Examining the Variability in General Education Placements for Students With Intellectual Disability

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Abstract

Despite the overwhelming body of research suggesting that students with intellectual disability benefit from access to general education placements, students with intellectual disability continue to be educated primarily in segregated settings. Furthermore, the percentage of students with intellectual disability included in general education classrooms varies greatly among and within states across the United States. In an effort to explore such variability in New York State, we examined trends in general education placement rates of students with intellectual disability across districts and possible predictors of placement in regular classes. Results suggest that although descriptive patterns of placement exist, a more definitive explanation of variability requires a deeper analysis of policy and procedure at the district level.

***Keywords*:** intellectual disability, special education, least restrictive environment, inclusive education

Examining the Variability in General Education Placements for Students With Intellectual Disability

A continued focus on access to placement in regular classes for students with disabilities is apparent in many countries (Ainscow & Cesár, 2006; Drudy & Kinsella, 2009). In fact, UNESCO emphasizes inclusion as a process in which school spaces respond to student diversity and difference by reducing the exclusion of those learners who are most vulnerable to marginalization and exclusion, which certainly directs focus to students with disabilities (Lynch, 2001). Although the terms and practices used to define access and placement may differ, many countries target placement in regular classes (Thomazet, 2009). Despite the increasing attention to placement in regular classes for students with disabilities, many students with disability labels, particularly those with intellectual disability labels, continue to be educated away from their peers without disabilities (e.g., Porter, 2004), making increasing placement in regular classes an issue of global concern. Given the importance of placement and access for students with disabilities as a global issue, research into factors associated with placement may be applied to future policy and practice that continues to push for increased access for all students with disabilities.

As with many countries, the United States continues to work toward increased placement in regular classes with relative success for some students with disabilities (e.g., students with specific learning disability labels) and little increases in access to regular classes for others, such as students with intellectual disability. This lack of progress is concerning given that states and districts across the United States are required to adhere to policies related to placement. In the US, placement is associated with the least restrictive environment (LRE) principle of the

Individuals with Disabilities Education Improvement Act (2004, hereafter, IDEA), when educating students with disabilities (SWD) in public schools. As a measure of LRE, states are required to report to the U.S. Department of Education's Office of Special Education Programs a detailed school- and district-level breakdown on the educational placements of students, indicating the numbers of SWD educated in general education classrooms for (a) greater than or equal to 80% of the school day, (b) more than 40% but less than 80% of the school day, (c) less than 40% of the school day, or (d) in a separate school or setting. All public schools, districts, and states are expected to adhere to the LRE principle of the IDEA (2004) to provide SWD access to general education or regular classrooms to the maximum extent appropriate.

Specifically, IDEA articulates the principle of LRE, stating that SWD should be included with their nondisabled peers in the general education classroom "to the maximum extent appropriate," and that they should be removed from the regular education environment only when this education, even with "the use of supplementary aids and services[,] cannot be achieved satisfactorily" (20 U.S.C. 1412 §612 [a][5][A]). It is this principle of the act that created a presumption of access to general education or placement in regular classes; however, it did not create formal rights to access to placement in regular classrooms, nor did it institute mandates (Yell, 2015). Thus, states and districts are left to interpret the LRE principle as they see fit. This has resulted in significant differences in access to general education classes among states and districts (Kurth, Morningstar, & Kozleski, 2014) and subsequently highlights the potential flaws associated with the LRE principle (Sauer & Jorgensen, 2016).

Nationally, districts and states vary widely in placement practices for SWD. This is particularly true for students with intellectual disability (SWID), who have historically been educated primarily outside of general education settings (Kleinert, et al., 2015). For example, in

California, approximately 6% of SWID spend 80% or more of the day in a general education classroom. This is in sharp contrast to Iowa, where approximately 64% of SWID spend 80% of the day or more in a regular class (U.S. Department of Education, 2014). This same variability is evident between districts and within states (Kurth et al., 2014). Despite the significant variability in educational environments for SWID, very little research exists that investigates the factors associated with placement at the district-level or that attempts to tease out factors related to such variability. The purpose of this study was to investigate the variability in placement in regular classes across districts in New York State and factors related to the variability of educational environment—in particular, placement in regular classes—for SWID in districts across New York State.

Understanding the variability in interpretation and implementation of the LRE mandate, specifically in regard to SWID, supports improvement in policy and practice in a number of ways. Specifically, identifying trends related to placement of SWID may provide essential information that schools, districts, and states need to address such variability systematically. Schools, districts, and states may then be able to make changes in policy and practice that support increased access to general education in systemic and meaningful ways. For example, identification of trends in placement and socioeconomic status (Hosp & Reschly, 2001; Skiba, Poloni-Staudinger, Gallani, Simmons, & Feggins-Azziz, 2006; Szumski & Karwowski, 2012) provides motivation to examine current practices and and to inform administrators of possible trends, promoting an awareness that may impact the decision-making of school-based team members when making decisions related to placement.

Placement of Students With Intellectual Disability

In comparison to peers with disability labels such as Specific Learning Disability, students with intellectual disability are generally afforded much less access to general education environments. Kleinert et al. (2015) found that students with the intellectual disability were overwhelmingly educated in segregated classrooms or schools. Of the nearly 40,000 students surveyed across 15 states, only 7% were educated in general education settings. Similarly, placement in regular classes for students with significant intellectual disability in the United States has remained stagnant over the past 10 years, and these students are educated in segregated settings in much greater proportions that students with in other disability categories (e.g., specific learning disability or speech language impairment) disabilities (Kurth et al., 2014). Thus, students with intellectual disability as a whole are afforded limited access to general education contexts (Kurth, Morningstar, & Kozleski, 2014).

Research on placement reveals trends in lack of access to general education classrooms, and substantial variability in access across districts and states. Across states and districts, placement of students with intellectual disability varies greatly. For example, Brock and Schaefer (2015) identified significant variability in placement of students with developmental disabilities in the state of Ohio. Brock and Schaefer included students with intellectual disability in the group studied along with students with multiple disabilities. Similarly, Kurth, Morningstar, and Kozleski (2014) found that access to general education contexts for students with intellectual disability varied greatly across states, suggesting that decision-making related to placement may have more to do with policies, practice, and assumptions about students than with a student's abilities.

Relevant Literature

This study is built on previous research in a number of areas related to individuals with intellectual disability, including variability in opportunities for access to general education curriculum and contexts (Brock & Schaefer, 2015), relationships between access to general education contexts and demographic and economic factors (Cosier & Causton-Theoharis, 2010), and the relationship between access to general education contexts and achievement (e.g., Cosier, Causton-Theoharis, & Theoharis, 2013). Although the focus of this particular study is on intellectual disability, the research solely focusing on individuals with intellectual disability specifically is scant. We highlight research on individuals with intellectual or cognitive disability labels, while including pertinent research associated with students with other disability labels. We discuss factors associated with access to general education placements that provide a solid foundation for the current study.

Factors Associated With Access to General Education Placement

Geographic differences.

Kurth (2015) found that whether a SWID is educated in or outside of a regular classroom setting varies greatly depending on the individual's geographic location. In fact, Kurth states that a student's placement may be attributed less to that student's characteristics and more to the policies and practices associated with where the student resides. Furthermore, Brock and Schaefer (2015) assert that location is related to placement in regular classes for students with developmental disabilities (including students with intellectual disability), noting significant variation in general education placement across the state of Ohio. A number of researchers have supported these claims, with Katsiyannis, Zhang, and Archwamety (2002) citing geographic

differences in placement specifically for SWID. Geography can include factors such as district size and location. The results of these studies suggest that a number of factors associated with geographic location are necessary to explore when considering issues of placement and access for SWD.

Race and ethnicity.

A significant body of research shows that students of color are disproportionately labeled with particular disability categories such as intellectual disability and emotional behavioral disability, categories of students whose placement is often outside of general education (e.g., Donovan & Cross, 2002; Fierros & Conroy, 2002). This research suggests that students of color are more often placed in restrictive settings when compared to similarly situated White students. The National Council on Disability (2015) reports that students of color are disproportionately placed in self-contained settings and that this could be a major factor supporting the school-to-prison pipeline. Race and ethnicity play a role in identification and placement and must be examined along with other factors.

Per pupil expenditure and income.

Both income and expenditure may be associated with access to general education for students with disabilities, and accounting for such "economic" factors along with geographic location and race/ethnicity acknowledges the complex relationships among such factors. Szumski and Karwowski (2012) found that socioeconomic status was a factor in relation to placement of SWID in regular classrooms. This research is supported by earlier research by O'Connor and Fernandez (2006) and Oswald, Coutinho, and Best (2002) who found a significant

relationship between placement outside of general education and socioeconomic status. This body of research suggests that students from lower income levels, such as those who qualify for free or reduced price lunch, may be more likely than their counterparts of higher socioeconomic statuses to be educated in a setting outside general education. In addition, expenditures in the school district may be a factor associated with placement practices (Cosier & Causton-Theoharis, 2010). Therefore, although further research is needed to parse out the complex relationships between socioeconomic status and placement and expenditure and placement, prior research suggests these factors are certainly worthy of consideration. Much of this research does not dissagregate students by disability category. Therefore, the research for this current study builds on this prior research by addressing socioeconomic status with a specific subgroup of individuals within a particular disability category label.

Achievement.

There is a growing research base on the positive impact that access to general education contexts has on the academic outcomes of students with intellectual disability (Baker, Wang, & Walberg, 1994; Cosier, Causton-Theoharis, & Theoharis, 2013; McDonnell, Thorson, McQuivey, & Keifer-O'Donnell, 1997; Ryndak, Ward, Alper, Montgomery, & Storch, 2010). McDonnell et al. (2003) found that students with significant developmental disabilities (including participants with intellectual disability) experience gains in adaptive behavior in regular classes. Similar research suggests that education in general education contexts also has a positive impact on post-school outcomes such as paid employment, for students with severe disabilities, including those with intellectual disability (White & Weiner, 2004). However, a large percentage of SWID continue to lack consistent access to regular classes and experience

poor school and post-school outcomes (Carter, Austin, & Trainor, 2012; Newman, Wagner, Cameto, & Knokey, 2009). This suggests a need for more in-depth research that examines the wide variability in rates of access to placement in regular classes across districts to help explain trends in opportunities for access, and any association with economic and demographic factors.

Purpose

Two established concepts related to placement in regular classes and SWID frame this study. First, as demonstrated in the previous section, a substantial body of research suggests a complex, but primarily positive relationship between placement in regular classes and achievement for students with intellectual disability. Second, this study is designed to account for factors associated with placement in regular classes highlighted in prior research including, race, language, and socioeconomic status (e.g., Cosier, Causton-Theoharis, & Theoharis, 2013; O'Connor & Fernandez, 2006). Identification and placement of SWD are not "neutral." Losen, Hodson, Ee, and Martinez (2014) describe inequities in identification and placement based on race and class. These inequities in placement have been highlighted particularly for SWID, who continue to be placed outside general education settings. Factors such as race, socioeconomic status, language, culture, and gender must be considered when exploring relationships between access to general education and achievement (Artiles, Harry, Reschly, & Chinn, 2002), as a substantial body of research suggests that special education identification and placement procedures are complexly related to these factors.

This study seeks to identify inequities in placement by focusing on demographic and economic factors identified in prior research. Districts in New York State represent a diverse composition in terms of race and class, as well as a range of students population size, making it

well-suited for a study exploring such trends in relation to placement. This diversity across the state allows the sample to include representation from many "types" of districts allowing for a robust analysis. Given the continued lack of access to general education contexts for SWID, and variability in access to general education contexts, this study sought to explore the variability in placement practices for SWID in New York State using the following research questions:

Research Question 1: To what extent do districts in New York State vary in relation to students with intellectual disability educated in general education environments 80% or more of the day?

Research Question 2: What district-level economic and demographic factors are associated with placement in general education 80% or more of the day?

Research Question 3: What geographic trends, if any, exist in placement of students with intellectual disability in general education classrooms 80% or more of the day at the district level?

Method

This study explored the variability in placement of SWID using bivariate correlation, group comparison, and multiple regression analyses, as well as geographic mapping analysis. We first compared two distinct groups of school districts; those that included SWID 80% of the day or more, and those that did not. Furthermore, we conducted multiple regression analyses to identify the unique contribution of specific predictor variables. Last, we used geographic mapping analysis to identify any geographic related trends in access to general education contexts across the state.

Sample and Data Collection

The data in this study were obtained from the New York State Education Department Special Education Data Collection, Analysis, and Reporting (SEDCAR) Unit; the New York State Department of Taxation and Finance, Office of Real Property Tax Services; and the National Center for Education Statistics (NCES). Of the 628 school districts in NYS that provide LRE data, 290 districts had fewer than five SWID; therefore, they do not report educational environment percentages for this category due to the small number of students and concerns with confidentiality. Thus, this study included the remaining 338 districts. To focus on access, we used the metric reported by New York State related to Least Restrictive Environment.

In monitoring the states' compliance with and implementation of IDEA, the USDOE Offices of Special Education Programs has a specific indicator related to LRE (Indicator 5), and states are required to report the number of students in each disability category in each of the following placements: (a) 80% or more of the day in the regular class, (b) inside the regular class for 40-79% of the school day, (c) inside the regular class for less than 40% of the school day (self-contained classroom), and (d) separate school or residential facility. We chose the indicator of 80% or more of the day to represent access to general education because we agree with McLeskey, Landers, Williamson, and Hoppey (2012) that it would be nearly impossible to determine levels of inclusion for the reporting category of 79-40%, since the range is so varied between relatively nonrestrictive environments (79%) to relatively restrictive ones (40%).

Description of the Variables

The analysis included the outcome variable of the percentage of SWID included in general education 80% or more of the day, and predictor variables intended to account for

race/ethnicity, language, and socioeconomic status. The variables included (with construct in parentheses) were: (a) percentage of Black students (race/ethnicity), (b) percentage of Hispanic students (race/ethnicity), (c) percentage of White students (race/ethnicity), (d) number of students in the district (size of the school district), (e) percentage of students labelled limited English proficient (language), (f) percentage of SWD in the district (size of special education population in the school district), (g) general education and special education per pupil expenditure (district socioeconomic status), median household income (socioeconomic status of individuals living in the district); and free and reduced price lunch (socioeconomic status of students in the district) (see Table 1 for complete description of variables).

Data Analysis

We conducted both descriptive and inferential analyses. In order to address research question 1, "To what extent do districts in New York State vary in relation to students with intellectual disability educated in general education environments 80% or more of the day?," we conducted descriptive analyses of the 338 districts included in the study. Due to the nature of the results associated with the outcome variable of SWID educated in regular class settings 80% or more of the day, we conducted comparison analyses between groups. Of the 338 districts, 181 included 0% of SWID. Thus, 181 had an outcome of "0" and 157 included at least 1% of SWID (with a range of 1-89%; see Table 1). In the comparison, we labelled the 181 districts as "zero" (hereafter referred to as Zero) districts and the remaining 157 districts as "inclusive" (hereafter referred to as Inclusive) districts, with the understanding that "inclusion" has many different definitions. In this case, Inclusive signifies districts with 1-89% of SWID educated in general education settings 80% or more of the day, and Zero indicates no SWID educated in general

education settings 80% or more of the day. Applying an approach in which these groups are dichotomous, Inclusive and Zero, was intentional in that it reflects a policy-based measure related to the executive status of the placement policy, essentially representing districts who had executed some policy for placement in regular classrooms and those that had not. We conducted *t*-tests to assess for significant differences between Inclusive and Zero districts (see Table 1). To account for the inflated risk of Type I error associated with comparison analyses, we used the Benjamini-Hochberg correction for multiple comparisons (Benjamini & Hochberg, 1995; McDonald, 2014). Moreover, we calculated effect size of Cohen's *d* associated with each comparison analysis (Sullivan & Feinn, 2012).

In order to address research question 2, "What district-level economic and demographic factors are associated with placement in general education 80% or more of the day?," we also conducted simple regression analyses with the 157 Inclusive school districts to identify relationships between the outcome variable (percentage of SWID spending 80% of the day or more in general education) and predictor variables, such as (a) percentage of Black students, (b) percentage of Hispanic students, (c) percentage of White students, (d) number of students in the district, (e) percentage of students labelled limited English proficient, (f) percentage of SWD in the district, and (g) general education and special education per pupil expenditure (see Table 1 for complete description of variables). This analysis examined which district-level variables were predictive and relevant to placement. Lastly, in order to address research question 3, "What geographic trends, if any, exist in placement of students with intellectual disability in general education classrooms 80% or more of the day at the district level?" we used ArcGIS mapping software to create a visual representation of the range of placement in regular classes for all districts represented in the study.

Results

Descriptive Trends and Group Comparison

In New York State, of districts reporting data, the percentage of SWID spending 80% of the day or more in general education classes ranges from 0% to 89% (see Table 1). The percentage of SWID spending 80% of the day or more in general education classes in the 157 Inclusive school districts ranged from 1.52 to 89%, with an average of 15.27%. We also conducted analyses comparing the 181 Zero school districts with the 157 Inclusive districts (see the F-test column in Table 1).

Table 1
Description of School District Variables and Group Comparison

Variable Levene's Test for Equality of Variances	Group	M	*T (df)* (Raw *p*)	Cohen's *d* (Eta^2)	Benjamini-Hochberg adjusted *p*	Median	St. Dev.	Min.	Max.
Percent SWID Included 80% or more of the day F(1, 336) = 164.15, *p* <.001	Zero (N=181)	.0000	13.23 (156) (.0000) ****	1.55 (.375)	.0000****	0.00	0.00	0.00	0.00
	Inclusive (N=157)	15.2730				11.11	14.469	1.52	88.89
Median Family Income ($) F(1, 335) = 34.33, *p* <.001	Zero (N=180)	64861.29	-6.07(314.44) (.0000)****	-.65 (.094)	.0000****	58919.00	22539.051	19775	152188
	Inclusive (N=157)	52335.43				49461.00	15045.134	30043	115052
Per Pupil Expenditure Special Education ($) F(1, 334) = 3.19, *p* =.075	Zero (N=179)	30348.01	-3.12 (334) (.002) **	-.34 (.028)	.0040**	29095.00	7488.119	15812	53555
	Inclusive (N=157)	27854.18				28152.00	7092.777	14425	59710
Percent Students Receiving Free Lunch F(1, 335) = 18.11, *p* <.001	Zero (N=180)	29.19	6.70(288.23) (.0000) ****	.73 (.118)	.0000****	29.50	18.680	1	106
	Inclusive (N=157)	45.04				38.00	24.669	3	109

Percent Black Students F(1, 335) = 43.54, p <.001	Zero (N=180)	6.33	4.83(229.43) (.0000) ****	.55 (.070)	.0000****	2.00	9.851	0	56
	Inclusive (N=157)	14.34				7.00	18.636	0	88
Per Pupil Expenditure General Education ($) F(1, 334) = 7.84, p =.005	Zero (N=179)	11205.30	-1.65(232.90) (.101)	-.17 (.007)	.1285	10297.00	4255.844	7470	58541
	Inclusive (N=157)	10640.41				10404.00	1597.169	7719	15959
Percent Hispanic Students F(1, 335) = 13.28, p <.001	Zero (N=180)	11.23	2.36(286.28) (.019)*	.26 (.017)	0.0296*	4.00	14.733	0	78
	Inclusive (N=157)	15.76				6.00	19.670	0	87
Number of Students in the District F(1, 334) = 97.98, p <.001	Zero (N=179)	4115.3	5.43(176.66) (.0000)****	.63 (.090)	.0000****	3121.00	3555.5	331	27823
	Inclusive (N=157)	9902.27				4421.00	12941.3	559	60432
Percent Students with Limited English Proficiency F(1, 335) = 2.84, p =.093	Zero (N=180)	3.38	1.57(335) (.117)	.17 (.007)	0.1365	1.00	8.419	0	92
	Inclusive (N=157)	4.68				1.00	6.504	0	29

Percent Asian/Pacific Islander Students F(1, 335) = 18.22, p <.001	Zero (N=180)	3.22	2.28(257.30) (.023)*	.26 (.016)	0.0322*	2.00	5.354	0	54
	Inclusive (N=157)	5.01				2.00	8.431	0	51
Percent American Indian Students F(1, 302) = 1.49, p =.223	Zero (N=180)	.41	.79(302) (.432)	.09 (.002)	0.4315	.00	1.716	0	12
	Inclusive (N=124)	.65				.00	3.520	0	37
Percent White Students F(1, 335) = 68.43, p <.001	Zero (N=180)	77.21	-.4.59 (263.59) (.0000)****	-.52 (.062)	.0000****	86.00	22.844	1	98
	Inclusive (N=157)	62.29				78.00	34.668	1	99
Percent of Students with Disability (SWD) F(1, 335) = .18, p =.67	Zero (N=180)	14.22	1.07(335) (.285)	.12 (.003)	0.3069	13.00	8.418	7	100
	Inclusive (N=157)	15.16				14.00	7.520	7	98

Note. N = 338* p < .05. ** p < .01. N size varies slightly depending on available data for each variable.

Bivariate Correlation Analysis

We conducted bivariate correlation analyses with all 338 school districts and with the 157 Inclusive school districts that include more than 0% of SWID. Results of the bivariate correlation analyses revealed some interesting relationships among the variables. In regard to the analyses with all school districts (N = 338), percentage of SWID included in general education 80% of the day or more had a statistically significant positive correlation with the percentage of White students in the district (r = .121; p < .01). Results also indicated that the outcome variable shared a statistically significant negative correlation with the following variables: (a) percentage of Hispanic students in the district (r = -.129; p < .01); (b) percentage of limited English proficient (r = -.120; p < .01); and (c) median household income (r = -.207; p < .00).

We also conducted bivariate correlation analyses with the 157 Inclusive school districts. The results of the correlation analysis with the Inclusive school districts are similar to the results of the analysis of the 338 districts, in that the percentage of SWID included in general education 80% of the day or more had a statistically significant positive correlation with the percentage of White students in the district (r = .432; p < .00). Results also indicated that the outcome variable shared a statistically significant negative correlation with the following variables: (a) percentage of Hispanic students in the district (r = -.34; p < .00); (b) total district enrollment (r = -.36; p < .00); (c) percentage of limited English proficient (r = -.38; p < .00); and (d) percentage SWD in the district (r = -.19; p < .01).

Regression Analysis

Due to issues with multicollinearity identified via the bivariate analyses (Cohen, Cohen, West, & Aiken, 2003), we chose to run partial-regression models for all school districts (N =

338) and just the Inclusive districts (n = 157; see Tables 2.1 and 2.2). Each table represents models that fit the data for the 338 and 157 school districts, respectively. As correlation was different with the 338 and 157 Inclusive school districts, the models are slightly different. Results of the regression analyses conducted with all school districts suggest significant relationships between the outcome variable and percentage of SWD (β = -.13, p < .05), percentage of limited English proficiency (β = -.14, p < .05), percentage of Hispanic (β = -.10, p < .10), and per pupil expenditure in special education (β = -.15, p < .05).

Results of the regression analysis with the Inclusive districts (n = 157) suggest significant relationships between the outcome variable and a number of predictor variables. The percentage of students receiving free lunch was significantly related to the percentage of SWID included 80% of the day or more (β = .21, p < .10). Significant relationships were established between the percentage of students labeled limited English proficient. Moreover, the percentage of SWID included 80% of the day or more was significantly related to the percentage of Black students (β = -.25, p < .01), and percentage of Hispanic students (β = -.21, p < .01). The percentage of White students was significantly related to percentage of SWID included 80% of the day or more (β = .27, p < .01). Lastly, the percentage of SWD (β = -.19, p < .05) and number of students (β = -.23, p < .01) in the district was significantly related to percentage SWID included 80% of the day or more.

Table 2.1

Summary of Simple Regression Analyses for Variables Predicting Percent of SWIDIincluded 80% or More of the Day in General Education

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	B(SE)	*β*	*B(SE)*	*β*	*B(SE)*	*β*	*B(SE)*	*β*	*B(SE)*	*β*
% Limited English Proficiency (V2)			-.25(.12)	-.14*						
% Hispanic (V4)					-.10(.05)	-.10†				
% SWD (V7)	-.35(.14)	-.15*	-.13(.13)	-.07	-.26(.11)	-.134*	-.31(.14)	-.14*	-.34(.21)	-.15
Number of Students (V8)							-.19(.17)	-.07		
% Intellectual Disability (V9)	.74(28)	.18**	1.04(.25)	.25***	.88(.25)	.21***	.96(.26)	.23***	1.01(.25)	.24***
Per Pupil Expenditure Gen Ed (V10)									-.03(.39)	-.01
Per Pupil Expenditure Special Ed (V11)									-.24(.12)	-.15*
Median Family Income (V12)	-.1(.04)	-.15*								
R^2 (Adjusted)	.074 (.065)		.07(.06)		.07 (.06)		.06 (.05)		.08 (.07)	
$F\ (df_1, df_2)$	7.96 (3, 299)***		7.46 (3, 300)***		7.03(3,300)***		6.58(3, 299)***		8.44 (4, 298)***	

Note. $N = 338$; $^{\dagger}p < .10$. $*p < .05$. $**p < .01$. $***p < .001$.

Table 2.2

Summary of Simple Regression Analyses for Variables Predicting Percent of SWID included 80% or More of the Day in General Education in Inclusive Districts

Variable	Model 1		Model 2		Model 3		Model 4		Model 5	
	B(SE)	*β*	*B(SE)*	*β*	*B(SE)*	*β*	*B(SE)*	*β*	*B(SE)*	*β*
% Free Lunch (V1)	.17(.01)	0.21†								
% Limited English Proficiency (V2)			-.74(.30)	-.22*						
% Black (V3)					-.27(.10)	-.25**				
% Hispanic (V4)							-.25(.11)	-.21*		
% White (V6)									.16(.05)	.27**
%SWD (V7)	-.31(.53)	-.06	-.81(.44)	-.16†	-.57(.45)	-.13	-.95(.44)	-.19*	-.76(.43)	-.15†
Number of Students (V8)										
Per Pupil Expenditure Gen Ed (V9)										

Per Pupil Expenditure Special Ed (V10)					
R^2 (Adjusted)	.10(.07)	.11(.10)	.13 (.10)	.11 (.09)	.14 (.11)
F	4.28**	5.10**	5.74***	4.86**	6.31***

†$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Variable	Model 6		Model 7	
	B(SE)	*β*	*B(SE)*	*β*
% Free Lunch (V1)				
% Limited English Proficiency (V2)				
% Black (V3)				
% Hispanic (V4)				
% White (V6)				
%SWD (V7)	-.62(.45)	-.12	-1.29(.51)	-.26*
Number of Students (V8)	-.61(.24)	-.23**		
% Intellectual Disability (V9)	.69(.46)	.13	.85(.47)	.16
Per Pupil Expenditure Gen Ed (V10)			-.04(1.03)	0.004

Per Pupil Expenditure Special Ed (V11)		-.36(.22)	-.19
R^2 (Adjusted)	.12(.10)	.10(.07)†	
F	5.34**	3.20*	

Note. $N = 157$; †$p < .10$. *$p < .05$. **$p < .01$. ***$p < .001$.

Mapping Analysis

We also geographically mapped all school districts in the state for a visual representation of the 338 school districts used in the study to view possible geographic trends in Inclusive educational environments (see Figure 1). The key in the figure describes the percentage of SWID who are included in general education. The white districts represent districts that report having no SWID. The grey districts represent those districts with fewer than five SWID, so no placement data can be provided. Mapping analysis shows a pattern of districts (n = 18) with higher percentages of inclusion (> 30.1%) being spatially concentrated in the central and western regions of the state. However, this analysis also reveals that the most Inclusive districts are adjacent to districts that do not include any SWID.

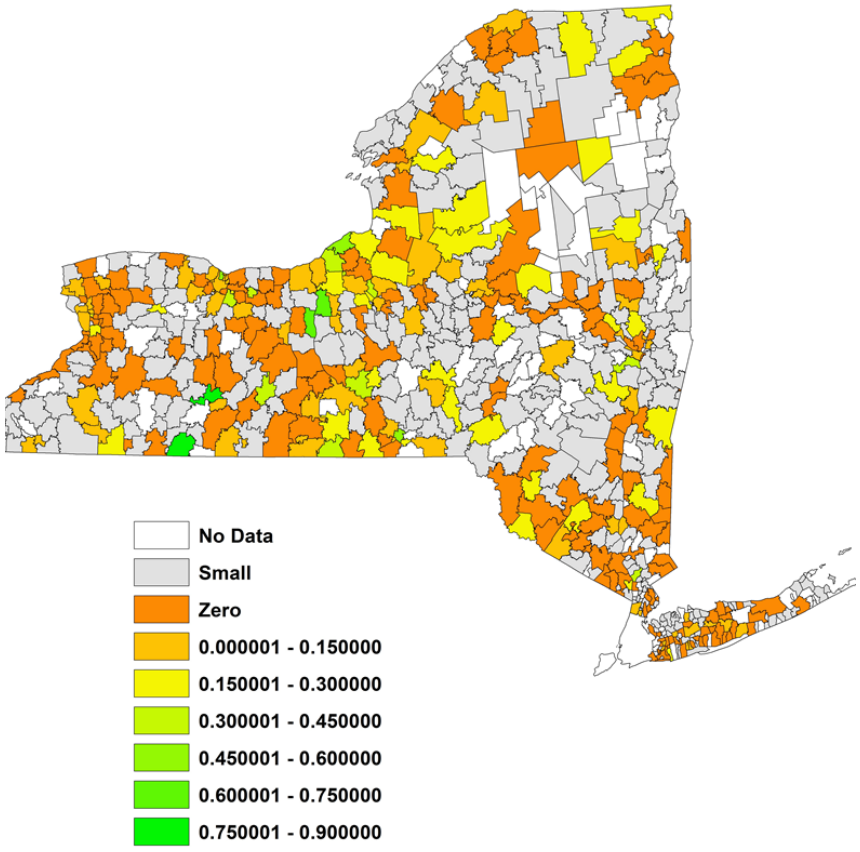

Figure 1. Percentage of students with intellectual disability who spend 80% or more of the day in general education by district (N = 338).

Discussion

The current study was designed to explore trends related to placement in regular classes for SWID. The results reveal the complexity of placement, the salience of race and other demographic factors, and limitations of district level quantitative data analysis. Specifically, the results of this study indicate that a significant amount of variability exists across school districts in New York State, and although such variability possibly associated with factors such as race and per pupil expenditure, much of the variability remains unexplained.

Variability in Placement Across Districts

The variability in placement across districts, and the lack of identifiable patterns across districts presents particular concerns in terms of policy and practice. The results of this research suggest that although all school districts in New York State are required to follow the same federal and state regulations associated with LRE, there is significant variability in the interpretation and implementation of policy. Results suggest that students' placement in regular classes may be associated with geography or other district factors, which is supported by prior research on placement variability (Kurth, 2015). This indicates a need for more clearly defined decision-making systems at the state, district, and school levels when considering placement of SWID (Albrecht, Skiba, Losen, Chung, & Middelberg, 2011).

Lack of Difference in Size and Percentage of Students With Disabilities

This study shows that there are no significant differences between Zero districts and Inclusion districts in mean number of students and mean percentage of SWD. The lack of significant differences in these factors suggests that the size of the school district in terms of

number of students and the proportion of SWD were not related school district's placement practices for SWID in this particular sample. However, more in-depth inquiry within individual districts is needed to determine relationships among school district size, characteristics, and administrative decision-making around the implementation of LRE. For example, differences between urban, rural, and suburban districts may be further explored as research has shown issues in inclusive education may be unique in each type of district respectively (e.g., Downing & Peckham-Hardin, 2007; Kozleski & Smith, 2009).

Expenditures, Income, Race/Ethnicity, and Placement in Regular Classes

The results of this study suggested trends in regard to economic factors and demographic and placement of SWID. First, Zero districts spent more per pupil in both general education and special education, and had a higher median income than the Inclusive districts in the sample. Second, Inclusive school districts had higher percentages of students receiving free lunch. Furthermore, this research suggests that although significantly more Black students reside in Inclusive school districts, Inclusive districts with higher percentages of Black students tended to have fewer SWID in general education settings 80% or more of the day. This means that when comparing Inclusive and Zero districts, Inclusive districts tended to have more Black students. However, among all Inclusive districts, less SWID were included in districts with higher perecentanges of Black students. Although we must be careful not to misinterpret these results to suggest that Black students are less likely to be included in either of these school districts, it raises questions about placement and equity associated with race and ethnicity. These results illustrate the complexity of the intersections of socioeconomic and demographic factors, and access to general education contexts, and suggest a need for further exploration of relationships

at the school, classroom, and student levels (Artiles, Kozleski, Trent, Osher, & Ortiz, 2010).

Limitations

There are certain limitations when using aggregate data such as the district-level data used in this study. Specifically, we must be aware of what Jargowsky (2005) and others have referred to as the "ecological fallacy." The premise of the ecological fallacy is that we must be careful in aggregate level research to not make assumptions that results at the district level correlate with what is happening at the classroom- or student-level. For example, just because we see that as the percentage of White students rises, the percentage of students with intellectual disability placed in regular classes rises does not necessarily mean that White students are more likely to be included. Although there are certainly numerous benefits to research associated with student-level data, essential insights can be gleaned from research associated with district-level data. Prior research conducted at the district level shows that district-level research can impact policy and practice in meaningful ways (e.g., Ong-Dean, 2006; Skiba et al., 2006).

Additional limitations include the number of districts excluded because of the low population of SWID in the districts. We also acknowledge that the outcome variable of 80% or more of the day does not completely capture "inclusive" practices, but placement in regular classes for a primary portion of the day. The results of this study suggest further qualitative research at the district and school levels may shed some light on the lack of clear patterns regarding placement of students across the continuum.

Implications for Policy and Future Research

There are a number of implications associated with future research related to this study. Given the relationship with expenditure and inclusion at the district level, further inquiry into how funds are allocated to support students in a variety of settings may provide administrators needed information on how best to support or increase access to placement in regular classes within a school district's limited budget. Studies conducted by Mahitivanichcha and Parrish (2005), who found that funding formulas may influence special education practices, may be replicated to provide additional insight on how expenditure and funding influence access to general education placements. In the United States, unfortunately, there is not an indicator related to special education program spending, since states and local education agencies are not obligated to provide detailed state and local breakdowns of special education spending to the federal government (Aron & Loprest, 2012), making research on spending allocation difficult. Furthermore, the results of this research support the need for continued focus on the relationships between placement and race, language, and socioeconomic factors (Minow, 2011).

The results of this study suggest the need for further qualitative research at the district and school levels on how personnel, such as school district administrators and teachers, interpret LRE in IEP meetings, as this may be the level of analysis needed to better understand policy implementation decisions. Moreover, additional research associated with expenditure and place, as well as race, language, SES, and placement, will lend additional necessary information to fully address the access to (or lack of access to) general education contexts. In fact, we likely need to "drill down" to the school, classroom, and personnel levels to begin teasing out the factors that influence policy implementation related to LRE.

Conclusion

The results of this study support the need to further interrogate the continued and sustained education of SWID in segregated settings. If we continue to segregate individuals with intellectual disability, we may prevent their authentic membership and participation in the school and greater community. Identifying malleable factors associated with access to placement in regular classes at various levels (e.g., schools, classrooms, and with personnel), provides a foundation for interrogating not only issues connected to placement and access in the United States, but more broadly to other countries. As previous research suggests, the intersections of placement and socioeconomic status (Szumski & Karwowski, 2012), race/ethnicity (Fierros & Conroy, 2002; National Council on Disability, 2015), and additional factors such as geographic location (Brock & Schaefer, 2015) are not soley issues relegated to the United States, but are rather global issues that must be considered in a variety of contexts. Thus, extensive possibilities exist for expanding this research in the United States, as well as in other countries.

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