Bias in kindergarten ability group placement: Does parental lobbying make it worse? Do formal assessments make it better?

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This comment asks whether parents' lobbying for higher placement might explain these results. The answer, for the most part, is no. Measures of parent-teacher contact explained little variation in children's ability group placement, and did not account for the higher placement of girls, Asian-Americans, or high-SES children. In fact, Asian-American parents had less teacher contact than did white children. It appears that the biases observed by von Hippel & Cañedo resided primarily in teachers, not in parents.

We also ask whether teachers who used more objective assessment techniques were less biased in placing children into higher and lower ability groups. The answer, again, was no. Unfortunately, biases persisted in the face of objective information about students' skill. Fortunately, the biases were not terribly large.

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Do formal assessments make it better?

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Abstract

Von Hippel & Cañedo (2021) reported that US kindergarten teachers placed girls, Asian-Americans, and children from families of high socioeconomic status (SES) into higher ability groups than their test scores alone would warrant. The results fit the view that teachers were biased.

This comment asks whether parents' lobbying for higher placement might explain these results. The answer, for the most part, is no. Measures of parent-teacher contact explained little variation in children's ability group placement, and did not account for the higher placement of girls, Asian-Americans, or high-SES children. In fact, Asian-American parents had less teacher contact than did white children. It appears that the biases observed by von Hippel & Cañedo resided primarily in teachers, not in parents.

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Introduction

Half of kindergarten teachers place children into higher and lower "ability groups" for reading or math. Yet there has long been concern that ability group placement may not depend entirely on children's abilities.

In a recent article, von Hippel & Cañedo (2021) reported that, although test scores were the strongest predictors of which children would be placed in higher and lower groups, girls, Asian-Americans, and students of high socioeconomic status (SES) received higher initial placements than their reading and math scores alone would seem to warrant. In addition, over the course of the school year, high-SES children were more likely to move up from a lower group to a higher group than their score gains alone would predict. The higher placement of girls was largely explained by their greater attentional focus (at least as reported by teachers), but focus and other learning-relevant behaviors did little to explain the higher placements of Asian Americans and high-SES children.

The authors concluded that teachers were likely biased in their assessments of student abilities, overestimating the skills, progress, or potential of girls, Asian-Americans and high-SES children, and offering those children higher placement than they would offer to other children with objectively similar skills and rates of progress.

Although other studies also suggest that teachers, like other adults, sometimes make biased judgements about children's skills and behaviors (e.g., Darley & Gross, 1983; Chin et al., 2020; Quinn, 2020), the authors acknowledged that other interpretations were possible. For example, the authors speculated that some parents, especially high-SES and Asian-American parents, might have lobbied teachers to place their children higher than teachers would have done on their own. In that case, the higher placement of those children might reflect parent preferences rather than teacher bias.

The authors also speculated that bias in ability group placement might be reduced if more teachers had access to objective measures of students' reading and math skills. This speculation was based on the theory of statistical discrimination, which claims that discrimination stems from a lack of information (Phelps, 1972; Arrow, 1973). According to the statistical discrimination argument, teachers who lack good information about individual students' abilities will give higher placement to members of groups who are higher scoring on average. In that case, simply providing teachers with more information might reduce bias in ability group placement. This argument is consistent with Quinn's (2020) finding that teachers provided with a rubric to grade student writing assignment displayed less bias in grading.

In this comment, we test both these speculations. Using variables which von Hippel & Cañedo did not exploit, we measure parent-teacher contact and teachers' use of assessments. We ask the following questions:

1. Were children whose parents had more contact with their teacher placed higher, on average, than other students with similar scores and learning-relevant behaviors?
2. Did Asian-American and high-SES parents contact teachers more than the parents of other children in the same classrooms?

If the answers to (1) and (2) are both yes, we will conclude that parent-teacher contact accounted, to some degree, for the higher placement of high-SES and Asian-American students. Note that we do not hypothesize that parent-teacher contact explains the higher placement of girls; that is, we do not hypothesize that parents contact teachers more on behalf of their daughters than on behalf of their sons.

3. We also ask whether ability group placement was less biased in classrooms where teachers reported more use of tests, quizzes, and other assessments of children's skill.

Data

We used the same data as von Hippel & Cañedo: the Early Childhood Longitudinal Study of the Kindergarten Class of 2010-11 (ECLS-K:2011, K-4 data release). Like von Hippel & Cañedo, our primary analysis restricted the sample to kindergarten teachers who reported using the same number of ability groups on questionnaires given in both fall (questionnaire T1) and spring (questionnaire T2). Like von Hippel & Cañedo (2021), we obtained similar results,

reported in the Appendix, when we also required teachers to report the same number of groups on a third questionnaire (questionnaire A2).

Dependent variable

Like von Hippel & Cañedo, we coded ability group placement on a percentile scale. If a classroom had two ability groups, we coded those groups as being 50 percentile points apart; if three groups, 33 percentile points apart; if four groups, 25 percentile points apart; if five groups, 20 percentile points apart. Like von Hippel & Cañedo, we obtained similar results, reported in the Appendix, when we standardized ability group placement to have a mean of zero and a standard deviation (SD), within classrooms, of one.[1] Like von Hippel & Cañedo, we also obtained similar results, reported in the Appendix, when we used an ordinal logistic regression model.

Independent variables

Our independent variables included all the variables in von Hippel & Cañedo's model: gender; race/ethnicity (5 categories); SES (defined as a standardized composite of parental education, occupational status, and family income); and a variety of teacher-reported child behaviors.

To these we added independent variables measuring parent-teacher contact and teachers' use of student assessments.

Parent-teacher contact

In the spring of kindergarten, teachers answered a Teacher-Child Level Questionnaire (Questionnaire T2) measuring different aspects of parents' contact with the teacher and involvement in the classroom.[2] We used teachers' responses to construct three measures of parent behavior.

Parent responsiveness. Four questions asked how responsive each child's parents were to teacher or school-initiated contact:

1. "Did this child's parents attend regularly scheduled conferences at your school?" (variable name T2REGCO)

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[1] As explained by von Hippel & Cañedo, a regression predicting standardized ability group placement will have coefficients approximately 25 times smaller that a regression predicting ability group percentile scores.

[2] Also in the spring of kindergarten, teachers filled out a Teacher-Level Questionnaire (Questionnaire A2), which asked how many conferences teachers had with parents (A2NUMCNF) and how many times teachers talked to parents by phone (A2TLKPAR). Unfortunately, we could not use these variables because they were measured at the teacher level and summarized the teacher's contact with all parents in the aggregate. They did not detail which parents had more contact, which was what we needed to predict the ability group placement of individual students.

2. "Did this child's parents attend parent-teacher informal meetings that you [the teacher] initiated to talk about the child's progress?" (T2INFMT),
3. "Did this child's parents return your [the teacher's] telephone calls or emails?" (T2RETCL)
4. "Did the teacher communicate with the child's parents/guardians during the school year, aside from regular teacher conferences?" (T2TCHN).[3]

We coded the answers to each question as 1 (Yes) or 0 (No or NA/Not offered). We averaged the four questions to produce a variable measuring parent responsiveness, ranging from 0 (unresponsive) to 1 (highly responsive).

Parent initiation. One question described contact initiated by the parents:

5. "Did this child's parents initiate contact with you [the teacher]?" (T2PARCON)

We coded the answer as 1 (Yes) or 0 (No or NA/Not offered).

Parent involvement. Two questions described parents' involvement:

6. "Did this child's parents volunteer to help in your classroom or school?" (T2VOLUN, Yes/No)

We coded the answer as 1 (Yes) or 0 (No).

7. "How involved at the school would you say this child's parents/guardians are?" (T2PARIN).

We coded the answer as 0 ("Not involved at all"), (0.5) "Somewhat involved," or (1) "Very involved" (1), with "Don't know" treated as missing. We averaged both parent involvement variables to produce a scale ranging from 0 to 1.

Teachers' use of assessments

In the spring of kindergarten, the Teacher-Level Questionnaire (Questionnaire A2), asked teachers eight questions about how often they used the following to assess students' skills:

1. State or local standardized tests (A2STNDRD)
2. Commercially-produced tests or quizzes (A2CMRCLT)
3. Teacher-made tests or quizzes (A2TCHRMD)
4. Tests from textbook series (A2TXTBKT)
5. Individual or group projects (A2IGRPRJ)
6. Worksheets (A2WRKSHT)
7. Work samples (A2WRKSMP)
8. Teacher observation of specific objectives (A2OBSOBJ)

We coded each answer as the midpoint of a range representing the number of times an assessment method was used during a 36-week school year. So

● The answer "never" became 0 times per year.

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[3] A follow-up question asked the purpose of the communication. Two responses were available: 1) Discuss problems, or 2) To discuss how well the child is doing. We did not include this information in our analysis.

- The answer "1 or 2 times per year" became 1.5 times per year.
- "1 or 2 times per month" became 1.5X9 months=13.5 times per year.
- "1 or 2 times per week" became 1.5X36 weeks=54 times per year.
- "3 or more times per week" became becomes 3X36 weeks=108 times per year.

We summarized these 8 variables using two scales. The first scale summarized the answers to questions 1-4, which pertained to formal assessments—i.e., tests and quizzes. The second scale summarized the answers to questions 5-8, which pertained to less formal assessments—such as assignments, projects, and teacher observations. We constructed both scales by summing the component variables and standardizing the total.

Models

Like von Hippel & Cañedo, we predicted ability group placement using a regression model with classroom fixed effects. Like von Hippel & Cañedo, we predicted initial group placement in the fall and group mobility between fall and spring.

We used all the same independent variables as von Hippel & Cañedo, plus our new independent variables representing parent-teacher contact. We also predicted parent-teacher contact in a separate fixed effects model. Our first two research questions suggested the following hypotheses:

1. High SES and Asian-American ethnicity predict higher levels of parent-teacher contact.
2. When parent-teacher contact is controlled, high SES and Asian-American ethnicity do not predict ability group placement as strongly.

Our model of ability group placement also included our measures of teachers' use of assessment. Because use of assessment was measured at the teacher level, it did not vary among students in the same classrooms, and so could not be used to predict the placement of individual students in a model with classroom fixed effects. Instead, we let use of assessments *interact* with student characteristics. Our specific hypotheses were as follows:

3. Teachers' use of assessment will have a *positive* interaction with student test scores. That is, high scoring children will be placed higher in classrooms that make frequent use of assessments than in other classrooms.
4. By contrast, teachers' use of assessment will have a *negative* interaction with children's SES and Asian-American ethnicity. That is, SES and Asian-American ethnicity will predict group placement less strongly in classrooms where teachers make more use of assessment.

Results

Did Asian-American and high-SES parents contact teachers more?

Table 1 confirms that high-SES parents had more parent teacher contact than other parents in the same classroom. Specifically, a 1 SD increase in SES predicted increases in parental involvement of 18 to 31 percentage points, depending on the measure of involvement used.

Holding SES constant, black, Hispanic, and Asian-American parents all had less teacher contact than non-Hispanic white parents. The lower involvement of Asian-American parents was surprising to us, but past studies have also found that Asian-American parents had less teacher contact than white parents of similar SES (Cheadle & Amato, 2011). It seems that parental involvement could not explain why Asian-American children were placed higher than white children with similar SES and test scores.

Predicting Group Placement in the Fall

We first predict initial ability group placement in the fall of kindergarten. Table 2 predicts initial placement in reading, and Table 3 predicts initial placement in math. In each table, the first model includes all the predictors from von Hippel & Cañedo, and the second model shows what happens when we add parental involvement and tests.

Parent-teacher contact

Parental involvement did little to explain why some children were placed higher than others. Among the three measures of parent-teacher contact, none significantly predicted higher placement in math. One measure, general parental involvement, significantly predicted higher placement in reading, but its coefficient was only one percentile point, suggesting that, net of other predictors, children of highly involved parents were placed only one percentile point higher than the children of uninvolved parents. The predictive value of SES and Asian-American ethnicity changed very little when parent-teacher contact was added to the model.

Teachers' use of assessments

Frequent assessment seemed to do little to reduce bias in initial ability group placement. In reading (Table 2), we estimated 16 interactions involving the frequency of formal or informal assessment, and only one was significant at $p<.05$. One significant test out of 16 is about what we should expect by chance if the global null hypothesis were true—i.e., about what we should expect if in fact assessment frequency did nothing to moderate predictive value of any student characteristic or skill. In math (Table 3), only one interaction was significant—and it was not the same interaction as in reading.

Overall, it seems that girls, Asian-Americans, and high-SES students still got higher placements than their test scores warranted, even in classrooms where they were assessed

frequently. It also seems that frequent assessment did little to increase the role of actual reading and math skills in predicting group placement.

Predicting Mobility from Fall to Spring

About one third of students changed groups during kindergarten, most often getting "promoted" from a lower group to a higher one (von Hippel & Cañedo, 2021). In this section, we predict group mobility, operationalized as group placement in the spring controlling for group placement in the fall. Table 4 predicts mobility in reading, and Table 5 predicts mobility in math. In each table, the first model includes all the predictors from von Hippel & Cañedo, and the second model shows what happens when we add parental involvement and tests.

Parent-teacher contact

General parental involvement was a significant predictor of upward group mobility in both reading (Table 4, $p<.05$) and math (Table 5, $p<.01$). However, the coefficients were rather small (1 percentile point in reading and 3 percentile points in math), and neither of the other measures of parental involvement was a significant predictor. Overall, while parental involvement predicted final placement better than it predicted initial placement, it was not a strong predictor.

Teachers' use of assessments

In both reading and math, gender had a positive interaction with frequency of formal assessment, but a negative interaction with frequency of informal assessment. Both interactions were statistically significant ($p<.05$). These interactions imply that in classes with more formal assessment, girls were more likely to move to a higher group than similar boys, while in classes with more informal assessment, boys were more likely to move to a higher group than similar girls.

In reading placement, frequency of informal assessment had negative and significant interactions with black and Hispanic ethnicity. This means that, in classrooms with frequent informal assessment, black and Hispanic students were less likely to move to a higher group than white students who were progressing at a similar rate. These interactions were significant ($p<.05$), but only in reading; in math the same interactions were nonsignificant and near zero.

No other interactions were significant.

Discussion

Overall, the results provide little evidence that children whose parents have more teacher contact get placed higher than comparable children with less involved parents. While high-SES and Asian-American children do get placed higher than their test scores would seem to warrant, our results suggest that parent-teacher contact is not the reason for that. Asian-American parents actually have less teacher contact than white parents with similar SES (as in Cheadle & Amato,

2011), and the teacher contact of high-SES parents in general does little to explain why their children are placed in higher groups than their scores would seem to warrant.

Although an earlier qualitative study reported that high-SES parents lobbied for higher placement (Useem, 1992), that study focused on middle school math, where higher and lower achieving students are sorted into different classes on different tracks (basic, accelerated, etc.), and it is practically impossible to change tracks later in the year. It may be that this lobbying is less common in kindergarten, where students are placed in different groups within the same classroom, and mobility among groups is common. Parent-teacher contact may also make less of a difference than it might seem. For example, it may be that the parents who are most likely to lobby teachers are the parents whose children would be placed high anyway.

To be sure, there are limits to the available measures of parent-teacher contact. The measures are broad, and it is not clear whether any of them has specifically to do with parents lobbying teachers for special treatment. In addition, while parent-teacher contact is often viewed as a positive, it can also be a symptom of behavioral or academic struggles that are not fully captured by other available measures. Finally, our measure of contact comes from a questionnaire that teachers filled out in spring. It is reasonable to use those measures to predict placement in spring as we do in Table 4-5, but in Tables 2-3 we use the same measures to predict placement in fall. It seems plausible that the same parents are most involved in both spring and fall, but we have no way to be sure.

Despite those limitations, the results, taken at face value, provide little evidence that parent-teacher contact does much to explain why some students are placed higher than others.

The results also provide little evidence that frequent assessment reduces bias in ability group placement. Frequent formal assessment seems to make little difference one way or the other. Frequent informal assessment may actually have reduced black and Hispanic students' chances of promotion into higher groups, compared to white students who were making similar progress as measured by test scores. The finding that informal assessments held black and Hispanic students back may be consistent with Quinn's (2020) finding that teachers tend to undervalue the work of black children when they use informal assessments without a clear rubric.

Tables

Table 1. Predicting parent involvement			
	Parents' responsiveness to teacher-initiated contact	Parent-initiated contact	General level of parental involvement
SES (standardized)	0.18***	0.22***	0.31***
	(0.02)	(0.02)	(0.02)
Race (ref. non-Hispanic white)			
Black, Non-Hispanic	-0.17*	-0.27***	-0.40***
	(0.07)	(0.07)	(0.05)
Hispanic	-0.17**	-0.20***	-0.15*
	(0.06)	(0.05)	(0.06)
Asian, Non-Hispanic	-0.25***	-0.18	-0.28***
	(0.07)	(0.10)	(0.08)
Other	-0.06	-0.08	-0.22*
	(0.08)	(0.08)	(0.09)
Children	4,272	4,262	4,271
Classroom fixed effects	1,140	1,140	1,140
R^2 (within classrooms)	0.04	0.05	0.10
***$p<0.001$, **$p<0.01$, *$p<0.05$.			

Note. The model was estimated in classes that used ability groups for reading. The Appendix fits the same model to classes that used ability groups for math, with practically identical results.

Table 2. Reading groups: Predicting initial placement in fall		
	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall reading score (standardized)	13.07*** (0.64)	12.97*** (0.62)
Fall math score (standardized)	5.07*** (0.60)	5.06*** (0.60)
SES (standardized)	2.02*** (0.37)	1.66*** (0.36)
Female (ref. male)	1.41* (0.58)	1.34* (0.60)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	0.54 (1.22)	0.59 (1.27)
Hispanic	0.66 (1.10)	0.55 (1.08)
Asian, Non-Hispanic	3.41* (1.41)	3.82* (1.50)
Other	0.21 (1.43)	0.86 (1.40)
Teacher reported behaviors (standardized)		
Approaches to learning	5.23*** (0.93)	5.62*** (0.93)
Self-control	-1.28 (0.69)	-1.27 (0.67)
Interpersonal skills	-0.18 (0.75)	-0.10 (0.73)
Externalizing problem behaviors	2.74*** (0.70)	2.66*** (0.72)
Internalizing problem behaviors	-1.70*** (0.38)	-1.72*** (0.38)
Attentional focus	4.43*** (0.62)	4.28*** (0.62)
Inhibitory control	-0.37 (0.73)	-0.77 (0.73)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		-0.12 (0.49)
Parent-initiated contact		0.82 (0.44)
General levels of parental involvement		0.80* (0.40)
Interactions with formal assessments		
✕ Fall Reading score		-0.55 (0.63)
✕ Fall Math score		1.29 (0.79)
✕ SES		0.58 (0.41)
✕ Female		-0.26 (0.65)
✕ Black, Non-Hispanic		0.73 (1.55)
✕ Hispanic		-0.99 (1.42)
✕ Asian, Non-Hispanic		-1.31 (1.59)
✕ Other ethnicity		2.19 (1.61)
Interactions with informal assessments		
✕ Fall Reading score		0.21 (0.59)
✕ Fall Math score		-1.31* (0.59)
✕ SES		0.22 (0.42)
✕ Female		0.64 (0.65)
✕ Black, Non-Hispanic		2.95 (1.65)
✕ Hispanic		1.22 (1.12)
✕ Asian, Non-Hispanic		0.99 (1.67)
✕ Other ethnicity		0.76 (1.48)
Children	5,273	5,214
Classroom fixed effects	1,290	1,283
R^2 (within classrooms)	0.52	0.52
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		

Table 3. Math groups: Predicting initial placement in fall		
	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall reading score (standardized)	9.23*** (0.86)	9.00*** (0.84)
Fall math score (standardized)	8.22*** (0.99)	8.16*** (1.02)
SES (standardized)	1.89** (0.62)	1.71* (0.67)
Female (ref. male)	-0.07 (0.95)	-0.33 (0.95)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	2.52 (2.07)	2.52 (2.08)
Hispanic	-1.57 (1.60)	-1.52 (1.73)
Asian, Non-Hispanic	1.29 (2.37)	2.06 (2.35)
Other	6.44** (2.31)	6.17** (2.28)
Teacher reported behaviors (standardized)		
Approaches to learning	4.43* (1.69)	4.81** (1.65)
Self-control	-1.68 (1.22)	-1.72 (1.34)
Interpersonal skills	1.15 (1.32)	1.14 (1.26)
Externalizing problem behaviors	2.44* (0.95)	2.56* (1.02)
Internalizing problem behaviors	-0.97 (0.53)	-0.90 (0.54)
Attentional focus	4.00*** (1.15)	4.01** (1.19)
Inhibitory control	0.01 (1.20)	-0.02 (1.16)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		0.45 (0.64)
Parent-initiated contact		0.03 (0.69)
General levels of parental involvement		0.37 (0.52)
Interactions with formal assessments		
✕ Fall Reading score		-0.88 (1.09)
✕ Fall Math score		1.06 (1.51)
✕ SES		0.23 (0.64)
✕ Female		-1.78 (0.93)
✕ Black, Non-Hispanic		0.65 (1.94)
✕ Hispanic		-0.14 (2.45)
✕ Asian, Non-Hispanic		2.00 (1.90)
✕ Other ethnicity		-1.60 (2.80)
Interactions with informal assessments		
✕ Fall Reading score		2.45* (1.04)
✕ Fall Math score		-1.99 (1.12)
✕ SES		-0.04 (0.74)
✕ Female		2.07 (1.09)
✕ Black, Non-Hispanic		2.78 (2.20)
✕ Hispanic		0.93 (2.34)
✕ Asian, Non-Hispanic		-1.34 (2.53)
✕ Other ethnicity		1.51 (3.00)
Children	1,857	1,831
Classroom fixed effects	460	457
R^2 (within classrooms)	0.51	0.52
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		

Table 4. Reading groups: Predicting final placement in spring		
	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall group placement (standardized)	0.67*** (0.02)	0.67*** (0.02)
Reading gains (standardized)	2.91*** (0.69)	2.89*** (0.67)
SES (standardized)	2.45*** (0.48)	2.13*** (0.51)
Female (ref. male)	0.64 (0.73)	0.66 (0.66)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	-0.66 (1.70)	-0.35 (1.74)
Hispanic	-4.02*** (1.17)	-3.93** (1.23)
Asian, Non-Hispanic	-2.96* (1.44)	-2.68 (1.44)
Other	-0.96 (1.99)	-0.93 (1.95)
Teacher reported behaviors (standardized)		
Approaches to learning	5.25*** (0.74)	5.49*** (0.76)
Self-control	0.31 (0.62)	0.27 (0.63)
Interpersonal skills	-2.17*** (0.61)	-2.14*** (0.61)
Externalizing problem behaviors	0.54 (0.68)	0.69 (0.66)
Internalizing problem behaviors	-1.63*** (0.41)	-1.61*** (0.41)
Attentional focus	2.06* (0.80)	1.91* (0.83)
Inhibitory control	-0.02 (0.63)	-0.13 (0.63)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		-0.33 (0.54)
Parent-initiated contact		0.41 (0.50)
General level of parental involvement		1.00* (0.45)
Interactions with formal assessments		
✕ Reading gains		0.71 (0.70)
✕ SES		-0.06 (0.43)
✕ Female		2.00* (0.78)
✕ Black, Non-Hispanic		-1.24 (1.59)
✕ Hispanic		-0.36 (1.21)
✕ Asian, Non-Hispanic		-1.65 (1.51)
✕ Other ethnicity		-2.80 (1.55)
Interactions with informal assessments		
✕ Reading gains		0.29 (0.75)
✕ SES		0.84 (0.55)
✕ Female		-2.06* (0.86)
✕ Black, Non-Hispanic		-4.55** (1.55)
✕ Hispanic		-3.26* (1.43)
✕ Asian, Non-Hispanic		0.80 (1.91)
✕ Other ethnicity		-1.55 (2.11)
Children	3,374	3,369
Classrooms	845	845
R^2 (within classrooms)	0.52	0.52
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		

Table 5. Math groups: Predicting final placement in spring		
	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall group placement (standardized)	0.63*** (0.03)	0.62*** (0.03)
Math gains (standardized)	0.50 (1.77)	0.26 (1.75)
SES (standardized)	1.29 (0.82)	0.56 (0.93)
Female (ref. male)	1.04 (1.29)	1.04 (1.27)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	-5.61* (2.81)	-5.33 (3.02)
Hispanic	-4.19 (2.37)	-4.69 (2.47)
Asian, Non-Hispanic	0.94 (2.54)	1.10 (2.67)
Other	-2.11 (2.56)	-2.34 (2.93)
Teacher reported behaviors (standardized)		
Approaches to learning	2.85 (1.67)	2.60 (1.76)
Self-control	0.44 (1.30)	0.36 (1.27)
Interpersonal skills	1.83 (1.22)	1.81 (1.14)
Externalizing problem behaviors	1.49 (1.11)	1.66 (1.15)
Internalizing problem behaviors	-0.62 (0.76)	-0.76 (0.75)
Attentional focus	2.70* (1.14)	2.47* (1.23)
Inhibitory control	-1.25 (1.22)	-0.72 (1.21)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		-0.76 (1.21)
Parent-initiated contact		-0.24 (0.91)
General level of parental involvement		2.83** (0.95)
Interactions with formal assessments		
✕ Math gains		-1.04 (1.46)
✕ SES		0.25 (1.17)
✕ Female		3.54** (1.25)
✕ Black, Non-Hispanic		-0.91 (3.15)
✕ Hispanic		-4.59 (2.84)
✕ Asian, Non-Hispanic		-1.16 (2.63)
✕ Other ethnicity		-0.92 (3.97)
Interactions with informal assessments		
✕ Math gains		1.70 (1.55)
✕ SES		1.19 (1.04)
✕ Female		-3.89* (1.61)
✕ Black, Non-Hispanic		-0.75 (2.80)
✕ Hispanic		-0.66 (2.89)
✕ Asian, Non-Hispanic		-2.00 (1.87)
✕ Other ethnicity		-1.05 (4.48)
Children	982	981
Classrooms	247	247
R^2 (within classrooms)	0.46	0.48
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		

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Appendix

Table 1 predicts parental involvement in classrooms that used ability groups for reading.
Table A1 does the same thing in classrooms that used ability groups for math.

Table A1. Predictors of Parental Involvement in Math			
	Parents' responsiveness to teacher-initiated contact	Parent-initiated contact	General levels of parental involvement
Standardized values of SES	0.20***	0.21***	0.30***
	(0.04)	(0.04)	(0.04)
Race (ref. non-Hispanic white)			
Black, Non-Hispanic	-0.08	-0.22*	-0.40***
	(0.14)	(0.11)	(0.09)
Hispanic	-0.18	-0.21*	-0.19
	(0.09)	(0.10)	(0.09)
Asian, Non-Hispanic	-0.23*	-0.40*	-0.63**
	(0.11)	(0.15)	(0.22)
Other	0.03	0.08	0.03
	(0.10)	(0.12)	(0.15)
Children	1,226	1,223	1,225
Classrooms	332	332	332
R^2 (within classrooms)	0.05	0.05	0.11
***p<0.001, **p<0.01, *p<0.05.			

Tables A2-A5 fit the same model as Tables 2-5, but use a "restricted fall-spring sample" described by von Hippel & Cañedo (2021).

Table A2. Reading groups: Predicting initial placement in fall (restricted fall-spring sample)	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall reading score (standardized)	13.17*** (0.74)	13.10*** (0.76)
Fall math score (standardized)	4.51*** (0.82)	4.56*** (0.84)
SES (standardized)	1.93*** (0.45)	1.66*** (0.46)
Female (ref. male)	0.50 (0.74)	0.48 (0.74)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	0.23 (1.57)	0.53 (1.68)
Hispanic	0.26 (1.47)	0.56 (1.55)
Asian, Non-Hispanic	6.82** (2.12)	6.54** (2.07)
Other	0.88 (2.36)	0.86 (2.29)
Teacher reported behaviors (standardized)		
Approaches to learning	6.05*** (1.21)	6.10*** (1.21)
Self-control	-2.33** (0.79)	-2.26** (0.79)
Interpersonal skills	0.54 (0.90)	0.43 (0.88)
Externalizing problem behaviors	2.37* (0.91)	2.29* (0.90)
Internalizing problem behaviors	-1.75*** (0.50)	-1.77*** (0.50)
Attentional focus	4.49*** (1.05)	4.58*** (1.08)
Inhibitory control	-0.60 (1.04)	-0.92 (1.02)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		-0.06 (0.59)
Parent-initiated contact		0.58 (0.57)
General levels of parental involvement		0.57 (0.55)
Interactions with formal assessments		
✕ Fall Reading score		0.73 (0.90)
✕ Fall Math score		-0.00 (0.87)
✕ SES		0.51 (0.49)
✕ Female		-0.88 (0.86)
✕ Black, Non-Hispanic		0.99 (1.70)
✕ Hispanic		1.80 (2.35)
✕ Asian, Non-Hispanic		-1.20 (2.42)
✕ Other ethnicity		1.07 (2.80)
Interactions with informal assessments		
✕ Fall Reading score		0.08 (0.88)
✕ Fall Math score		-0.87 (0.80)
✕ SES		-0.15 (0.46)
✕ Female		1.79* (0.86)
✕ Black, Non-Hispanic		2.65 (2.02)
✕ Hispanic		1.72 (1.46)
✕ Asian, Non-Hispanic		-1.74 (2.47)
✕ Other ethnicity		1.67 (2.18)
Children	2,610	2,606
Classroom fixed effects	634	634
R^2 (within classrooms)	0.55	0.56
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		

Table A3. Math groups: Predicting initial placement in fall (restricted fall-spring sample)		
	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall reading score (standardized)	7.67*** (1.18)	7.60*** (1.22)
Fall math score (standardized)	9.42*** (1.65)	8.89*** (1.60)
SES (standardized)	3.10** (0.92)	2.84** (0.94)
Female (ref. male)	-1.70 (1.77)	-1.54 (1.92)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	2.63 (2.67)	3.95 (2.08)
Hispanic	1.01 (2.52)	1.29 (2.20)
Asian, Non-Hispanic	4.87 (3.21)	5.17 (2.78)
Other	10.63** (3.57)	10.96** (3.24)
Teacher reported behaviors (standardized)		
Approaches to learning	6.50** (2.21)	6.00** (2.17)
Self-control	-6.37*** (1.54)	-6.41*** (1.52)
Interpersonal skills	2.79 (1.69)	2.79 (1.75)
Externalizing problem behaviors	-1.25 (1.55)	-1.09 (1.59)
Internalizing problem behaviors	-0.32 (0.79)	-0.47 (0.81)
Attentional focus	4.12* (2.01)	3.92 (2.06)
Inhibitory control	-2.03 (1.99)	-1.40 (2.00)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		0.89 (1.05)
Parent-initiated contact		0.02 (1.03)
General levels of parental involvement		0.57 (1.12)
Interactions with formal assessments		
✕ Fall Reading score		-3.45* (1.57)
✕ Fall Math score		2.76* (1.35)
✕ SES		-0.66 (1.16)
✕ Female		-2.53 (1.37)
✕ Black, Non-Hispanic		-4.72 (2.57)
✕ Hispanic		5.60 (3.30)
✕ Asian, Non-Hispanic		3.49 (2.23)
✕ Other ethnicity		-3.12 (3.26)
Interactions with informal assessments		
✕ Fall Reading score		3.65** (1.15)
✕ Fall Math score		-2.46 (1.66)
✕ SES		-1.57 (0.91)
✕ Female		4.55** (1.47)
✕ Black, Non-Hispanic		-0.63 (2.35)
✕ Hispanic		-2.39 (3.00)
✕ Asian, Non-Hispanic		-6.01 (3.08)
✕ Other ethnicity		-3.02 (4.29)
Children	717	717
Classroom fixed effects	182	182
R^2 (within classrooms)	0.55	0.58
***$p<0.001$, **$p<0.01$, *$p<0.05$. Standard errors are clustered by primary sampling unit (PSU).		

Table A4. Reading groups: Predicting final placement in spring (restricted fall-spring sample)	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall group placement (standardized)	0.69*** (0.02)	0.68*** (0.02)
Reading gains (standardized)	3.87*** (0.80)	3.82*** (0.78)
SES (standardized)	2.19*** (0.54)	1.85** (0.58)
Female (ref. male)	0.23 (0.81)	0.15 (0.75)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	0.54 (1.99)	1.08 (2.09)
Hispanic	-3.14* (1.40)	-3.15* (1.40)
Asian, Non-Hispanic	-3.73* (1.74)	-3.44* (1.66)
Other	-1.73 (2.48)	-1.63 (2.21)
Teacher reported behaviors (standardized)		
Approaches to learning	5.35*** (0.96)	5.56*** (0.98)
Self-control	0.06 (0.73)	-0.04 (0.75)
Interpersonal skills	-1.65* (0.76)	-1.64* (0.76)
Externalizing problem behaviors	0.04 (0.76)	0.08 (0.75)
Internalizing problem behaviors	-1.46** (0.49)	-1.46** (0.49)
Attentional focus	1.38 (1.02)	1.26 (1.05)
Inhibitory control	-0.27 (0.76)	-0.49 (0.77)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		-0.45 (0.69)
Parent-initiated contact		0.53 (0.59)
General levels of parental involvement		1.17* (0.58)
Interactions with formal assessments		
✕ Reading gains		0.86 (0.93)
✕ SES		-0.54 (0.49)
✕ Female		1.69 (0.91)
✕ Black, Non-Hispanic		-2.43 (1.70)
✕ Hispanic		-0.79 (1.48)
✕ Asian, Non-Hispanic		-1.43 (1.90)
✕ Other ethnicity		-0.54 (2.31)
Interactions with informal assessments		
✕ Reading gains		-0.29 (0.86)
✕ SES		0.36 (0.57)
✕ Female		-2.01 (1.03)
✕ Black, Non-Hispanic		-5.75** (1.94)
✕ Hispanic		-3.04 (1.75)
✕ Asian, Non-Hispanic		0.59 (2.06)
✕ Other ethnicity		-2.38 (2.72)
Children	2,548	2,544
Classrooms	627	627
R^2 (within classrooms)	0.52	0.53
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		

Table A5. Math groups: Predicting final placement in spring (restricted fall-spring sample)		
	Original predictors from von Hippel & Cañedo	Plus parent involvement and teacher assessments
Fall group placement (standardized)	0.66*** (0.04)	0.66*** (0.04)
Math gains (standardized)	0.02 (2.09)	-0.29 (2.20)
SES (standardized)	0.89 (1.07)	0.03 (1.17)
Female (ref. male)	1.42 (1.51)	1.40 (1.64)
Race (ref. non-Hispanic white)		
Black, Non-Hispanic	-5.66 (3.50)	-5.36 (3.67)
Hispanic	-4.45 (2.85)	-4.19 (2.82)
Asian, Non-Hispanic	-1.91 (3.70)	-0.84 (4.68)
Other	-6.11 (3.31)	-5.18 (3.23)
Teacher reported behaviors (standardized)		
Approaches to learning	4.15** (1.35)	3.65** (1.37)
Self-control	-0.59 (1.47)	-0.43 (1.38)
Interpersonal skills	1.16 (1.14)	0.91 (1.12)
Externalizing problem behaviors	0.26 (1.40)	0.59 (1.40)
Internalizing problem behaviors	-0.42 (0.90)	-0.51 (0.85)
Attentional focus	2.65* (1.32)	2.75 (1.44)
Inhibitory control	-2.49 (1.42)	-2.17 (1.52)
Parent-teacher contact variables		
Responsiveness to teacher-initiated contact		0.03 (1.19)
Parent-initiated contact		0.01 (1.06)
General levels of parental involvement		2.34 (1.20)
Interactions with formal assessments		
✕ Math gains		-1.58 (1.77)
✕ SES		0.93 (1.12)
✕ Female		3.39* (1.47)
✕ Black, Non-Hispanic		-0.53 (2.41)
✕ Hispanic		-3.33 (3.49)
✕ Asian, Non-Hispanic		1.75 (3.01)
✕ Other ethnicity		1.12 (4.99)
Interactions with informal assessments		
✕ Math gains		1.07 (1.94)
✕ SES		0.02 (1.12)
✕ Female		-2.31 (1.56)
✕ Black, Non-Hispanic		0.02 (3.79)
✕ Hispanic		0.58 (3.27)
✕ Asian, Non-Hispanic		2.40 (4.37)
✕ Other ethnicity		-1.32 (4.33)
Children	703	703
Classrooms	181	181
R^2 (within classrooms)	0.49	0.51
***p<0.001, **p<0.01, *p<0.05. Standard errors are clustered by primary sampling unit (PSU).		