# The Impact of Socioeconomic Status on the Identification of Potentially Gifted Education Students

Olivia Schmidt

University of South Florida

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Dr. Wendy Dickinson

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### **Abstract**

This data project aims to examine the role of socioeconomic status in the identification of students with high abilities and its potential implications for educational equity. The primary objective is to investigate whether socioeconomic factors influence the accurate assessment and identification of potentially gifted students, measured through student identification data collected from the Florida Department of Education (FLDOE) from the 2020-2023 school years and at the national level through the U.S. Census Bureau. Indicators for giftedness and socioeconomic level are collected from the FLDOE and are examined at different geographical levels and through the lens of ethnicity/race and ELL status. Ultimately, this project seeks to understand the problems and effects of underrepresentation within the gifted identification process and the impact on equitable access to gifted education programs.

The socioeconomic status (SES) of students is determined using FLDOE's indicator for "economically disadvantaged," that is, students determined to be eligible for free and reduced price meals under the National School Lunch Program. Additional variables, such as family income, and parental education are analyzed in relation to the identification of gifted students through the U.S. Census Bureau's federal-level database, The American Community Survey (ACS). Using FLDOE's database, gifted status was examined and coded by SES level (low/not low), while ELL status and race/ethnicity were also looked at as related variables. The SES level of gifted students was also examined in consideration of Florida Administrative Code 6A-6.03019, which was implemented in response to the lack of representation in gifted programs for a select number of districts. In consideration of this code, Florida school district enrollment data was examined with gifted representation rates for underrepresented populations in districts with Plan B to representation rates in districts without Plan B.

### Introduction

The identification of economically and culturally diverse students in gifted programs across the nation is a well-documented and critical issue in the field of gifted education (Hodges & Gentry, 2020). What gifted programs share at a nationwide level is demographics; frequently, gifted classrooms are composed predominantly of middle- and upper-class students, most of those students being white (Yoon & Gentry, 2009). States and their districts use different tests and criteria to identify students as gifted or talented, and Florida is one state that's responded by redefining how they look at the process of identifying gifted students. Following a notice from the Office of Civil Rights (OCR) in the early 80s, the Florida state legislators governing gifted student education initiated diversity programs to address underrepresented populations in gifted. Alternative identification techniques, also known as "Plan B" after subsection B of the law governing gifted programs, are not mandated for use in all Florida school districts (Florida's Plan

for K-12 Gifted Education Bureau of Curriculum and Instruction, 2013). As a result, there are significant variations in how districts identify students who are underrepresented but qualify for gifted programs.

In Florida, the Department of Education defines a gifted student as one who has "...superior intellectual development and is capable of high performance [...] measured by an intelligence quotient of two (2) standard deviations or more above the mean on an individually administered standardized test of intelligence."(Florida Department of Education, n.d.-b). While traditionally, to be eligible for gifted program services, a student must display "superior intellectual development," under Plan B, a student may be eligible for a gifted program if they are a member of an underrepresented group. Under Florida's rule, under-represented populations are defined as populations with limited English proficiency (LEP) or who are from a low socio-economic status (SES) family. While this data project considers language learner student populations, this project primarily examines underrepresented students from a low socio-economic status (SES) standpoint. For students to be considered as coming from a low SES according to the FLDOE, the department uses economically disadvantaged calculations based on the United States Department of Agriculture (USDA) multiplier for eligible Community Eligibility Provision (CEP) schools. It is common to use federal meal subsidy eligibility as a proxy for SES in research (Domina et al., 2018).

The use of standard screening procedures for gifted programs may miss identifying students with superior intellectual abilities since more than half of public school students are coming from low-income families – 65.8% of Florida students in the 2022-23 Fall term statewide come from economically disadvantaged households according to the FLDOE yearly report card (Florida Department of Education, n.d.). The reasons for gaps in the identification process for students by income or related measures of socioeconomic status may also be influenced by teacher biases and prejudices, limited definitions of giftedness and intelligence, narrow evaluation procedures, a student's ethnicity, physical and learning disabilities, etc. that contribute to an incomplete system of identification (Ford, 2003). In the case of Plan B, which gives districts the freedom to establish alternative policies, there are variations in programs as well as identification procedures, curriculum selections, instructional strategies, and student assessment. Consequently, students access to and quality of gifted education can greatly differ depending on their district of residence. We find ourselves facing a situation where multiple compounding factors are affecting students from low socio-economic backgrounds chances at qualifying for gifted, from geographical location to inherent biases and prejudices in testing.

### **Data Sources**

The data sources used for this project include the U.S. Census Bureau and the FLDOE K-20 Education Portal. The Census Bureau demographic surveys were used to collect relevant data

such as minority status, poverty rate, family income, and parental education at different geographical levels. At the state level, the FLDOE K-20 Education Portal provides data on gifted-identified students; using the indicator for giftedness, other characteristics - such as economic status, ELL status, and race - are also considered.

The U.S. Census Bureau is a government agency and comprehensive data source that collects and provides a vast range of demographic and socioeconomic information about the United States population. To access the surveys and censuses that this agency regularly gathers, individuals can visit <a href="https://data.census.gov/">https://data.census.gov/</a>, the stable link for the agency's main data dissemination tool. For the purpose of this project, the U.S. Census Bureau's federal-level database was helpful for understanding the socioeconomic and demographic characteristics of families and communities across the country, at a state level, and a district-level. This geographical granularity allowed for the analysis of socioeconomic factors and their impact on the identification of potentially gifted education students within specific areas. By linking census data to data on gifted students through FLDOE, the relation between socioeconomic factors and the identification and enrollment of gifted students was analyzed.

The FLDOE K-20 Education Portal, "Know Your Schools," provides interactive reports and statistical information about Florida's PK-12 and college students; it houses a wide range of data related to student enrollment, demographics, and achievement. Critically, this source provided information regarding gifted enrollment and demographics, such as socio-economic status. To access this database, individuals can navigate to <a href="http://edudata.fldoe.org/">http://edudata.fldoe.org/</a>, click the drop-down for 'Advanced Reports', and find the "Know Your Data" page. This page will yield the most comprehensive information, where one can build a data table and use the sidebar to apply indicators (i.e., "Gifted Status," "Race," and "Economic Status") to refine their dataset.

### Methods

### Gifted Status and SES Levels

The National Association of Gifted Children estimates that approximately six to ten percent of K-12 students are gifted, regardless of race, ethnicity, socio-economic status or first language (*Frequently Asked Questions About Gifted Education - National Association for Gifted Children*, n.d.). Yet, students from low socio-economic backgrounds are historically under-represented in gifted programs. An analysis of gifted education students in different socioeconomic status categories was examined at the 2020-2021, 2021-2022, and 2023 school years, reflecting this national trend at a state-wide level (Table 1). The analysis involved gathering state-wide district data using FLDOE's database using the "Know Your Data" portal. Using the "economically disadvantaged" and "gifted status" indicators, information was compiled on the number of students identified as gifted, as well as their socio-economic status. The following table presents the findings of this analysis, showing the representation rates of gifted students across various

socio-economic status categories; the data allows for a comparison between the percentage of students from low socio-economic backgrounds in Gifted programs to their overall representation in the student population. The findings from this 3-year analysis serve as a starting point for understanding the representation of gifted students from different socio-economic backgrounds, without fully taking into account how mutually related variables such as minority status, ELL status, "Plan B" availability, and family income and educational level might interact with socio-economic status to impact representation. Further analysis delves deeper into the interrelationships among these variables and their collective influence on the representation of low SES gifted students.

**Table 1**Number and percentage of identified gifted education students in different socioeconomic status categories by school year (e.g., low, medium, high SES)

Gifted	SES Level	2022-23	2021-22	2020-21	%
Status					
Gifted	Low	51507	57305	57515	34.05
Gifted	Medium/High	108145	105274	108797	65.95
Non-Gifted	Low	1447583	1467275	1460165	54.64
Non-Gifted	Medium/High	1263272	1203325	1165210	45.36

Note. A low SES Level corresponds with FLDOE's definition for "economically disadvantaged," which are students who are "... eligible for free and reduced price meals under the National School Lunch Program." Source. A medium or high SES Level, on the other hand, will be considered those families and students who do not meet this definition.

### Examining the Intersectionality of SES, Race/Ethnicity, and ELL Status in Gifted

It is worth exploring variables that are often closely intertwined to SES, such as race/ethnicity and ELL status. By examining the relationships between SES and related demographic variables, a comprehensive understanding of how multiple factors intersect to shape the identification rates and access to gifted programs emerges. Proportional representation is a straightforward concept; the gifted population should be demographically similar to its general population. A simple

formula can be used to determine gifted underrepresentation of specific subgroups – that is, the disproportionality that results when a specific subgroup is less than the general population. Overrepresentation becomes evident when there is a disproportionality between socioeconomic, racial/ethnic, etc. subgroups that is greater than the general population. In order to determine the degree to which the population of specific groups within gifted are represented compared to the general population, the following formula was used: RI = % Gifted / % General. A RI of .50 means that a subgroup is represented about half as much in the identified population, where a RI of 1.00 indicates perfect representation. Figures 1 and 2 illustrate the racial/ethnic demographic breakdown of Gifted and Non-Gifted students in the 2022-2023 school year, using data extracted from the FLDOE K-20 Education Portal, "Know Your Schools". Visually, without computing any representation index, one can compare the state-wide enrollment to the gifted and talented enrollment and draw conclusions: white students are overrepresented in Gifted and Talented programs, while other groups such as Black students are underrepresented.

Representation Index (RI) for Black students = % Gifted / % General = 9.1/21.6 = 0.42

Black students are underrepresented by a little less than half as much in the gifted population as they are in the general population. Asian students are overrepresented by approximately two and half times the rate they are in the general population, and white students at a rate of one and a third. Other underrepresented minority groups, such as Hispanic, American Indian, and Pacific Islander students also see a decrease in Gifted enrollment, but Black students are most notably underrepresented.

Figure 1
What is the race/ethnicity of students enrolled in Gifted and Talented programs state-wide for the 2022-2023 school year?

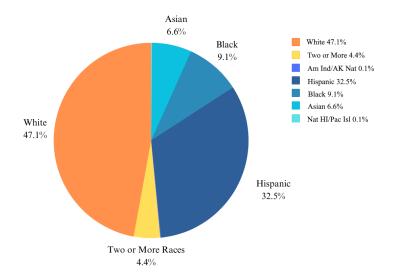
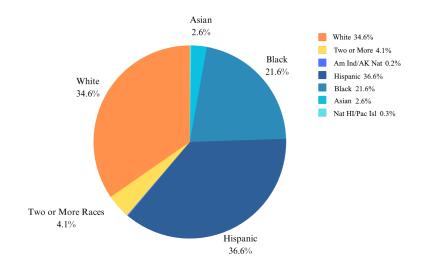


Figure 2
What is the race/ethnicity of students enrolled in General Enrollment state-wide for the 2022-2023 school year?



English Language Learners (ELLs) are a population that is often underrepresented and underserved in Gifted and Talented programs. The limited English proficiency of ELL students can hide their exceptional promise in terms of superior intellectual abilities, making it less likely for them to be identified for Gifted and Talented programs. This is further compounded by the fact that the current screening protocols for giftedness are not specifically designed to detect the unique characteristics of ELL students (Matthews, 2007). With 11.2% of students in the general student population identified as ELL, and .05% of students identified as high ability that are also identified as ELL, this would yield an overwhelming RI for ELL students in the gifted population. To quantify the extent of underrepresentation, we can compare the RI value to 1; 1/RI = 1/0.0044 = 224. ELL students are underrepresented by 224 times in the gifted population compared to their proportion in the general student population.

Representation Index (RI) for ELL students = % Gifted /% General = 0.05/11.2 = .0044

# Underrepresented Populations in "Plan B" Implemented Districts vs. Traditional Eligibility Criteria

Florida Administrative Code 6A-6.03019, "Plan B", has been in effect in some Florida school districts since 1991. How have representation rates for underrepresented populations (students with limited English proficiency or who come from a low socio-economic status) in districts that

have implemented Plan B compare today to districts who have continued to follow the traditional criteria for eligibility? (It should be noted that, although racial or ethnic makeup is usually considered in underrepresented populations, it was excluded from "Plan B" following a lawsuit in 2002 that removed all racial or ethnic criteria.) Using FLDOE's database, several Florida school districts that implement Plan B (Pinellas, Hillsborough, Miami-Dade) were compared to several districts who implement a standard gifted education policy (Orange, Hernando, Brevard) for the school year of 2022-2023, using both "economically disadvantaged" and "current ELL status" indicators.

Among gifted students, the specific data for students who are both currently ELL and Gifted is not provided by the Hernando and Brevard districts through the FLDOE database due to low enrollment numbers. From the data that is available, there seems to be relatively little difference between counties that have implemented "Plan B" versus those that have not for ELL students; the lowest differential percentages sit at 2.7% and 4.39% above the overall representation figures, and both of these percentages come from districts who have made no indication of implementing Plan B in their district according to their county website or in other online resources. Outliers, such as Miami-Dade and Orange, have a 20.41% and 13.89% differential percentage, most likely due to high populations of Hispanic students (74% of students are Hispanic in Miami-Dade, and 44% of students are Hispanic in Orange county.) By taking into account the demographics of each individual district and how they may impact the representation of sub-groups in Gifted programs, the data might be analyzed alternatively: "do districts with a lower percentage of economically disadvantaged or ELL students have a higher or lower representation differential compared to other districts?" Overall, school districts enrolled in "Plan B" from the sample of three districts had a median representation of 9.41, while the sample of three school districts not enrolled in "Plan B" had a median representation of 4.39. While having a higher representation differential might indicate a potential inequity in gifted education access for these underrepresented populations, having a larger sample size and securing missing data for students who are both ELL and Gifted may provide a more complete picture.

Representation differentials were also calculated for economically disadvantaged and gifted student populations in the sample of three counties that participated in "Plan B" compared to those that did not participate. In this data, there was also relatively little difference between the participating vs non-participating counties, with a median differential of 18.48 for "Plan B", and a median differential of 19.68 for non-participating counties. Considering representation differentials for both categories had no significant difference, this suggests that the implementation of "Plan B" did not significantly impact the representation of economically disadvantaged and gifted students in these counties.

### Table 2

"Plan B" Florida School Districts with Representation Differential of ELL Students

## in Gifted Programs

"Plan B"							
School	Total	Total					Representation
Districts	Enrolled	Gifted		El	Differential		
			Enrolled Gifted			ELL	
			Number	Percent	Number	Percent	
1 Pinellas	93702	10211	6446	6.87%	31	0.30%	6.57%
2 Hillsborough	224538	8156	22546	10.04%	51	0.62%	9.42%
3 Miami-Dade	335939	38749	73159	21.77%	529	1.36%	20.41%

**Table 3**Non-Participating "Plan B" Florida School Districts with Representation Differential of ELL Students in Gifted Programs

	Total	Total			Representation		
School District	Enrolled	Gifted		EL	Differential		
			Enrolled Gifted			ELL	
			Number	Percent	Number	Percent	
1 Orange	208445	12062	29126	13.90%	28	0.23%	13.89%
2 Hernando	24058	618	651	2.70%	0	0.00%	2.70%
3 Brevard	74125	4936	3261	4.39%	0	0.00%	4.39%

**Table 4**"Plan B" Florida School Districts with Representation Differential of Economically Disadvantaged Students in Gifted Programs

"Plan B"							
School	Total	Total					Representation
Districts	Enrolled	Gifted	Econo	omically D	Differential		
							Eco.
			Enrolled		Gifted		Disadvantaged
			Number	Percent	Number	Percent	
1 Pinellas	93702	10211	48354	51.16%	2912	28.51%	22.65%
2 Hillsborough	224538	8156	114033	50.78%	2635	32.30%	18.48%
3 Miami-Dade	335939	38749	188418	56.08%	15748	40.64%	15.44%

**Table 5**Non-Participating "Plan B" Florida School Districts with Representation Differential of Economically Disadvantaged Students in Gifted Programs

School District	Total Enrolled	Total Gifted	Econo	omically 1	Representation Differential		
							Eco.
			Enro	lled	Gifted		Disadvantaged
			Number	Percent	Number	Percent	
1 Orange	208445	12062	100821	48.36%	3112	25.80%	22.56%
2 Hernando	24058	618	13687	56.89%	230	37.21%	19.68%
3 Brevard	74125	4936	34847	47.01%	1606	32.53%	14.48%

### Socio-economic Variables for Determining Economic Disadvantage Among Gifted Students

Socio-economic variables, such as parental educational attainment and family income, were collected from The U.S. Census Bureau's (USCB) federal-level database. These variables were explored to better understand the socio-economic climate and lived experiences of students from low income background who are identified as gifted. The UCSB's database provided data into the socioeconomic and demographic characteristics of families and communities at various geographical levels, including state and national level. Information on the educational attainment of parents or guardians of students in Florida was also gathered, including percentages of parents with high school diplomas, bachelor's degrees, or advanced degrees (Table 6).

**Table 6**Parents, 25 years of age and over, and educational attainment according to poverty level.

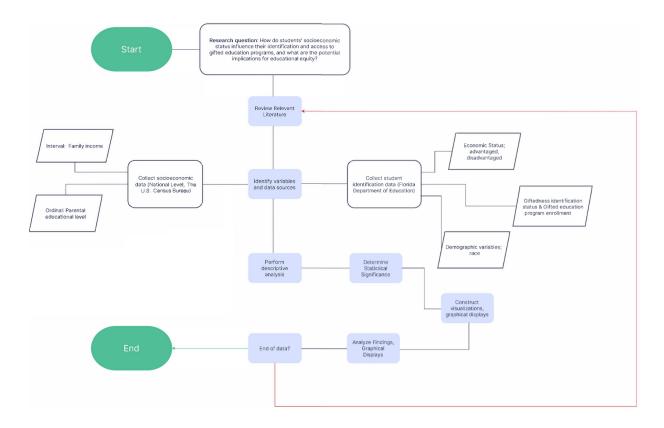
					Percent Below	
Parent Educational Attainment	Total		Below Poverty Level		Poverty	
	Margin of			Margin of		Margin of
	Estimate	Error	Estimate	Error	Estimate	Error
	15,543,5		1,760,12			
Population 25 years and over	30	$\pm 8,217$	5	±29,446	11.30%	±0.2
	1,545,00					
Less than high school graduate	6	$\pm 23,833$	375,016	±14,439	24.30%	±0.8
High school graduate (includes	4,262,63					
equivalency)	1	±42,228	641,695	±18,467	15.10%	±0.4

Some college, associate's	4,523,31					
degree	9	±42,726	438,758	±13,514	9.70%	±0.3
	5,212,57					
Bachelor's degree or higher	4	±44,978	304,656	±12,617	5.80%	±0.2

Following the Income Eligibility Guidelines available from USDA in the National School Lunch Program – which determines whether a student is "economically disadvantaged" according to the FLDOE – the rate begins at \$26,973 annual income for a household size of 1, adding \$9,509 dollars for every additional family member, to determine if a student qualifies for reduced price meals. For eligibility for free meals, the annual rate begins at \$18,954 for a family of one and increases by 6,682 for each additional family member (*Child Nutrition Programs: Income Eligibility Guidelines (2023-2024)* | *Food and Nutrition Service*, 2023). Data from the U.S. Census Bureau estimates that 752,966 children under 18 years old – or 17.8% – live below the poverty level in Florida, about one percentage point higher than the national average. The income of parents whose students are considered gifted and "economically disadvantaged" would fall somewhere within the guidelines set by the FLDOE, and are likely to be within the population living below or hovering around the poverty level.

Figure 3

Data Investigation Visualization



Note. From the data sources examined and analyzed in this section, a flowchart visualization has been constructed.

#### Results

This data project highlighted the role of socioeconomic status (SES) in the identification of gifted students and its implications for educational equity; rather than solely focusing on raw disparities in disproportionality, variable relationships such as race/ethnicity and English Language Learner (ELL) status were examined to frame the causes for under-identification for low SES students. This data project confirmed previous research findings that students from low socioeconomic backgrounds are historically underrepresented in gifted programs and continue to be underrepresented – although this data project used the most recent three-year period data from FLDOE's database. What was revealed is that a majority of gifted students come from medium/high SES backgrounds, while only a small percentage of gifted students come from low SES backgrounds. Furthermore, the analysis of intersectionality between SES, race/ethnicity, and English Language Learner (ELL) status highlighted additional disparities. Black students were found to be significantly underrepresented in gifted programs compared to their representation in the general population, while Asian students were overrepresented. Other groups, such as Hispanic, American Indian, and Pacific Islander students, also saw underrepresentation in gifted enrollment when compared to the general population. This finding also aligns with previous

literature, which has historically acknowledged the underrepresentation of racial and ethnic minority students in gifted programs (e.g., Frasier, 1997; Maker, 1983; Marland, 1972). In this data project, ELL students in particular faced significant underrepresentation and emerged as the most underrepresented group with a representation index of .0044; in other words, 224 times underrepresented in the gifted population compared to their proportion in the general student population.

This data project also examined the implementation of "Plan B" in select Florida school districts to assess its effectiveness in promoting equitable representation of economically disadvantaged students in gifted programs. This statewide plan for gifted education, which allows for alternative identification policies to address underrepresentation, showed mixed results in this data project. The representation differentials for ELL and economically disadvantaged students in districts implementing "Plan B" were not significantly different from those in districts following traditional eligibility criteria. This suggests that while "Plan B" may provide opportunities for underrepresented students, further investigation and analysis are needed to determine its overall effectiveness. It was also noted that, by taking into account the demographics of each individual district and how they may impact the representation of sub-groups in gifted programs (such as within the case of Miami-Dade and Orange, which contain high populations of Hispanic students), the data might be analyzed by asking: "do districts with a lower percentage of economically disadvantaged or ELL students have a higher or lower representation differential compared to other districts?". Lastly, the socioeconomic variables collected from the U.S. Census Bureau's database revealed that a significant proportion of parents in low-income households have less than a high school education, providing insights into the socioeconomic climate of students from low-income backgrounds that could impact the rate at which students from low SES backgrounds are identified.

### **Implications**

Keeping in mind the data examined in this project, several implications arise that could improve the representation rate of low SES and other underrepresented populations for Gifted and Talented programs. As has been identified, discussed, and analyzed through educational literature for decades, and confirmed in this data project, low-income students are a profoundly underrepresented population. This has remained relatively true across the nation, with policy interventions (such as "Plan B") targeted to address this issue but falling short of achieving the desired impact. Variations across district levels in terms of how students qualify to receive free/reduced lunch (a marker often used as a way to estimate student poverty) and students who are identified as gifted are distributed, leading to inconsistencies in identifying and supporting low-income gifted students effectively. This variability in how districts choose to implement "Plan B" or retain the current system of identification adds complexity to the analysis. Future

studies should consider these factors and explore the various elements related to district policies and practices when evaluating the effectiveness of "Plan B".

As a part of the legislative solution, the adoption of state policies that could help equitably distribute resources or the intervention of mandates for identifying and providing appropriate educational programming would be beneficial. At the referral stage, teacher training may begin to close SES gaps, though tests for gifted evaluation should also be examined to see how bias could arise against ELL and low-SES students. At a particular point, it may be necessary to move to new assessments entirely that are more inclusive and that look for markers of giftedness that go beyond simplistic IQ.

In exploring the variables that are often closely intertwined with SES, such as race/ethnicity and ELL status, it is evident that students from these underrepresented populations face additional barriers to access and representation in Gifted and Talented programs. Current data shows that existing approaches for identifying giftedness in low-income students of color are inadequate. One recommendation for reducing disproportionality rates along racial/ethnic lines might arise from culturally responsive assessment and universal screening that would allow for more equitable program placement decisions. Essentially, efforts should be made to improve screening protocols to ensure the identification of gifted students from all backgrounds, particularly groups of students who are often overlooked due to biases and prejudices, are being met. In addition, targeted support and resources should be provided to students from low-income families to mitigate barriers to their educational success and increase their access to gifted programs. The data collected from the U.S. Census Bureau's database on parental education and low-income households emphasized the need for targeted interventions and support for these families.

Investigating the lived experiences of gifted young people from low SES families may yield insights that lead to effective solutions. The adults who determine whether a child is identified as gifted – parents and teachers – will continue to contain biases that allow them to fail to recognize the potential of poor and minority students and those with limited English proficiency. This can only be curtailed through intentional interventions, establishing clear criteria and guidelines for identification, incorporating culturally relevant assessments, and the adoption of state policies that would help more equitably distribute resources.

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