# TAUB CENTER
## for Social Policy Studies in Israel

# Beyond Capacity:
# The Relationship Between
# Preschool Class Size and
# Special Education Participation

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## Introduction

Preschool students with special needs in Israel have two primary educational placement options: they may attend separate special education preschools specifically for children with disabilities, or they may be integrated into general education preschool classrooms and receive additional supports. Most preschoolers who receive special education services attend separate special education preschools rather than inclusive settings (Silverman & Blass, forthcoming). These preschools, however, are not evenly distributed; there is a higher concentration of separate special education placements in Hebrew State preschools than in preschools that serve other students. These higher concentrations appear to result from multiple interacting factors. Primary among these are geographical considerations, which may lead parents to choose the nearest preschool — typically a Hebrew State one — even when busing to options aligned with their preference is possible, and a lack of special education preschools serving other groups. In addition, there is a higher proportion of students with autism diagnoses within the Hebrew State system, many of whom attend separate preschools, which further amplifies this trend (Silverman & Blass, forthcoming).

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Parents of students requiring special education services may choose between separate special education frameworks and inclusion in general preschools, enabling them to weigh various institutional factors against their child's specific needs. A particularly significant consideration in their decision is the quality of the learning environment, frequently represented by class size. While research specifically examining the effects of class size on special education is more limited, a systematic review by Bondebjerg et al. (2023) found that smaller class sizes in special education settings are associated with positive impacts on academic achievement, socioemotional development, and student well-being. Larger class sizes in general education preschools may deter parents from pursuing inclusion, as overcrowded classrooms can limit individualized attention and hinder the effective implementation of accommodations (Schanzenbach, 2014). In such instances, separate special education preschools may appear to offer a more supportive and manageable educational setting for young students with special needs.

The inclusion versus separate preschool dilemma is especially pronounced in Israel's educational landscape, where general education preschools maintain an average class size of approximately 28 students, in stark contrast to special education preschools, which typically serve around nine children per class (based on data from the Ministry of Education's *Wide Perspective* website). This study investigates the relationship between the average local class size in general education preschools and participation rates in separate special education preschools. We hypothesize that areas with larger average class sizes in general preschools are associated with higher enrollment rates in separate special education settings. Understanding this relationship provides crucial insights into the structural barriers affecting the implementation of inclusion-related policies.

## Data and methodology

The present analysis uses comprehensive data from the *Wide Perspective* website, a government-maintained database that provides detailed information on student enrollment in educational institutions in Israel. The database offers data on student numbers per institution, categorized by location, supervision, sector, and type (general or special education). Our analysis focuses on two primary variables: average local class size in general education preschools and the percentage of students attending separate special education preschools. We calculated these variables using data on the total number of students and classrooms by education type (general and special) in each local authority (רשות). We selected the local authority as the unit of analysis rather than towns or cities to ensure consistent comparison in our analyses and account for the fact that smaller localities often lack dedicated special education preschools.

To control for socioeconomic variations, we incorporate the socioeconomic status (SES) cluster index (אשכול חברתי-כלכלי) in our models. We recoded this 10-level variable (where 1 represents the lowest and 10 the highest SES) into five broader categories — 1–2, 3–4, 5–6, 7–8, and 9–10[1] — to capture meaningful differences while avoiding an overly granular analysis. We included interaction terms between the paired SES variable and average class size, to examine whether the relationship between class size and special education placement varies across different socioeconomic contexts. We also controlled for locality size using the total general education preschool classroom count, and for temporal changes by including school year as a variable.

We also account for variation between groups since special education trends differ between them. Notably, the majority of special education preschools are Hebrew State institutions. The variable group was constructed by combining school supervision (פיקוח: ממלכתי, חרדי, ממלכתי דתי) and sector (מגזר: יהודי, ערבי, בדואי, דרוזי). These two variables were used to define six groups within the Israeli education system: Hebrew State, State-religious, Haredi, Arab, Bedouin, and Druze.[2] This classification assumes that students generally attend institutions aligned with their family's preference.

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1   Note that only 4% of preschool students reside in the highest SES bracket (9–10), so although we present data for them, trends are not always as visible.

2   Separate models by group were not estimated since some of the minority groups had fewer observations, particularly in the earlier periods.

## Analytical approach

The dataset spans 2005 to 2024, enabling a longitudinal analysis of the relationship between class size and special education patterns. To examine temporal trends, we estimated identical regression models across four five-year periods: 2005–2009, 2010–2014, 2015–2019, and 2020–2024.

The dependent variable in our models was the percentage of students in special education preschools. Independent variables included the average class size in general education preschools, SES, school year, population size (measured through classroom count), and group. The interaction term between SES and average class size was added to examine whether this relationship varies across different SES levels.

# Results

Our analysis reveals significant changes in the relationship between preschool class size and special education enrollment in Israel from 2005 to 2024, with notable variations across socioeconomic levels and groups. The full regression table is presented in Appendix Table 1. It is worth noting that our model's explanatory power has steadily increased over the study period, with R-squared values rising from 0.18 in 2005–2009 to 0.24 in 2020–2024, indicating that the model predictors can increasingly explain special education rates over time.[3]

Our key finding concerns how class size influences special education enrollment differently across socioeconomic levels. The coefficient for average class size was negative in all periods and reached statistical significance in 2015–2019. Taken on its own, that pattern hides important variability across SES and groups so is misleading.

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3   To examine whether the rise in special education in recent years contributes to our results, we conducted additional analyses that estimated the model using only local authorities with data available for all twenty years. The results were substantively identical.

## Figure 1. Relationship between preschool class size and special education enrollment by socioeconomic status and group, 2005–2009 vs. 2020–2024

### a. By socioeconomic status
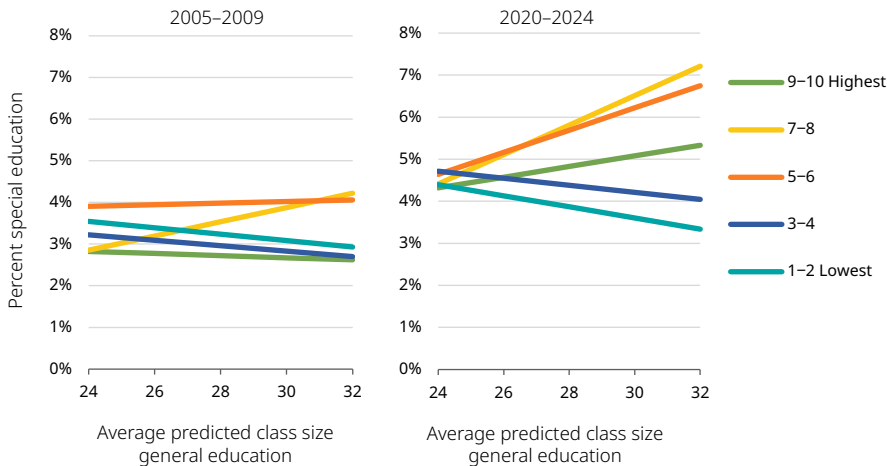


### b. By group
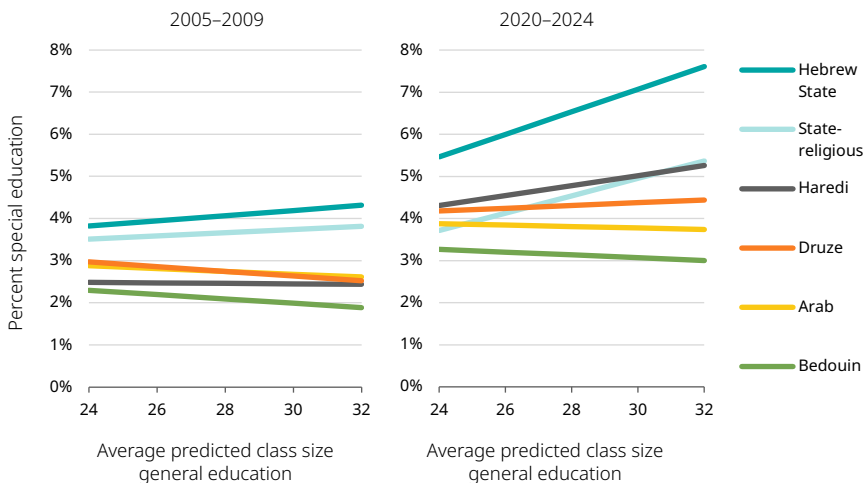


Source: Sarit Silverman and Nachum Blass, Taub Center | Data: Ministry of Education, *Wide Perspective* website

As shown in Figure 1a, the relationship between class size and special education enrollment has transformed dramatically over time when comparing different socioeconomic levels. Between 2005 and 2009, all SES groups showed relatively similar special education enrollment rates (2.5%–4%) with minimal slopes across different class sizes. A pivotal shift occurred after 2015, when the interaction terms became statistically significant, leading to the dramatically different pattern we observe by 2020–2024. Mid to high SES communities (Clusters 5–8) now show a strong positive relationship between class size and special education enrollment, with rates ranging from 4.5% for the smallest class sizes and reaching 7% in areas with the largest classroom sizes. Meanwhile, lower SES communities (Clusters 1–4) show flat or slightly negative relationships between class size and special education enrollment. This visual representation illustrates our regression results, where the combined effect of the main class size coefficient and the interaction terms creates increasingly positive relationships as SES increases. This creates a clear pattern: in lower-SES localities, larger class sizes are associated with stable or slightly lower special education enrollment, while in mid-to-high SES localities, larger class sizes correspond with significantly higher special education rates.

The relationship between class size and special education enrollment also varies markedly by group, as illustrated in Figure 1b. Between 2005 and 2009, special education enrollment rates showed little variation with class size across all groups. By 2020–2024, however, the Hebrew State system not only maintained higher overall special education rates as documented in previous research, but now also exhibited a strong positive relationship with class size, reaching nearly 8% enrollment at the largest class sizes. In contrast, special education rates in the remaining groups showed minimal to no relationship with class size.

These findings suggest that class size has emerged as an increasingly important structural factor influencing special education placement decisions, but its impact varies considerably across different socioeconomic and demographic contexts. The positive relationship between class size and special education enrollment in mid-to-high SES communities and Hebrew State institutions suggests a differential response pattern: when general education classrooms become overcrowded, families with greater resources, knowledge, and advocacy capacity are more likely to successfully navigate the system to secure special education placements for their children as an alternative to remaining in crowded general education settings.

## Conclusions and policy implications

Educational researchers can point to many reasons for reducing class sizes (Schanzenbach, 2014). In this short paper, we point to another. Reducing general preschool class size will likely decrease the proportion of students placed in separate (and more expensive) special education preschools, potentially creating more inclusive learning environments. Our findings demonstrate that larger class sizes are particularly associated with higher rates of separate special education placements in the Hebrew State system, where these settings are most prevalent. This suggests that classroom overcrowding acts as a structural barrier to inclusion, pushing families toward separate frameworks.

Moreover, the relationship between class size and special education placement varies by SES, with higher-SES localities showing a stronger association — likely reflecting both greater parental expectations for individualized attention and increased access to separate special education options. Smaller class sizes can create conditions that better support the implementation of inclusive practices, allowing teachers to provide more personalized attention to diverse learning needs and fostering environments where all students can thrive together (Hehir et al., 2016). This approach aligns with research suggesting that inclusive education, when properly supported, benefits both students with special needs and their typically developing peers through increased opportunities for social interaction, exposure to diverse perspectives, and development of empathy and understanding (Lawrence et al., 2016).

However, as our findings suggest that lower placement rates in some population groups may stem from limited availability of separate special education preschools rather than lower need, policy makers must ensure that efforts to reduce separate placements do not come at the expense of children who require intensive support. A balanced approach — expanding inclusion opportunities through manageable class sizes while maintaining equitable access to specialized services across all population groups — is essential to addressing inequities in the special education system and meeting the diverse needs of all students. By addressing the structural barriers to inclusion revealed in this study, policy makers can work toward educational environments that maximize every child's potential while respecting individual learning differences.

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# Appendix

## Table 1. Regression table predicting the percentage of special education students by local authority

|  | 2005–2009 | 2010–2014 | 2015–2019 | 2020–2024 |
|---|---|---|---|---|
| Average general preschool class size (APCS) | -0.076 | -0.122 | -0.308* | -0.132 |
| Total number of general preschool classrooms | -0.001 | -0.001 | -0.002* | -0.000 |
| **School year (Reference group: First year)** | | | | |
| Second year | 0.325* | 0.084 | 0.071 | 0.301** |
| Third year | 0.260 | 0.177 | 0.173 | 0.577*** |
| Fourth year | 0.179 | -0.028 | 0.303* | 0.745*** |
| Fifth year | 0.467* | 0.203 | 0.488*** | 1.119*** |
| **Group (Reference group: Hebrew State)** | | | | |
| Bedouin | -2.892*** | -2.423*** | -2.905*** | -3.545*** |
| Arab | -1.580** | -1.885*** | -2.205*** | -2.995*** |
| Druze | -1.430* | -1.806* | -1.882** | -2.663*** |
| State-religious | -0.634 | -1.204** | -1.597*** | -2.331*** |
| Haredi | -2.091*** | -1.167* | -1.190* | -2.000*** |
| **SES (Reference group: Clusters 1–2)** | | | | |
| Clusters 3–4 | -1.041 | -0.831 | -0.366 | 0.286 |
| Clusters 5–6 | -0.901 | -0.819 | -0.728 | 0.064 |
| Clusters 7–8 | -1.578* | -1.840** | -1.709** | -0.628 |
| Clusters 9–10 Highest | -2.495** | -3.032*** | -2.577** | -1.907* |
| **APCS × SES cluster (Reference group: Clusters 1–2)** | | | | |
| APCS × Clusters 3–4 | 0.011 | 0.201 | 0.196 | 0.048 |
| APCS × Clusters 5–6 | 0.095 | 0.215 | 0.394* | 0.396** |
| APCS × Clusters 7–8 | 0.247 | 0.259 | 0.483** | 0.482*** |
| APCS × Clusters 9–10 Highest | 0.051 | 0.391 | 0.778* | 0.259 |
| Constant | 5.009*** | 5.642*** | 5.885*** | 6.134*** |
| Number of observations | 730 | 992 | 1,098 | 1,192 |
| R-squared | 0.18 | 0.15 | 0.19 | 0.24 |

Significance level: *$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Source: Sarit Silverman and Nachum Blass, Taub Center | Data: Ministry of Education, *Wide Perspective* website