National Academy Press.

Farrell, P., Dyson, A., Polat, F., Hutcheson, G., & Gallannaugh, F. (2007). The relationship between inclusion and academic achievement in English mainstream schools. *School Effectiveness and School Improvement*, *18*(3), 335–352.

Ferri, B. A. (2005). In the shadow of Brown: Special education and overrepresentation of students of color. *Remedial and Special Education*, *26*(2), 93–100.

Fierros, E. G., & Conroy, J. W. (2002). Double jeopardy: An exploration of restrictiveness and race in special education. In D. J. Losen & G. Orfield (Eds.), *Racial inequity in special education* (pp. 39–70). Cambridge, MA: Harvard Educational Press.

Fore III, C., Burke, M. D., & Martin, C. (2006). Curriculum based measurement: An emerging alternative to traditional assessment for African American children. *The Journal of Negro Education*, *75*(1), 16–24.

Frattura, E. M., & Capper, C. A. (2006). Segregated programs versus integrated service delivery for all learners: Assessing the difference. *Remedial and Special Education*, *27*(6), 355–364.

Frattura, E. M., & Capper, C. A. (2007). *Leading for social justice. Transforming schools for all learners.* New York: Corwin Press.

Friend, M., & Pope, K. L. (2005). Creating schools in which all students can succeed. *Kappa Delta Pi Record*, *41*(2), 56–61.

Fuchs, D., & Fuchs, L. (1994). Inclusive schools movement and the radicalizations of special education reform. *Exceptional Children*, *60*(4), 294–309.

Gabel, S. L. (2007). Applying disability theory in educational policy: NIDRR's "new paradigm of disability" as a cautionary tale. In S. Danforth & S. L. Gabel (Eds.), *Vital questions facing disability studies in education* (pp. 179–200). New York: Peter Lang.

Hosp, J. L., & Reschly, D. J. (2002). Predictors of restrictiveness of placement for African-American and Caucasian students. *Exceptional Children*, *68*(2), 225–238.

Hosp, J. L., & Reschly, D. J. (2004). Disproportionate representation of minority students in special education: Academic, demographic, and economic predictors. *Exceptional Children*, *70*(2), 185–199.

Individuals with Disabilities Education Improvement Act of 2004, 20 U. S. C. § 1401 *et seq.* (2004). (Reauthorization of the Individuals with Disabilities Education Act of 1990.)

Kauffman, J. M. (1993). How we might achieve radical reform in special education. *Exceptional Children*, *60*(1), 6–16.

Keith, T. Z. (2006). *Multiple regression and beyond.* Boston: Pearson Education.

Leech, N. L., Barrett, K. C., & Morgan, G. A. (2008). *SPSS for intermediate statistics* (3rd ed.). New York: Taylor & Francis.

McLaughlin, M. J., & Warren, S. H. (1994, November). The cost of inclusion: Reallocating financial and human resources to include students with disabilities. *The School Administrator*, *51*, 8-19.

McLeskey, J. (2007). Is there a pragmatic middle ground? In J. McLeskey (Ed.), *Reflections on inclusion: Classic articles that shaped our thinking* (pp. 111–123). Arlington, VA: Council for Exceptional Children.

McLeskey, J., Henry, D., & Hodges, D. (1999). Inclusion: What progress is being made across disability categories? *Teaching Exceptional Children*, *31*(3), 60–64.

Mellard, D. F., Deshler, D. D., & Barth, A. (2004). LD identification: It's simply not a matter of building a better mouse trap. *Learning Disability Quarterly*, *27*(4), 229–242.

National Center for Educational Statistics. (2006). *Common core of data (CCD): School years 2005–2006*. Washington, DC: U.S. Department of Education.

New York State Education Department. (2005). *A report to the governor and the legislature on the educational status of the state's schools.* Albany, NY: Author.

No Child Left Behind Act of 2001, Pub. L. No. 107-110, 115 Stat. 1425 (2002).

O'Connor, C. C., & Deluca Fernandez, S. (2006). Race, class, and disproportionality: Reevaluating the relationship between poverty and special education placement. *Educational Researcher, 35*(6), 6–11.

Odom, S. L., Hanson, M. J., Lieber, J., Marquart, J., Sandall, S., Wolery, R., Horn, E., . . . Chambers, J. (2001). The costs of preschool inclusion. *Topics in Early Childhood Special Education*, *21*(2), 46–55.

Oswald, D. P., Coutinho, M. J., & Best, A. M. (2002). Community and school predictors of overrepresentation of minority children in special education. In D. J. Losen & G. Orfield (Eds.), *Racial inequity in special education* (pp. 1–13). Cambridge, MA: Harvard Education Press.

Oswald, D. P., Coutinho, M. J., Best, A. M., & Singh, N. (1999). Ethnic representation in special education: The influence of school-related economic and demographic variables. *The Journal of Special Education*, *32*(4), 194–206.

Patton, M. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

Pruslow, J. T. (2001). A comparative cost and utility analysis of three models of service delivery for special needs. *Journal of Education Finance*, *27*, 535–566.

Reynolds, M., Wang, M., & Walberg, H. (1987). The necessary restructuring of special education. *Exceptional Children*, *53*(5), 391–398.

Stainback, W., & Stainback, S. (1984). A rationale for the merger of special and regular education. *Exceptional Children*, *51*(2), 102–111.

Stainback, S., & Stainback, W. (1992). Schools as inclusive communities. In W. Stainback & S. Stainback (Eds.), *Controversial issues confronting special education: Divergent perspectives* (pp.31–43). Boston, MA: Allyn & Bacon.

U.S. Department of Agriculture (2008, January). *Eligibility manual for school meals: Federal policy for determining and verifying eligibility*. Washington, DC: Author.

U.S. Department of Education. (2007, September). *Twenty-seventh annual report to Congress on the implementation of the Individuals with Disabilities Education Act, 2005 (Vol. 1)*. Washington, DC: Author.

Woodside-Jiron, H. (2004). Language, power, and participation: Using critical discourse analysis to make sense of public policy. In R. Rogers (Ed.), *An introduction to critical discourse analysis in education* (pp. 173–207). Mahwah, NJ: Lawrence Erlbaum.

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