Do Teachers Spend Less Time Teaching in Inclusive Classrooms?

Evidence from International Data

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Abstract

Debates about the inclusion of students with disabilities in general education classrooms often overlook its impact on teachers. In this study, I analyze the concern that teachers may spend less time teaching in inclusive classrooms using survey data on 121,173 teachers from 38 participating countries and partners of the Teaching and Learning International Survey (TALIS) 2013. I further examine teacher, classroom, and school factors that may explain disparities in instructional time between inclusive and non-inclusive classrooms. The findings indicate teachers, on average, spend marginally less instructional time on teaching in classrooms that include more students with special needs. The disparity in teaching time in inclusive and less inclusive classrooms is mostly removed when accounting for students with behavioral problems.

Keywords: inclusion, teaching time, special needs, disabilities

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More students with disabilities around the world are taught in inclusive schools and classrooms than before (Deng & Harris, 2008; Organization for Economic Cooperation and Development [OECD], 2014a; Vorapanya & Dunlap, 2014). In the United States, about two-thirds of students receiving special education spend about 80% or more of the day inside the regular classroom with peers without disabilities (U.S. Department of Education, 2016), an increase from less than 50% of students with disabilities in regular classrooms more than 20 years ago (U.S. Department of Education, 2012). The rise in inclusion in the United States and many countries is framed around improving equal educational opportunities and access to the general education curriculum for a historically marginalized student population (United Nations, 2015; Winzer, 2009). The issue for educators and parents of children with disabilities is often not whether to support inclusion but the appropriate amount of inclusion for each child (Idol, 2006).

While studies have focused on the effect of inclusion on children with disabilities (see reviews in Kalambouka, Farrell, Dyson, & Kaplan, 2007; Ruijs & Peetsma, 2009), overlooked in the push towards inclusion for children with disabilities is how the policy also affects teachers and students without disabilities in the same classroom. Much less research and policy attention has addressed the effect of including children receiving special education into regular classrooms on teaching practices and indirectly the learning of children without disabilities (e.g., Fletcher, 2009). A key concern is that children with disabilities may require greater individual attention from teachers that take away instructional time from other students. In classrooms with more children with disabilities, teachers may slow the pace of the curriculum or devote more time to behavior management (Jordan, Schwartz, & McGhie-Richmond, 2009). Parents of children

without disabilities may be reluctant to support inclusion if this means less instructional time and learning for their child (De Boer & Munde, 2015; Stolber, Gettinger, & Goetz, 2000).

As inclusive education expands around the world, more research is needed on how it may have unintended effects on teachers and students. In this study, I contribute to the research on inclusion in two ways: 1) I assess the extent to which teachers in classrooms with students with special needs[1] report spending less time teaching than in classrooms without students with special needs using international data from 38 countries and partners of the 2013 Teaching and Learning International Survey (TALIS); 2) I analyze whether any disparities in time teaching in inclusive classrooms may be due to other differences in classrooms, teacher qualifications, and school characteristics. The results provide a new perspective on not only how inclusion may affect teachers but, perhaps more importantly, under what context.

The Rise of Inclusion

Policies aimed at including students with disabilities in general classrooms has strong support from many countries and international organizations. Numerous initiatives in the last 30 years, including the Salamanca Declaration, Educational for All Movement (EFA), Millennium Development Goals (MDG), and more recent Sustainable Development Goals (SDG) have established benchmarks for improving access to the general education system for children with disabilities (Peters, 2007; United Nations, 2015; Winzer & Mazurek, 2014). Countries have adopted policies that favor inclusive education (Ainscow & Cesar, 2006), leading to greater access to schooling overall for children with disabilities across the world, such as in China (Deng & Harris, 2008), Ethiopia (Franck & Joshi, 2017), and Zimbabwe (Chiyo et al., 2017). International data from the TALIS 2013 also show that more than 70% of general classrooms in over 38 countries include at least one student with special needs (OECD, 2014a).

In the United States, the inclusion of students with disabilities in the general education classroom is a key feature of the Individuals with Disabilities Education Act (2004) and federal accountability policies aimed at improving educational opportunities and ultimately raising student achievement. Learning in the least restrictive environment (LRE) under IDEA and requiring the same academic standards for all students under No Child Left Behind and, more recently, the Every Student Succeeds Act, has meant greater access to the general education curriculum for students with disabilities than in previous years (Council of Chief State School Officers, 2016). For instance, about 63% of students with disabilities in 2015 were educated in general classrooms for about 80% of the day, compared to 54% in 2005 (U.S. Department of Education, n. d.). This pattern is consistent across high- and low-incidence disabilities, such as specific learning disability and autism spectrum disorders (U.S. Department of Education, n. d.).

The Impact of Inclusion on Teachers and Teaching

Although numerous studies have examined the impact of inclusion on the outcomes of students with and without disabilities (Fletcher, 2010; Gottfried, 2014; Kalambouka, Farrell, Dyson, & Kaplan, 2007; Ruijs & Peetsma, 2009), there is a dearth of empirical research on how inclusion may affect teachers, specifically with regards to their use of instructional time. The expansion of inclusion in schools may impact teachers and the quality of classroom instruction in different ways. On the one hand, in providing a more adaptive education to students with disabilities, teachers may implement different levels of supports and progress monitoring that can benefit students without disabilities (Dyson, Farrell, Polat, Hutcheson, & Gallannaugh, 2004). On the other hand, students with disabilities have unique needs that often require adjustments to instruction and curriculum that may not be beneficial to their peers (Dyson et al., 2004; Greene, Beszterczey, Katenstein, Park, & Goring; 2002). At a classroom level, the slower

pace and amount of instruction, combined with possibly lower education standards in inclusive classrooms (Huber, Rosenfeld, & Fiorelle, 2001), may adversely impact the academic achievement of all students. Relative to students with disabilities, teachers may have less time for students without disabilities who are struggling but to a lesser degree.

Studies on the experiences and views of teachers related to inclusive education suggest that time is an issue, but this may also depend on attitudes, resources, and training (Downing, Eichinger, & Williams, 1997; Hsien, Brown, & Bortoli, 2009). There is some evidence that teachers in effective inclusive classrooms may generate *more* instructional time than in less effective classrooms. More specifically, those with stronger classroom management are able to allocate more instructional time and provide individualized attention (Jordan, Lindsay, & Stanovich, 1997; Jordan & Stanovich, 2001). This means that concerns about less instructional time in inclusive classrooms are likely contingent on the skills and training of teachers, and not necessarily having more students with disabilities. Thus, more research is needed on whether teachers spend less time teaching in inclusive classrooms and, if so, under what school contexts.

The international literature further suggests that school contexts matter as the impact of inclusion on teachers and instructional time may depend of institutional capacity. That is, the pace of inclusion over the last 20 years has exceeded the capacity of schools and training of teachers to provide effective inclusive education in many countries (Chitiyo et al., 2017; Deng & Holdworth 2007; Hadidi & Al Khateeb, 2015; Vorapanya & Dunlap, 2014). Concerns about whether teachers are teaching less in inclusive classrooms may be magnified in certain countries, yet much of the research has focused on the United States (Kalambouka et al., 2007; Ruijs & Peetsma, 2009). Identifying the extent to which disparities in instructional time in inclusive classrooms differ across countries also has implications for current international education goals.

Conceptual Framework

If teachers spend less classroom time on instruction in inclusive classrooms, one assumption is that this is related to students with disabilities. However, how teachers plan their classroom time may also depend on a range of other factors that are *independent* of the needs of students with disabilities. Isolating the effects of these other factors, above and beyond the role of students with disabilities, is important for understanding how inclusion influences teaching. In this study, I organize the most proximal influences on teachers with an ecological framework that first focuses on teacher characteristics at the core, then broadening to the classroom, and finally incorporating the larger school context (Bronfenbrenner & Morris, 2006).

The Role of Teacher Capacity

One reason teachers in inclusive classrooms may spend less time teaching is related to their preparation and skills. Indeed, most schools face a shortage of special education teachers that has led many countries to employ personnel without the appropriate qualifications (Deng & Holdworth 2007; Kalyanpur, 2008; U.S. Department of Education, 2015). Studies in Zimbabwe and Ethiopia report teachers struggling with mainstream classroom inclusion and desiring more training related to specific disabilities and providing appropriate accommodations (Chiyo et al., 2017; Franck & Joshi, 2017). Teachers in China with lower competencies and motivation on average hold more negative views of inclusive education and special needs professional development (Feng, 2012). Similarly, in the United States, research shows teachers lack training in instructional approaches, specific disabilities, maintaining order, and managing behavior in inclusive classrooms (Finke, McNaughton, & Dragar, 2009; McCray & McHatton, 2011). Limited professional preparation also raises fear and reduces teacher self-efficacy that can impact expectations of students and overall attitudes towards inclusion (Ajuwon et al., 2012).

The Role of Classrooms

Another factor that may affect how much time teachers spend on instruction is related to the student composition of the classroom. For example, if the student-to-staff ration is greater in general classrooms that include students with disabilities, then managing more students may influence how much time teachers can spend teaching. Students with disabilities may also be placed in general classrooms with other students of similar ability or learning challenges. Although research has shown that school policies favoring student ability grouping have negative effects (e.g., Hanushek & Wosmann, 2006), the practice persists—particularly for students with disabilities who are overrepresented in lower track classes (Stodden, Galloway, Stodden, 2003), along with students of color and students from long-income households (Oakes, 2005). Low-track classes may be less conducive to learning as teachers spend considerable time on behavior management and addressing disruptive students (Burris & Welner, 2005). Thus, to the extent that students with disabilities are placed in inclusive classrooms with other struggling students, this may pose additional challenges for teachers, including how to manage class time.

The Role of Schools

The ability of teachers to integrate students with disabilities into the general classroom and teach all students is also dependent on how schools envision and support inclusion. Research in school change suggests that substantive changes in inclusion requires a schoolwide approach that transforms existing practices (Siperstein, Summerill, Jacobs, & Stokes, 2017). The cultures of schools and the prioritization of social inclusion at the institutional level can impact decisions about class scheduling and the physical layout of schools to foster greater awareness of individual differences (McDougall, DeWit, King, Miller, & Killip, 2004; Simplican, Leader, Kosciulek, & Leahy, 2015). A strong ecological culture and leadership may promote

interpersonal relationships and attitudes about inclusion among students and teachers (Abells, Burbidge, & Minnes, 2008), all of which can improve the overall quality of teaching within the classroom—including behavioral management and instructional time. If teachers in inclusive classrooms work in less supportive schools, then this may also help explain disparities in instructional time that is independent of students with disabilities.

Summary and Research Questions

Previous research on the effects of inclusion has focused primarily on the experiences of students with disabilities and in some cases the outcomes of peers without disabilities in the same classroom. Few studies have explored empirically how inclusion may affect teachers and their usage of class time. Additionally, there are few large-scale studies examining how inclusion may vary across countries and under different school contexts. In this study, I ask the following two research questions: 1) To what extent do teachers in classrooms with students with special needs report spending less time on instructional teaching than teachers in classroom without students with special needs across 38 countries and partners of the TALIS 2013? 2) To what extent are disparities in time spend on instructional teaching in inclusive and non-inclusive classrooms explained by differences in teachers, classrooms, and school characteristics.

Methodology

Data Source and Sample

I used data from the Teaching and Learning International Survey (TALIS) 2013 to examine how much time teachers allocate to teaching in classrooms with students with special needs. As one of the only large-scale international surveys that focuses on the working conditions of teachers and the learning environments of schools, TALIS is ideal for the present research objectives. The size of the teacher sample, measures of teacher qualifications, and rich

data on classroom practices allow for a comprehensive assessment of how teachers spend their classroom time in different countries. The analytic sample consists of 121,173 total teachers at the lower secondary levels from 38 OECD countries and partners and 1,074 schools. Participants were surveyed using a two-stage probability sampling design with schools first selected using probability proportion to the size (PPS) of teachers within the select strata according to the specific context of each country. In the second stage, teachers were randomly selected from the list of teachers in each randomly selected school (OECD, 2013).

Measures

    Outcomes. The main outcome is a continuous measure for the proportion of class time that teachers report spending on "actual teaching and learning." Teachers were also asked about the proportion of class time spent on two other activities: administrative tasks (e.g., recording attendance) and keeping order in the classroom (e.g., maintaining discipline).

    Teacher qualifications and characteristics. To account for teacher training and skills that may influence the amount of class time allocated to instruction, I included measures for education level (Level 5A or higher on the International Standard Classification of Education), whether the teacher attended a teacher education program, and years of teaching experience. For training, teachers were asked whether they received training in three areas related to the subjects they taught: content, pedagogy, and classroom practice. To capture teacher beliefs about their teaching, I used two separate scales of individual self-efficacy and constructivist approaches to instruction (i.e., learning through experience) created by the survey developers with strong reliability and construct validity (OECD, 2014).

    Classroom student composition. The amount of time spent teaching or managing student behavior depends in part on the classroom context and student population. Teachers were

asked to select from one of their classes and indicate the percentage of students from each of the following backgrounds: students whose first language is different from the language of instruction; low academic achievers; students with special needs; students with behavioral problems; and students from socioeconomically disadvantaged homes. The response options were the following: (1) none, (2) 1% to 10%, (3) 11% to 30%, (4) 31% to 60%, and (5) more than 60%. I grouped the last two response categories because of the lower frequency in each across the measures. The key measure of inclusion in this study is the percentage of students with special needs in the classroom. To further describe the classroom context and student behavior, teachers were asked the extent to which they agree with the following three statements: when lesson begins, I have to wait quite a long time for students to quiet down; I lose quite a lot of time because of students interrupting the lesson; and there is much disruptive noise in the classroom. The response options ranged from strongly disagree to strong agree. I do not use these measures in the regression models as they are directly related to the outcome.

School characteristics. Given that the school context—including resources, climate, and leadership—may affect teacher quality and instruction, I used several school-level variables from the principal survey. To control for the location and institutional context, I included two dichotomous measures of whether the school was a public school and located in a city (100,000 to 1,000,000 people), and a continuous measure of the student population size. I examined four measures of school resource, climate. and leadership. This included using whether there was shortage of teachers with competency in special needs education. The school materials scale consists of five items asking principals whether a shortage of equipment—instructional materials, computers, software, internet access, and library materials—was a problem at the school. The school delinquency and violence scale focuses on four items related to the frequency

of vandalism, physical injury among students, intimidation of staff, and verbal abuse among

students. The mutual respect scale contains four items on open discussion among staff, respect

for colleagues' ideas, culture of sharing, and positing relationships. For school leadership, I used

the instructional leadership scale consisting of three items on how frequently principals took

actions to ensure teachers developed and improved teaching practices. The reliability and

validity of each scale is available in the OECD (2014) technical report.

Analysis

To examine the relation between proportion of class time spent on instructional teaching,

an outcome bounded between 0 and 1, and the proportion of students with a disability in the

classroom, I used beta regression to model the dependent variable y conditional on covariates x,

denoted by u_x. I used a logit link function for the conditional mean, $(\cdot)$, as follow:

$$g(u_X) = \text{x}\beta$$

$$\mu_X = g^{-1}\text{x}\beta$$

$$\ln\{\mu_X/(1-\mu_X) = \text{x}\beta$$

$$\text{x}\beta = \beta_0 + \beta_1 HINC + \beta_2 MINC + \beta_3 LINC + \delta \tag{1}$$

Here *HINC*, *MINC*, and *LINC* represent high (31% or more), medium (11% to 30%,), and low

(1% to 10%) degree of inclusion in terms of the percentage of students with special needs. The

reference is classrooms without any students with special needs. I include a vector of country

fixed effects in δ. To address the first research question about differences in teaching time, I

estimate the marginal mean time spent teaching in each inclusive classroom. I also allow the

effect of inclusion to differ across countries by interacting the inclusive classroom variables with

the country fixed effects. To address research question two, I included measures of teacher,

classroom, and school characteristics, sequentially, and examined whether disparities in teaching

time across classrooms are attenuated. In all analyses, I incorporated the teacher sample weights and replicate weights to account for the complex survey design and generate appropriate population estimates and standard errors.

Results

Characteristics of Classrooms with Students with Special Needs

In Table 1, I provide a descriptive summary of teachers and their schools disaggregated by the percentage of children with special needs in their classroom. Teachers who worked with a higher percentage of children with special needs (30% or more) generally had lower professional qualifications. For example, a greater percentage of these teachers were in part-time positions (91% vs. 76%), less likely in permanent positions (72% vs. 81%) and had less teaching experience (14.5 vs. 17.4 years). They also had less self-reported training in subject content areas (69% to 78%) and pedagogy (66% to 72%). These trends indicate teachers who worked with students with special needs (i.e., more inclusive classrooms), on average, had lower qualifications. Teachers who worked with more students with special needs were also employed in less supportive school environments than those who taught fewer students with special needs.

In Table 2, I disaggregate classrooms with students with special needs further by class time and student characteristics. The results indicate that how teachers allocate their time does appear related to the proportion of students with special needs in the classroom. For instance, in classrooms with no students with special needs, teacher spend on average about 81% of their time on teaching, compared to 76% for teachers in classrooms where 11-30% of students have special needs. Although teachers who worked with more students with special needs spent less time teaching, they also reported fewer problems with student behavior and disruption. This may be because teachers in these classrooms also spent more time on classroom management. The

bottom of Table 2 shows that classrooms with more students with special needs have students

from more disadvantaged backgrounds, including lower SES and achievement and more

behavioral problems—factors that may contribute to less instruction time in these classrooms.

RQ1: Disparities Instructional Time Across Countries

In Figure 2, I display the unadjusted average amount of class time spent on teaching by

level of inclusion and in each country. The results show a fairly consistent pattern of less

teaching time in classrooms with a greater percentage of students with special needs by country,

though the disparity is wider in some countries, such as the Netherlands and Singapore.

Interestingly, even in classrooms without any students with special needs, the amount of

instructrional time in countries vary widely, ranging from 68% in Brazil to 88% in Bulgaria. The

results also show that in general the difference in instructional time between classrooms without

any students with special needs and classrooms with 1-10% special needs is fairly small in most

countries. The difference in instructional time is most noticeable as classrooms beging to enroll

more than 11% of students with special needs. For classrooms that enroll more than 30%

students with special needs, which are likely specialized classrooms, teachers in nearly half of

the countries spent less than 70% of their class time on instruction.

RQ2: Explaining Differences in Instructional Class Time

In Table 3, I present the results of beta regression models predicting the proportion of

class time spent on instruction. I display only the coefficients associated with the classroom

variables for the proportion of students with special needs to assess how disparities in

instructional time may change after controlling for teacher, classroom, and school characteristics,

respectively. Model 1 is the unconditional model showing that instructional time is lower (i.e.,

coefficients are more negative) in classrooms with a greater percentage of students with special

needs. Model 2 controls for differences in teacher qualifications and characteristics but the gap in instructional time remains nearly the same. In Model 3, however, controlling for classroom characteristics—mainly, student demographics—reduces the gap in instructional time relative to classrooms without any students with special needs. The coefficients are either close to zero, not statistically significant, or greatly reduced than in Model 1. Lastly, Model 4 shows that school characteristics contribute little to the gaps as instructional time remain the same.

To further examine the role of classrooms, I fitted models with the classroom inclusion variables and each classroom characteristic separately. I present the predicted average amount of instruction time in each inclusive classroom in Figure 2. The results show that gaps in instructional time remain fairly similar to those in the unconditional model, after controlling for the percentage of students who are language minorities, from low socioeconomic status households, or have low academic achievement. However, when controlling for the percentage of students with behavior problems, the average amount of class time on instruction is nearly identical across classrooms with different proportion of students with special needs. The results suggest that disparities in instruction time in inclusive classrooms are related to students with behavior problems who are also in classroom with students with special needs. In Figure 3, I redisplay country-level differences in instruction time controlling for only the percentage of students with behavior problems. The results indicate that in most countries the gaps in instruction time are greatly reduced in classrooms with students with special needs.

Although TALIS distinguishes between students with special needs versus behavior problems, there is potential overlap in both categories. That is, the previous results in Figure 2 may capture students with special needs who also have behavior problems. One solution is to examine instructional time in inclusive classrooms that have different proportions of students

with behavior problems. For instance, in Figure 4, I show that there is little difference in instructional time in classrooms with different proportions of students with special needs when there are no students with behavior problems. Similarly, in classrooms with 1 to 10% students with behavior problems but different proportions of students with special needs, there is little gap instructional time. Instead, Figure 4 shows that while the amount of instructional time tends to decrease with more students with behavior problems, the gap among classrooms with different proportion of students with special needs remain fairly similar.

Discussion

In this study, I make several contributions to the literature on how the expansion of inclusion for students with disabilities may have consequences for teachers and students without disabilities. First, in focusing on the relation between the percentage of students with disabilities in a classroom and the amount of self-reported time spent on instruction, I examined how the degree of inclusion may influence teachers. Second, I assessed trends in inclusion and the association with instructional time across multiple countries. Third, I examined whether disparities in instructional time in inclusive classrooms may be related to differences in teacher traits, classroom characteristics, and features of the school structure and climate.

Small Differences in Instructional Time

The main finding that teachers do spend less classroom time on instruction in classrooms with students with special needs comes with a caveat. That is, the difference in instructional time in classrooms with no students with special needs versus classrooms with 1-10% and 11-30% is small (3-5 percentage point difference in time). Given that 63% of all TALIS teachers worked in the latter two types of classrooms, the difference in instructional time relative to classrooms with no students with special needs is not only small but unlikely to impact many children.

The key concern is classes with 30% or more students with special needs where teachers spend about 12 percentage points less time on instructional teaching than teachers in classrooms with no students with special needs. However, it should be emphasized that these classrooms are rare (only 7.5% of all TALIS classrooms) and, given the large proportion of students with special needs, likely different from typical classrooms that support inclusion. For context, the percentage of students with disabilities in most elementary classrooms in the United States is less than 10%.[1] Classrooms with 30% or more students with special needs are thus rare but the large disparity in instructional time warrants more attention. It is possible that within schools these classrooms are specifically designated for the inclusion of students with disabilities as a way to better allocate personnel with training in special education. This would be consistent with schools facing a shortage of trained teachers in special education (McCray & McHatton, 2011) that may necessitate grouping more students with disabilities in some classrooms, which may place additional challenges on teachers in these classrooms that lead to less instructional time.

The trends in instructional time by the degree of inclusion were also fairly consistent across countries, albeit with variation. Even in classrooms with no students with special needs, the percentage of time spent on instruction ranged from 68% to 88%. I found nearly the same variability in classrooms with 1-10% students with special needs. Although identifying specific country-level patterns (e.g., by geography or shared language) is difficult, the consistency in how instructional time decreases by the percentage of students with special needs within nearly all TALIS countries further support how the expansion and consequences of inclusion are part of an international phenomenon (Chitiyo et al., 2017; Deng & Holdworth 2007; Hadidi & Al Khateeb, 2015). Schools in many countries are facing similar challenges with inclusion that likely can be more efficiently addressed with greater collaboration and communication. Although policies are

difficult to transfer from unique context to the other, these types of discussions and greater

awareness of disparities in teaching may be beneficial for stimulating change within countries.

The Role of Student Behavior in Instruction Time

An important issue to recognize throughout this study is that disparities in instruction

time in classrooms with students with special needs may not necessarily be due to the students

themselves but other factors associated with such classrooms. The results indicated that teacher

and school characteristics explained little of the overall variation in instructional time and the

gaps between classrooms with and without students with special needs. Instead, the student

composition of the classroom, particularly the proportion of students with behavior problems,

played the most significant role in explaining differences in instructional time. Managing

behavior is a frequently cited challenge for inclusion (i.e., Finke, McNaughton, & Dragar, 2009).

The finding indicates students with disabilities or special needs are likely to be in the same

classrooms as students with behavioral problems, which the TALIS defined as separate from a

disability. The greater student learning needs within these classrooms are likely impacting

teaching decisions about time allocated for instruction, classroom management, and activities.

While students with disabilities may also have behavioral problems, follow-up analyses show

that in classrooms with no students with disabilities, instructional time is significantly lower

when there is a higher percentage of students with only behavioral problems.

The finding highlights the troubling trend of how schools, whether intentional or not,

appear to funnel students with the most learning challenges (including disability) and other

disadvantages into the same classrooms (Cooc & Yang, 2016; Stodden, Galloway, Stodden,

2003; Oakes, 2005). To the extent that inclusive classrooms educate students with disabilities

and student with other learning challenges, one implication for schools is to provide teachers

with more training and support around managing students with behavioral problems, especially as the latter appear to influence instructional time. Alternatively, schools may assign or consider incentivizing stronger teachers to work in such classrooms as way to efficiently allocate personnel resources to the area of greatest need. A third implication is schools may consider disrupting the current process of how struggling students—whether related to disability, behavior, or low achievement—tend to end up in the same classrooms. A more heterogeneous grouping policy would not only benefit students with disabilities in terms of exposure to different peers but may also lessen the burden on teachers who would have fewer low achievers.

Limitations

There are several limitations to this study that can guide future work. First, although TALIS distinguishes between special needs from behavior problems, in countries such as the United States there is an overlap between the two under the label of emotional and behavior disorder. A better understanding of whether and how these students in particular affect classroom instruction can inform inclusive education policies. Second, the focus on instructional time in this study acknowledge the impact of inclusion on teachers but perhaps the main concern is whether changes in instructional time affect student achievement. Future studies that link achievement data for students with and without disabilities to classroom instructional time can better address a potential mechanism through which inclusion impacts students. More importantly, if the mostly small differences in instructional time do not appear related to student achievement then this finding provides further support of inclusion. Third, a related limitation is that even if teachers spend less time teaching in classrooms that include students with special needs it is possible that the quality of teaching may be stronger or more focused. Ideally, it would be helpful to know how teachers are spending their time in inclusive classrooms, beyond

the TALIS survey response option of "teaching and learning." Higher quality teaching or different types of teaching activities may matter more than total classroom time on instruction.

Conclusion

The well-documented expansion of inclusion, in terms of equalizing educational opportunities for children with disabilities, has been a successful policy over the last 20 years in the United States and many other countries. However, inclusion also has consequences for teachers and students with and without disabilities in the same classroom. In this study, the findings suggest that teachers in classrooms with a greater percentage of students with special needs do spend less time on instruction than in classrooms without students with special needs— a finding that appears initially to confirm concerns of parents of children without disabilities regarding inclusion. The story is more nuanced as the differences in instructional time are qualitatively small (except in inclusive classrooms with a percentage of students with special needs) and appear related to other students in the same classroom. Ultimately, the study suggests that students with disabilities alone are unlikely contributing to teachers spending less time on instruction. More importantly, the findings indicate that supporting *all* students in inclusive classrooms will require schools to invest in some combination of greater teacher training, reallocating school personnel, and reconfiguring how students are grouped together.

Notes

1. In TALIS, special needs students are defined as "those for who a special learning need has been formally identified because they are mentally, physically, or emotionally disadvantaged." Although not all students with special needs may have a disability according to this definition, I use "students with special needs" and "students with disabilities" interchangeably in this study.

2. The United States is a participating country but did not meet the OECD requirements for TALIS response rates. However, the TALIS Board of Countries agreed that the U.S. data were of sufficient quality for reporting separately. I have included the U.S. in my analyses because the model results were similar with and without the U.S. sample.

3. I considered two other variables to identify students with special needs. The first asked teachers to indicate across their classes how many students are special needs students: none, some, most, or all. The TALIS developers used this variable mainly to identify special needs schools for sampling purposes. The second asked teachers whether their class was mainly special needs students: yes or no. This variable lacked the additional information about the classroom composition available in the variable used in the present study.

4. The results are identical to fitting the same model for each country separately.

5. The "repest" module is designed specifically to account for the complex service design in OECD datasets such as TALIS. I found similar results using the "svy" command in Stata, which can also incorporate multiple imputation techniques.

6. These estimates are based on calculations from the teacher surveys of the Early Childhood Longitudinal Study (ECLS-K:2011). Teachers were asked the number of students with a disability and the total class size.

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Table 1

Descriptive summary of teachers by percent of classroom children who have special needs, Teaching and Learning International Survey (TALIS) 2013, n = 121,173

	% Special Needs Children in Classroom				
	All	None	1-10%[a]	11-30%[a]	>30%[a]
Percentage of Teachers	100.0	30.2	48.6	13.8	7.5
Teacher characteristics					
Female (%)	67.8	72.8	67.0***	60.9***	68.3*
Part time (%)	81.0	76.4	80.6***	88.4***	90.6***
Experience (years)	16.1	17.4	16.1***	14.6***	14.6***
Permanent position (%)	79.2	81.1	79.1**	79.8	71.8***
Education (>5A, %)	94.2	92.6	94.9***	95.6***	95.2***
Teacher program (%)	89.1	87.4	89.2***	91.1***	91.9***
Content training (%)	75.1	77.9	74.5***	75.6*	69.4***
Pedagogy training (%)	70.0	71.7	69.9*	70.9	66.0**
Practice training (%)	70.1	71.6	69.4*	70.6	69.8
Assigned a mentor (%)	15.2	14.8	15.8	14.1	14.0
Induction program (%)	54.3	52.3	55.0***	54.9	56.5*
Teacher relationships					
Cooperation with teachers[b]	9.8	9.8	9.8	9.9	10.0**
Student relationships[b]	13.2	13.1	13.2***	13.3***	13.5***
Stakeholders relationships[b]	11.0	11.3	11.0***	10.7***	10.6***
School characteristics					
City (%)	36.6	37.1	37.0	34.4*	34.1
Public school (%)	84.5	87.3	83.2***	84.2**	83.9
Student enrollment (*M*)	705.2	656.4	716.8***	747.0***	734.1***
Language minorities (%)	58.3	48.3	59.0***	71.9***	74.1***
Special needs students (%)	26.7	10.6	26.9***	49.7***	56.1***
Low SES students (%)	57.2	45.1	58.6***	72.2***	74.6***
Shortage of SEN teachers (%)	46.3	43.5	48.7***	43.1	46.4
School climate					
Instructional leadership[b]	11.4	11.4	11.3***	11.4	11.3
Distributed leadership[b]	12.3	12.7	12.2***	12.0***	11.8***
Student delinquency[b]	6.6	5.8	6.7***	7.2***	7.5***
Mutual respect[b]	13.4	13.5	13.3***	13.3**	13.2***
Material resources[b]	1.7	1.8	1.7***	1.6***	1.7***

Note. All estimates include teacher- and school-level replicate weights where appropriate. [a]Statistical comparisons are with reference group in "None".[b]TALIS developed scales. See appendix for items. *p < .05, ** p < .01, *** p < .001

Table 2

Descriptive summary of teachers by percent of classroom children who have special needs, Teaching and Learning International Survey (TALIS) 2013, n = 121,173

	% Special Needs Children in Classroom				
	All	None	1-10%[a]	11-30%[a]	>30%[a]
Percentage of teachers	100.0	30.2	48.6	13.8	7.5
Class Size	25.8	24.2	26.9	26.1	23.8
Class Time Spent on…					
Administrative tasks (%)	8.0	7.6	8.1	8.1	8.8
Keeping order (%)	12.9	10.5	13.0	15.7	21.8
Actual teaching (%)	78.4	81.1	78.2	75.7	68.7
Class Behavior[a]					
Wait for students to quiet (%)	72.9	78.8	71.6***	68.7***	55.9***
Lose time because interrupted (%)	71.8	79.0	71.6***	61.7***	49.0***
Much disruptive noise (%)	73.0	76.7	73.3***	68.3***	58.2***
Teacher Skills[b]					
Control disruptive behavior (%)	41.4	40.1	40.8	44.8**	44.3*
Make behavior expectations (%)	49.8	45.9	49.7***	54.9***	56.6***
Get students follow class rules (%)	46.1	49.3	44.4***	45.2**	44.8*
Calm disruptive/noisy student (%)	39.7	43.7	37.1***	40.0*	39.1*
Class Composition[c]					
Language minority	8.8	6.2	7.5	11.6	22.3
Low achievement	23.1	13.1	16.3	38.0	80.7
Behavior problem	13.2	8.2	9.1	17.2	52.4
Low SES	24.9	13.9	21.5	40.2	63.5

Note. All estimates include teacher- and school-level replicate weights where appropriate.
[a]Percentage of teachers who agree or strongly agree. [b]Percentage of teachers who indicated "a lot". [c]Percentage of teachers who indicated 31% or more of classroom sudents. Statistical comparisons are with reference group in "None". *p < .05, ** p < .01, *** p < .001

Table 3

Beta regression models estimating relation between proportion of class time spent on instructional teaching and teacher, classroom, and school characteristics from Teaching and Learning International Survey (TALIS) 2013.

	M1	M2	M3	M4
SEN Students in Class				
1% to 10%	-0.173***	-0.182***	-0.039*	-0.177***
	(-10.74)	(-10.91)	(-2.02)	(-12.97)
11% to 30%	-0.388***	-0.377***	-0.047	-0.379***
	(-14.16)	(-13.87)	(-1.37)	(-15.41)
11% to 30%	-0.691***	-0.689***	-0.151*	-0.693***
	(-11.30)	(-10.93)	(-2.00)	(-10.68)
Teacher controls		Y		
Classroom controls			Y	
School controls				Y
N	96502	86672	94915	87335

Note. All models control for the fixed effects of countries and include replicate sample weights at the teacher level. Teacher controls: education level, part-time or full-time position, prior teacher education program, preparation in content, pedagogy, and practice, collaboration with other teachers. Classroom controls: percentage of students with low achievement, behavior problems, language minority, and low SES; School controls: school size, public/private, % language minority, low SES, shortage of special needs teachers, leadership
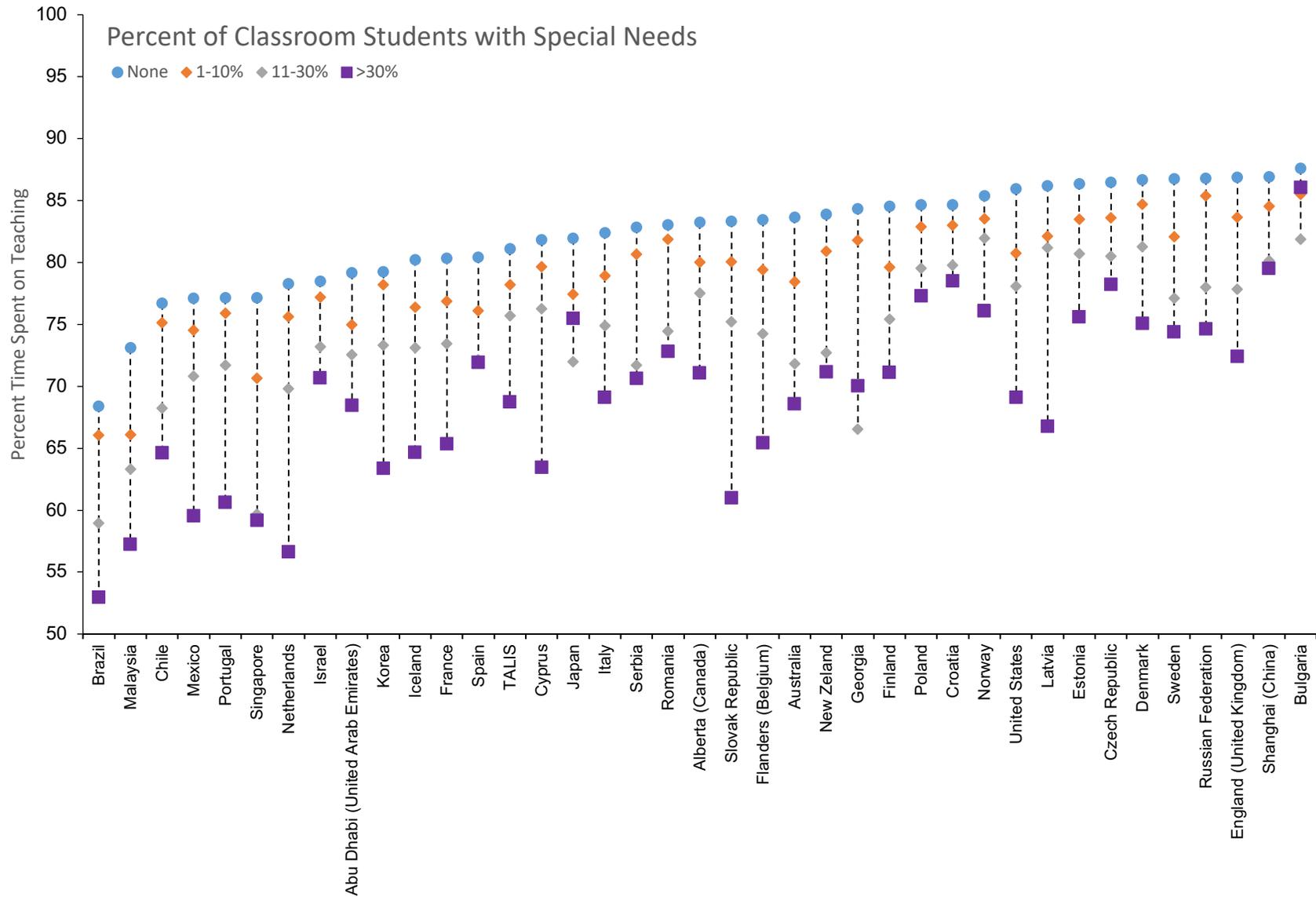
Figure 1. Predicted average class time spent on teaching, by percentage of students with special needs in classroom and country
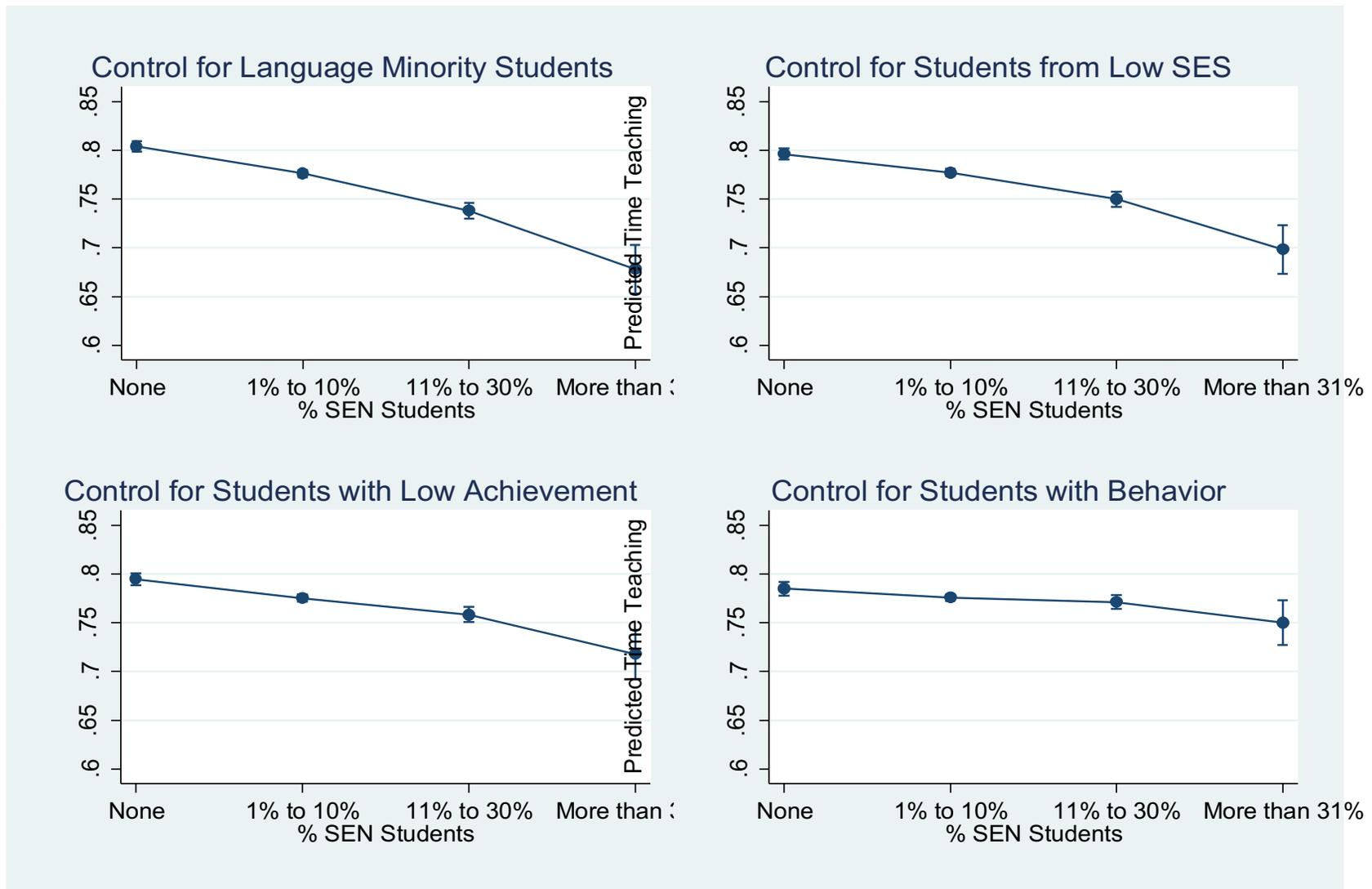
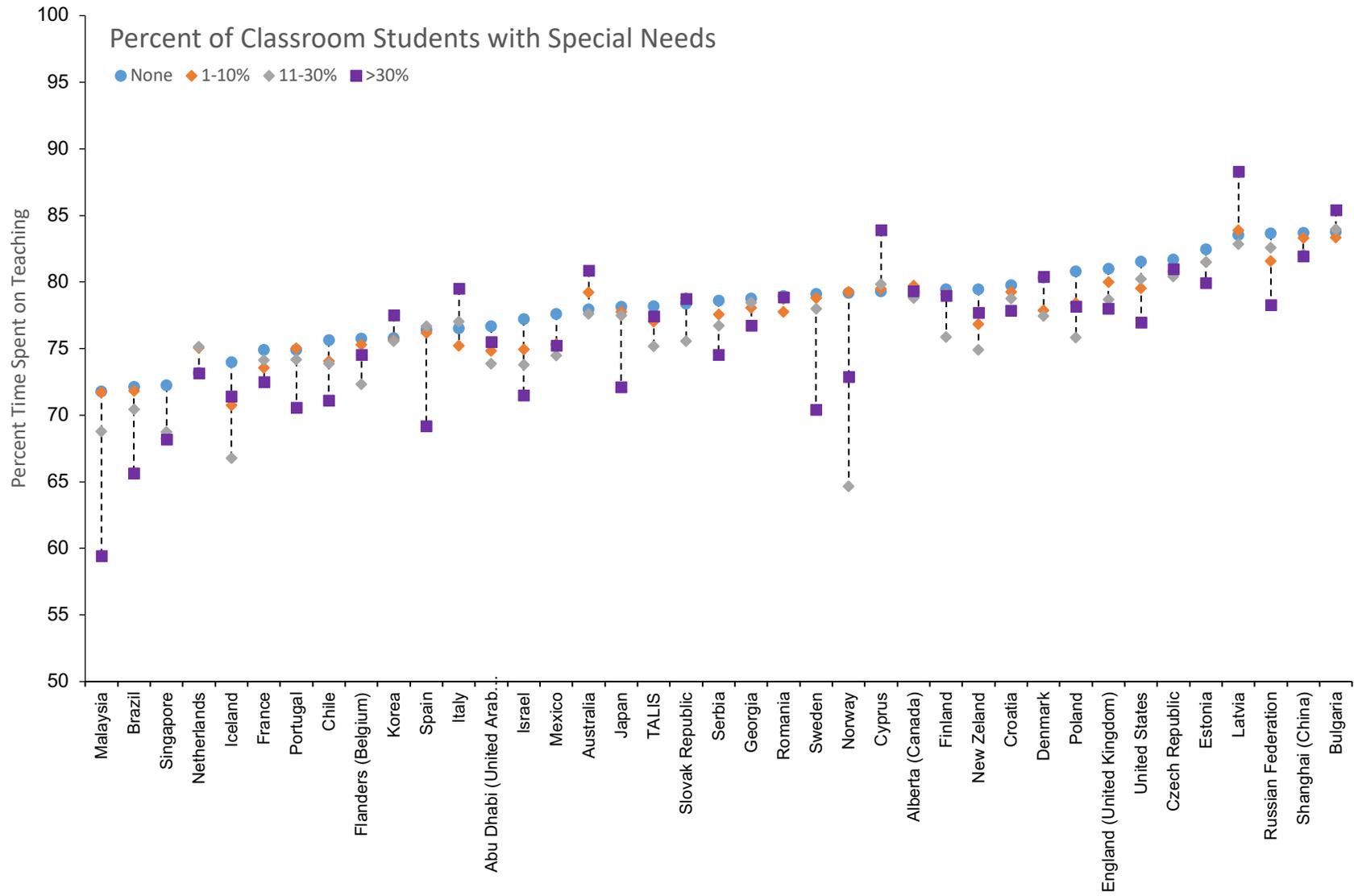*Figure 2.* Predicted average class time on teaching, by percentage of in classroom

Figure 3. Predicted average class time spent on teaching, controlling for students with behavior problems
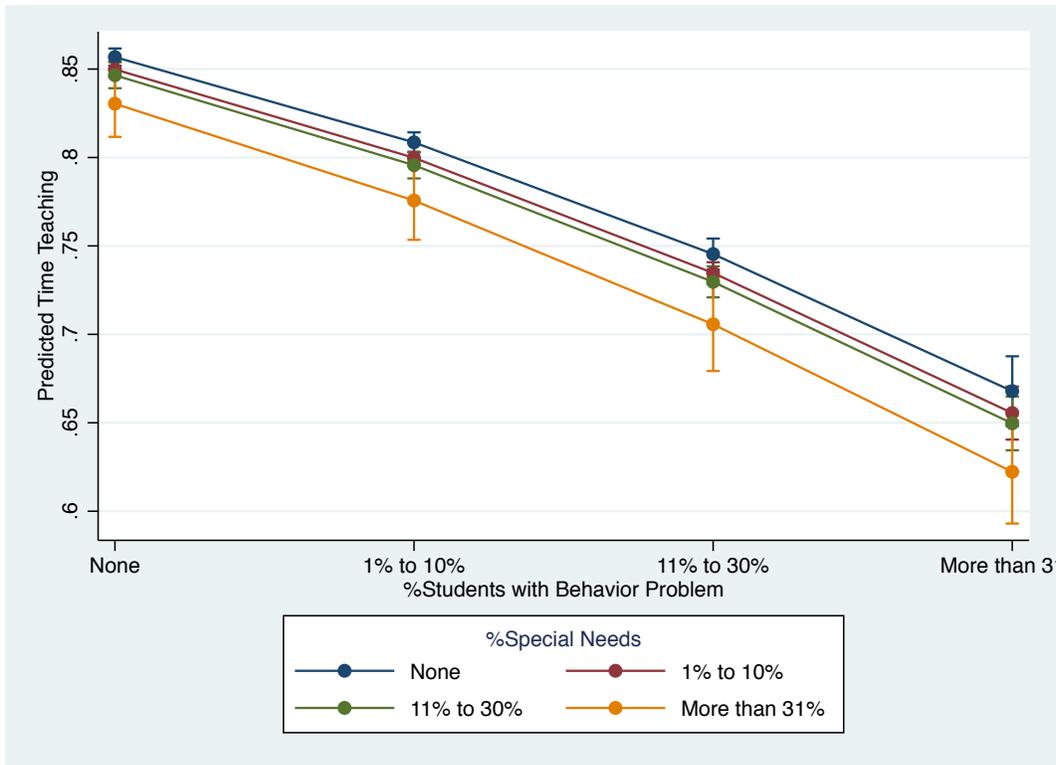
Figure 4. A comparison of time teaching by the percentage of students with special needs in classrooms with students with behavior problems.