Heterogenous Parental Responses to Education Quality

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Abstract

Are parental inputs complements or substitutes to education quality? Using variation induced by identification into a gifted and talented (GT) program, I find no aggregate effects on parental behavior as a result of their child's access to a higher quality education. However, there are heterogeneous effects. Non-minority parents decrease engagement, but increase tutoring. Minority and low-income parents increase engagement and increase both tutoring and in-home homework help. Results suggest that parental investments are not necessarily a strict complement or substitute, but is nuanced dependent on demographic factors. I provide evidence that the primary mechanism is parental beliefs.

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I Introduction

Research shows that parents play a substantial role in the educational outcomes of children (Sacerdote, 2007; Heckman, 2008; Cunha, Elo and Culhane, 2013; Attanasio, Meghir and Nix, 2017; Gould, Simhon and Weinberg, 2019). In their role as part of the education production function, parents make decisions to allocate levels of investments to each child, subject to resource and economic constraints. Investments may take the form of time, such as homework help or reading to their child. It may also take the form of economic or material resources, such as the purchase of private tutoring, books, or technology. Despite the important roles of parents in human capital accumulation and educational outcomes, allocation of time and financial resources can vary greatly across families (Carneiro, Meghir and Parey, 2013).

One reason why families may choose to allocate different levels of investments toward children is because of beliefs about the education production function. For example, parents may have varying beliefs about the returns to various time or resource investment, although Attanasio, Boneva and Rauh (2018) provide evidence that parents of different socioeconomic background do not have different beliefs about returns to time or resource investments. Relatedly, parents may also have inaccurate beliefs about their children's academic performance. Bergman (forthcoming) finds that parental beliefs are often inaccurate and upwardly-biased, and Dizon-Ross (2019) finds that parents' inaccurate beliefs can lead to a misallocation of educational investments in children.

A second reason is education quality. Parents may perceive personal investments in a child as complements or substitutes to education quality, which drives input decisions. In other words, if a child gains access to a high-quality education, would his or her parents choose to invest more or less time, money, and effort into the child's education than if the same child were to receive a low-quality education? Such behavioral responses to educational quality are crucial to understanding the true impacts of educational interventions and policy changes (Todd and Wolpin, 2003). Given the important role of parents in the education

production function and human capital formation, parental responses can be a mechanism that emphasizes, attenuates, or counteracts any positive effects of increased educational quality.

There is a small but emerging literature on the role of parents in education production. Pop-Eleches and Urquiola (2013) apply a regression discontinuity framework to find that parents in Romania decrease effort when their child attends a better school. Attanasio, Boneva and Rauh (2018) elicit beliefs through randomized hypothetical scenarios in England to find that parents believe school quality and the returns to material investments are complementary, though with diminishing returns. However, there is little overall consensus and empirical evidence outside of these studies on the direction and magnitude of parental behavioral effects due to education quality.

This study seeks to contribute empirical clarity in the debate on whether parents respond as substitutes or complements to educational quality. To do so, I estimate parent behavioral effects in the context of students receiving an acceptance into a gifted and talented (GT) program. Identification of gifted students is implemented via an examination with an objective cutoff between gifted and non-gifted students, which results in exogenous variation that can be exploited for causal interpretation. The identification process can be interpreted as an exogenous cause for updating of beliefs by either confirming or changing parents' perception of their child's academic ability. By linking GT program enrollment and administrative data with a unique data set combining parent and student engagement surveys, I examine the impact of whether parents' perception of their children's academic ability and other in-home and at-school responses differ based on whether the child marginally achieves a sufficient score to enter a GT program.

There are three primary findings. First, there is almost no aggregate effect on parental behavioral responses around one school year after enrollment into GT program, but there are clear heterogeneous effects by socioeconomic and racial factors. Generally, parents of lower socioeconomic backgrounds and minorities increase their parent engagement levels, whereas those of higher socioeconomic backgrounds and non-minorities do not change en-

gagement levels substantially and occasionally decrease it. Second, I examine the trade-offs between paid tutoring and parental time spent on homework. I find that white and higher socioeconomic parents are more likely to hire external tutoring help but decrease self-exerted homework help, whereas minorities and lower socioeconomic parents increase both homework help efforts and increase external tutoring. Finally, I provide evidence that parental beliefs is a primary mechanism. After initial notification of their child's acceptance into a gifted program, parental beliefs of their child's academic ability change significantly and is heterogeneous along socioeconomic and racial lines. Minority and low-income parents are more likely to tell their children that they believe in their child's abilities immediately after acceptance into a GT program.

This study contrasts with the strengths of previous literature in three ways. First, a unique link between administrative data and an administrative survey allows a broad set of outcomes on parental behaviors to be used.[1] I am able to discuss in detail the effects along a number of behavioral variables internal, and external, to the direct schooling environment. Second, this study employ observational administrative and survey data collected by an educational governing body, whereas Pop-Eleches and Urquiola (2013) conducts its own survey in a subset of towns and Attanasio, Boneva and Rauh (2018) relies on surveys based on hypothetical scenarios. Third, the United States context results in estimates that generalize more broadly to parents of various backgrounds due to its demographic heterogeneity. Given that the US context also contains more variation in socioeconomic and racial backgrounds, it provides a nuanced understanding of parental behaviors and educational inputs relative to other recent studies.

This paper contributes empirical evidence to multiple streams of scholarly research. First, the analysis deepens our understanding of the role that parents play in the education production function by providing detailed evidence on how beliefs may shape behavioral responses to educational quality. There has been an increasing amount of interest in the research of

[1]Parent survey data used by school districts are generally done anonymously. In this case, the school district conducted the survey confidentially, but ensured that a link can only be done through a multiple-step process. As a former survey administrator for a large district, I found this practice to be unique among districts.

parental beliefs and the investments of such parents (Bergman, forthcoming; Boneva and Rauh, 2016*b*,*a*; Dizon-Ross, 2019; Bergman and Chan, Forthcoming; Attanasio, Boneva and Rauh, 2018), but rarely does this research explore the detailed behavioral changes of parents. Second, the evidence will provide intuition into the mechanisms that could either exacerbate or alleviate impacts of programming or policy that changes education quality, such as ability-grouping and tracking policies. The causal impact estimates on ability-grouping in the U.S. have been limited and mixed to date (Bui, Craig and Imberman, 2014; Card and Giuliano, 2016; Cohodes, 2020), with little intuition provided by these studies into the multitude of possible mechanisms driving student outcomes.[2]

Beyond the scholarly implications, this paper also plays an important role for policy and practice. The results can assist school districts understand where to allocate family engagement resources and incentives. Given previous findings in the literature, parental incentives has the potential to impact in Hispanics and white families (Fryer, Levitt and List, 2015). Similarly, it may help describe why Card and Giuliano (2016), who studies the effects of a GT program, finds that test scores improve more for minorities than white students. Finally, this paper contributes to the case for the inclusion of underrepresented groups into GT programs, which often lack minority representation (Grissom and Redding, 2015; Card and Giuliano, 2015).

II Theoretical Framework

A seminal framework initially suggested by Todd and Wolpin (2003) for thinking about the relationship between parental responses and educational quality is adapted here. In the framework, they consider a three period setting where t=0 corresponds to one time period prior to a child entering school, t=1 is the first year of school, and t=2 is the second year of school. Student achievement, A, at time period 1 would be given by:

$$A_1 = g_o(F_0, \mu), \tag{1}$$

[2]Betts et al. (2011) discusses much of the complexities in estimating the effects of tracking and ability-grouping programs.

where F_0 are the family inputs, which includes investments into production of cognitive achievement, and μ is the child's natural ability. Thus, achievement at time of school entry is dependent on family inputs and the child's natural ability.

Further, family inputs can be assumed to be dependent on family resources, W, and child's ability μ. Thus, during the second time period, achievement is dependent on the history of family inputs F_0 and F_1, school inputs, S_1, and natural ability, as follows:

$$A_2 = g_1(S_1, F_1, F_0, \mu). \tag{2}$$

They further describe two decision rules at time 1 for the family input, F_1 and family's preferred school inputs, $\bar{S_1}$ that determines the inputs, given by:

$$F_1 = \phi(A_1, W, \mu, S_1 - \bar{S_1}) \tag{3}$$

$$\bar{S_1} = \theta(A_1, W, \mu) \tag{4}$$

Equation (3) describes family input at time 1, which is assumed to be subsequent to knowing the school inputs at time 1 for the child. $S_1 - \bar{S_1}$ is the assumption that actual school inputs may differ from family preferences of school inputs, such as the case where a family does not get into the school or a gifted and talented program that is preferred. More pertinent to this paper, child's ability is assumed to be known in the framework. Given that recent research shows parents' beliefs of children's ability to often be inaccurate (Bergman, forthcoming; Dizon-Ross, 2019; Bergman and Chan, Forthcoming), along with the general literature on information frictions and the role of information provision and its effects on decision-making (Liebman and Luttmer, 2015; Bhargava and Manoli, 2015; Dupas, 2011), one can argue that the framework should be changed such that family's perceived ability of their child, $\bar{\mu}$, is included in the family decision rules rather than μ. Under imperfect information, equations (3) and (4) are more accurately shown to be:

$$F_1 = \phi(A_1, W, \bar{\mu}, S_1 - \bar{S_1}) \tag{5}$$

$$\bar{S_1} = \theta(A_1, W, \bar{\mu}) \tag{6}$$

Todd and Wolpin (2003) makes the distinction that there are both direct effects on achievement, holding all other inputs constant, and the total effect of an exogenous change, while not holding other inputs constant. That is, the latter can include both the ceteris paribus effect along with an indirect effects that may change based on the levels of other inputs, such that the equation,

$$\frac{dA_2}{d(S_1 - \bar{S_1})} = \frac{dA_2}{dS_1} = \frac{\partial g_1}{\partial S_1} + \frac{\partial g_1}{\partial F_1}\frac{\partial F_1}{\partial (S_1 - \bar{S_1})}, \tag{7}$$

now shows both the direct effects of the intervention $\frac{\partial g_1}{\partial S_1}$ and an indirect effects $\frac{\partial g_1}{\partial F_1}\frac{\partial F_1}{\partial (S_1 - \bar{S_1})}$ caused by changes in the levels of other inputs. Let us assume that family inputs has a non-negative effect on achievement such that $\frac{\partial g_1}{\partial S_1} \geq 0$. In such a case, if family inputs decrease as a result of school inputs being higher than their preferred level ($S_1 - \bar{S_1} > 0$), then family inputs are a substitute to educational inputs and any positive effects of the educational program may be mitigated. In the opposite case, if family inputs increase instead under the same scenario, then family inputs are a complement to educational inputs and total positive effects of the education program may be greater than its direct effects. Either way, estimation of most randomized controlled trials, such as the STAR experiment (Krueger, 1999; Nye, Hedges and Konstantopoulos, 2000; Krueger and Whitmore, 2001), provide only the total effect of an intervention. Both the direct and indirect effects, however, are greatly relevant to understanding the total effects of educational interventions and proper estimation of the education production function. The goal of this paper, then, is to supply evidence for the indirect policy effects as related to educational quality.

III Background and Context

The study takes place in the context of a large suburban school district[3] ("District") on the west coast of the United States in the state of California.[4] The District consists of diverse, medium-class neighborhoods that are predominantly white and Asian, about a quarter Hispanic and black students, and a fifth low-income students and English learners. Academically, the District's students are generally above average relative to the achievement levels of its state. The District also has relatively high household incomes, with median household income of over $100,000 and median property values exceeding $600,000. However, there exists substantial variation in both household income and education levels. Over half of all adults own a bachelor's degree or higher, but a nontrivial portion only own a high school diploma.

The state provides much autonomy in the running of GT programs. While it does not provide direct funding for GT programs, it does provide block grants for categorical programs and local education agencies are allowed to fund programs as they see fit. In districts where GT programs are funded at the local level, districts are required by the state to allow all eligible students to participate, regardless of socioeconomic, linguistic or cultural background, and disabilities. They must also adopt a differentiated curriculum that focuses on the depth and complexity of content using advanced or accelerated pacing.

A The District's GT Program

The focus of this study is the District's GT program. The program initially identifies students starting in the third grade for enrollment as a gifted student in the fourth grade. The formal program ends in the sixth grade. Identification is based on an ability assessment popularly utilized across the country. All students enrolled in the District are automatically included in the testing, though parents are allowed to opt out. Only a small fraction of a percent

[3] Permission has not be granted to release the District name, so minor generalizations are made in informing the reader of the context, such as the rounding of demographic percentages.

[4] Since the data obtained was across the course of over a decade, all demographics and processes are approximated and generalized to the most common numbers and practices during this timeframe. There are minor deviations - for example, there were a couple years where the percentage of low-income students were higher than normal.

of parents actively opt out each year. Students are allowed to write the GT assessment exam in the third, fourth, or fifth grade for entrance into the fourth, fifth, or sixth grade, respectively. However, policy dictates that students can only write the assessment once. If a student aspires to take the exam a second time, the District requires a nomination from a teacher. This is not a common practice and is only used under exceptional circumstances. Those who take the exam in the fourth or fifth grade tend to take the exam only if they are new to the district. Due to the restrictions, over 96% of all students who enter the GT program receive entrance by taking the exam in the third grade and formally enter the GT program in the fourth grade.

Prospective students write the assessment in three areas: Math ("Quantitative"), English ("Verbal"), along with a"nonverbal" portion. The assessment is specifically designed to assess reasoning skills in areas that correlate strongly to academic success, including cognitive development, the ability to learn new tasks, and problem solving skills.[5] Students receive acceptance into the GT program by scoring a minimum of 90th to 96th percentile in terms of composite raw score, a threshold pre-determined annually dependent on resources available and the number of slots open. While a large majority of students enter by scoring a sufficiently high percentile, a small share of students (varies between 2-4% of accepted students) receive entrance by scoring extremely high in one primary subject (Math or English) and fairly well in the second and third subject. While the cutoffs for these single-subject high scorers differ slightly by year, they must generally score in the 98th or 99th percentile in the stronger subject and a minimum of 90th percentile in the weaker areas. Professional judgment may also be used to include students not identified, but only in exceptional circumstances.[6]

For those who sit for the exam, students scoring above the annually designated threshold would receive an offer of enrollment into the GT program. Unlike many GT programs across the country and those that have been studied recently, which tend to separate gifted

[5]Appendix 4 shows some example questions from the assessment.

[6]In an interview, the District program officer responded that they only remember using professional judgment "a handful of times" over the past decade.

students into homogeneous classrooms or schools, the District uses clustering and differentiated instruction as the means toward educating gifted students. Specifically, the District identifies gifted students, clusters them in groups of six to eight, and placement takes place inside a mainstream classroom in such a way that the classroom consist of a mix of gifted and mainstream students. Gifted students are instructed through differentiated instruction, whereby the teacher utilizes a deeper curriculum than the one for mainstream students, and assigns more challenging work to gifted students. The classroom teacher is usually certified in differentiated instruction.

During the school years between 2001-02 through 2015-16, the District's elementary schools ran parent engagement and student engagement survey programs where the respondent could only be identified through a unique bar code. This survey was generally given towards the end of the fourth grade year, which is the first year that students identified as gifted enroll in the GT program.

IV Data

A Description

Access to student-level administrative data is granted by the District.

The data set includes records of all third through fifth grade cognitive assessments exam test takers from the 2001-02 school year through the 2015-16 school year, including student demographics, such as race/ethnicity, English learner status, special education status, gender and age. Access was also granted separated to GT exam scores, percentiles, and GT enrollment status by year. A unique aspect of the data set is that the District is able to merge administrative data to parent engagement and student engagement surveys that were given to parents and students in a majority of fourth graders in elementary schools between 2001-02 through 2015-16.[7] The parent survey includes questions on parental beliefs

[7]The process for obtaining the parent and student engagement survey results was cumbersome. Most survey data were in paper form and the data were entered manually. Two waves of data collection occurred for this study. The first was for my dissertation, which the District provided data already available electronically. Afterwards, an administrator noted that there were additional number, and years, of data available in hard copy. The second wave was primarily a manual data entry project.

in their child's ability, parental time investments in children, tutoring time, and parental contact with schools. The student survey includes simple questions about student motivation, engagement in class, their sense of parental engagement at home, and levels of teachers engagement. Both surveys used for this study were taken by fourth graders and a single parent or guardian at the time. The surveys were administered in April of each year, which infers that students and their respective parents/guardians were enrolled in the GT program for several months prior to the survey taking place. Non-GT peers also took the survey during the same time period. Survey questions for parents and students are presented in Appendix 16 and Appendix 17, respectively.

The overall response rate for the annual parent survey is generally over 55%, which by school district standards is an excellent return rate. The response rates correlates positively with student standardized exam achievement, neighborhood income of family address, and ever having a GT offer. Around the exam cutoff for GT, the overall response rate is closer to 67%. However, students who scored close to the GT cutoff is highly representative of the student population of GT students in terms of aggregate observable demographics, with no significant deviation on variables provided.

B Summary Statistics

Table 1 presents the summary statistics for baseline characteristics for all students in column one, students enrolled in GT in column two, and the regression discontinuity sample in column three. The District is largely made up of Asian students, and in particular those of Chinese and Taiwanese descent. Seven percent of students identify as black, though Hispanic students are better represented with 19%. Within the GT program, there is an over-representation of females and Asians, along with an under-representation of Hispanics, blacks, English Learners, and low-income (subsidized lunch) students. Due to the small number of black students in the GT program, Hispanics and black students are grouped together in a subgroup referred to as "minorities."

Table 2 presents the covariate balance across the cutoff threshold, which is relevant for

the regression discontinuity design used. This is a comparison of baseline covariate means for those just above the cutoff and those just below the cutoff, with the differences shown in column (2), the p-values in column (3), and the number of observations in column (4). The RDD sample is relatively well balanced in terms of observable baseline covariates. The only significant difference presented is the share of English Learners, where there are slightly less English learners below the cutoff mean at the 10% level. Given that twelve covariates were included, this difference should be incidental noise.

C Interpretation of interval scales

One complication arising from the data is that the majority of survey results are based on ordinal interval scales, such as categorical variables from strongly disagree to strongly agree. Assuming that respondents interpret the scale consistently and provide honest answers, research has shown the possibility that bias is prevalent when the researcher quantifies the scales as a cardinal variables (Schroeder and Yitzhaki, 2017; Bond and Lang, 2019). The necessary assumptions for which such ordinal variables when treated as cardinal variables for use in parametric and nonparametric models are unlikely to be satisfied, and are further likely to be sensitive to monotonic transformations. Therefore, instead of treating the dependent variables as ordinal variables, each interval is converted into dummy variables for use in linear probability models. As a result, interpretation of coefficients are based on percentage points increase or decrease over a control mean – or in the case of fuzzy RDD, a control complier mean denoted as CCM.

V Empirical Strategy

A Fuzzy Regression Discontinuity

The basic empirical method will be a regression discontinuity design (RDD) model, a model often used for causal inference when there is a sharp cutoff for entrance into a program (Lee and Lemieux, 2010). In this context, the primary reason for the RDD model is that we

are comparing the effects of a program for students who scored just barely above the exam threshold and just barely below the threshold. In the absence of manipulation or cheating, students who score just above and just below the cutoff should be highly similar in terms of ability, observable characteristics, and non-observable characteristics. While a sharp RDD model would work relatively well, given that the cutoff is relatively sharp, estimates would be conservative and would be closer to an intent-to-treat estimate. Therefore, I chose to go with a fuzzy RDD model as the preferred specification, where the major assumption is that the cutoff induces a change in the probability of treatment (Hahn, Todd and Van der Klaauw, 2001). In my case, estimates can be interpreted as a local average treatment effect. This is highly similar to that of an instrumental variables strategy. The first stage is as follows:

$$enrollment_{ist} = \alpha_0 + \alpha_1 above_{ist} + \alpha_2 gap_{ist} + \alpha_3 gap_{ist} * above_{ist} + \lambda' X_i + \delta_{st} + \epsilon_{ist}, \quad (8)$$

where $enrollment_{ist}$ is GT enrollment status for student i in school s at year t, $above_{ist}$ is the indicator for being above the GT threshold, gap_{ist} is the distance from the testing cutoff, X_1 is a vector of baseline characteristics, and δ_{st} are school and year fixed effects.

The second stage is as follows:

$$Y_{ist} = \beta_0 + \beta_1 enrollment_{ist} + \beta_2 gap_{ist} + \beta_3 gap_{ist} * above_{ist} + \lambda' X_i + \delta_{st} + \epsilon_{ist}, \quad (9)$$

where Y_{ist} is the outcome of interest. I include the baseline characteristics and school and year fixed effects in all regressions. I also cluster all standard errors at the baseline school level.

In terms of specifications, I estimate optimal bandwidths using the procedure from Calonico, Cattaneo and Titiunik (2014) for all reported estimates. Optimal bandwidths vary slightly by outcome, but it is usually between 2 to 2.5 percentile points away from the cutoff. The preferred specifications also utilize triangular kernel weights, which weighs observations closer to the threshold more than those further from the threshold, for all my specifications. The

reported effect coefficients are 2SLS estimates using rectangular kernel weights. All standard errors are clustered at the third grade school level.

B Assumptions

In order for the empirical strategy to be internally valid, some assumptions must be met. One key assumption behind the credibility of a fuzzy RD design is that the cutoff induces a change in probability of treatment. Figure 1 shows the share of students ever enrolled in the GT program by the GT examination score and shows that the score clearly increases the probability of enrollment discontinuously. The score cutoff is an aggregate percentile score resulting from a student's score in all three subject areas as calculated by the District. A strong discontinuity occurs at the testing cutoff. The cutoff itself may vary slightly from year to year depending on the number of seats available but is most often the 93rd percentile. In this figure, the running variable is standardized to be each student's percentile points away from that year's threshold. Around 6% of students scored just above the cutoff but chose to never enroll in the GT program. Around 4% ever enrolled despite being just below the cutoff.

There are some valid reasons for students below the cutoff to enroll in the GT program. In addition to being offered placement by scoring above the threshold, students may also secure an enrollment offer by scoring a minimum of 97th or 98th percentile on one subject - predetermined annually based on seats - and a minimum of 80th percentile in the second subject. The general rules of the District do not make it easy to enter after the fourth grade. Due to the possibility of noncompliance, a fuzzy RDD is a valid strategy in this context to obtain more precise estimates for enrollees.

A second key assumption is that there is no manipulation around the threshold that would change the enrollment probability of the student (McCrary, 2008). To examine this, figure 2 presents a histogram of raw exam scores around the threshold. There is no clear visual evidence that there is manipulation around the threshold. However, the presence of a slight dip in test scores to the right of the cutoff may violate the assumption. To examine this

dip further, I test for whether there is a significant difference at the threshold by running a density test (Cattaneo, Jansson and Ma, 2016), which results in a p-value of 0.575. Further, I restrict the bandwidth around the threshold to 1.5 percentile points and find a p-value of 0.103, indicating that very close to the threshold there is - just slightly - no significant difference in the number of scores at the 10% level.[8]

To properly interpret the estimates, a third implicit assumption is made. The effect estimates assumes that education quality has increased as a result of enrolling in the GT program. While quality is difficult to test objectively, it may be proxied by many observable variables. In the data, peer quality of those in the GT classroom increased over those not in a GT classroom. On average, the peer group's achievement for GT students increased on the math standardized exam by 0.73 standard deviations; 0.69 for English Language Arts. Teacher quality also increased. The share of teachers with a graduate degree increased by seven percentage points over a non-GT mean of 0.48. Finally, the curriculum followed by GT students is an accelerated curriculum.

VI Results

To discuss the effects of the programs, I separate survey response outcomes into three groups of outcomes. The first section discusses parents' household behaviors. The second discusses parents' behaviors towards their child's school. The third dives into parents' time and pecuniary investments, especially as it pertains to trade-offs.

[8] In interviews with district officials, a recently retired district administrator said that there have been times when the district would slightly move the predetermined threshold upward as a result of last minute seat or budget limitations, and always to allow a few less students in than anticipated. However, there is no qualitative evidence that either students, teachers, or administrators were able to change the scores themselves. This does not invalidate the RDD, but it does mean that over time there might be evidence of bunching just under the threshold. For instance, if many students scored the exact same raw score, the district may choose to not offer seats to all of those students rather than to all those students. Over time, bunching may occur directly under the threshold, along with the perception of manipulation in density figures. However, given that there is no evidence that this is systematically done to include or exclude certain types of students, the assumption should still be valid. Additionally, as mentioned there is little difference in terms of baseline covariates across the threshold, which provides evidence for internal validity.

A Household behaviors

The first outcomes considered are changes in household behaviors. Table 3 reports the overall effects of various behavioral response variables related to parental engagement at home, as based on 2SLS estimates. The first column shows the response variable, which includes the following survey questions, with the collection of possible answers in brackets:

- I speak with my child regularly about their schoolwork. [Never, Rarely, Sometimes, Often]
- I tell my child regularly that I believe in them. [Never, Rarely, Sometimes, Often]
- I take my child to the library to borrow books. [Never, Rarely, Sometimes, Often]
- Do you believe the level of difficulty of assignments is appropriate for your child? [Never, Rarely, Sometimes, Often]
- I help my child with homework. [Never, Rarely, Sometimes, Often]

Columns (2) through (5) presents the survey response from never to often on a four-category scale, each converted to binary variables and ran as linear probability models to facilitate ease of interpretation. For example, if a respondent answered 'never,' it is coded as one under the 'never' outcome, with zeroes otherwise. Each column first shows the point estimate, followed by the standard errors, p-values, and control complier means.

Overall, estimates with the aggregated sample show little difference in parent behaviors between GT and non-GT parents. While the magnitudes of estimates are not substantial, the directions of the coefficients are more informational. Estimates consistently show that student enrollment in GT is negatively associated with parents speaking with child regularly about schoolwork, telling their child they believe in their abilities, bringing the students to the library, and helping the child with homework. They are also less likely to see difficulty of assignments as appropriate for their child. Despite insignificant coefficients, the negative point estimates for 'sometimes' and 'often' and positive estimates for 'never' and 'rarely' may be indicative of a pattern worth investigating.

Examining this issue more deeply, I find that effects on household behaviors are more nuanced based on relevant subgroups. Tables 4 and 5 show estimates for the same dependent variables for non-minority and minority parent subgroups, respectively. The non-minority subgroup are made up of parents of white and Asian students, two groups that combine to make up between 70% to 80% of the District's population. The minority subgroup are made up of parents of black and Hispanic students. Here, we find that the pattern for non-minority parents are more consistent with decreasing effort than being neutral. The patterns of effects for the full sample are primarily driven by white parents. One explanation may be that parents with Asian backgrounds in this context are made up of differing groups, including primarily Chinese, Taiwanese, and Korean descent, but also some from lower income cultural backgrounds such as Vietnamese, Loatian, and Khmer/Cambodian[9]. If we were to subgroup by Asian families, we find that estimates are directionally-similar to white families, though weaker.

While non-minority parents generally drive the direction of the full sample coefficients, minority subgroups depict contrasting results. Estimates for minority parents as presented in table 5 depict minority parents behaving as complements of educational quality. Coefficients for the 'sometimes' or 'often' indicators are mostly positive and significant. The strongest positive effects are for bringing child to library, communicating with child, communicating their belief in child's ability, and homework help. Parents' answers to each of these questions are significantly likely to lean towards answers of 'sometimes/often' rather than 'never/rarely'. Particularly striking is that parents are more than 16 percentage points more likely to say that they *sometimes* "speak to their child daily" and 13 percentage points more likely to say that they *sometimes* "say that they believe in their child's [academic abilities]". Effects on bringing their children to the library and helping with homework are also significant and positive. Overall, results imply that minority parents respond to the GT program with increased effort. Further, the first stage estimates are generally stronger than the second stage effects shown here, implying that there are effects even for those who

[9]While administrative data includes language spoken at home, I cannot see whether families are immigrants of those particular countries.

do not enroll.[10] Effects shown here are robust across RDD bandwidths between 2 through 5 percentile of the exam threshold, and only slightly weaker when expanded beyond a five percentile away. See the 'validity and robustness' section for more details on robustness.

Estimates for the low-income subgroup are shown in 6. The general direction of these results are similar to those of minorities, though not as strong in magnitude or direction. Given that being a minority is correlated with being low-income, similar patterns are to be expected. However, it does show that results differ more along racial lines than along income lines. Unfortunately, the binary nature of the lunch subsidies variable used for the purpose of deriving the 'low-income' variable provides little information into explaining the variation in the outcome variables, and the administrative data do not have household-level income. To investigate the income effects further, student home addresses were matched with American Community Survey census tract median income data (2011-2015 estimates). The results of this analysis show households within the wealthiest quintile of neighborhoods have negative parental engagement responses to in-home variables, especially in terms of homework help, and school-level involvement variables such as attendance of schooling events. In examining households sorted from the wealthiest neighborhoods to poorest neighborhoods, parental behavioral response estimates increase gradually by quintile. This pattern supports heterogeneous effects in parental engagement by income, with wealthier households behaving as substitutes to educational quality and lower-income households aligning with a complementary view.

Household behavior results also align with informal teacher interviews conducted. In speaking with three teachers of gifted students at the school, two of them remarked that that there might be variation in how parents respond to their child being identified as gifted. A teacher who previously taught third grade (which is when parents receive offers for GT enrollment) remarked that she finds that minority parents become more passionate about their child's education when they find out about a child's giftedness, whereas many white parents seem to already know or assume that their child is gifted. She also noted that the

[10] Additional analysis and information on parental beliefs is given in the mechanism section

school receives a lot more appeals from white parents than minority parents when children do not receive offers, although specific numbers could not be provided. The statements mentioned by these teachers depict the importance of information and belief formation on student abilities.

The general patterns are also corroborated by two additional analysis I conducted to study heterogeneity: household language and parent education. Several major languages are spoken in the district, including English, Chinese, Korean, Spanish, and Hindi. The District requests the parent's language preference during the registration process. The engagement survey itself is translated into several languages such that a large majority of parents are able to obtain a form in their first language. In conducting an analysis by household language, I find that families whose first language is not English show stronger positive effects relative to those whose household language is English, with the strongest effects coming from Hispanic speakers. There are mixed results for speakers of the Asian languages. In the analysis by parental education, adult education levels at the census tract level was merged to each family's residence. I find suggestive evidence that higher educated parents show more negative effects, whereas those with lower education have more positive effects.

B Parent behaviors toward schools

The second set of outcomes considered are survey variables relating to parent behaviors toward their child's school. Table 7 presents estimates for the full sample of parents around the threshold, table 8 for non-minority parents, table 9 for minority parents, and table 10 for low-income parents. The dependent variables shown, along with possible answers in brackets, are:

- During the past semester, how often did you help out/volunteer at your child's school? [Never, Rarely, Sometimes, Often]
- During the past semester, how often do you feel like you have sufficient information from your school regarding your child's academic progress? [Never, Rarely, Sometimes, Often]

- During the past semester, how often do you feel like you have sufficient information from your school regarding how to be engaged in your child's education? [Never, Rarely, Sometimes, Often]
- During the past semester, how often do you feel like you have sufficient information from your school regarding meetings and events? [Never, Rarely, Sometimes, Often]
- During the past semester, I have spoken with my child's teacher. [Never, Rarely, Sometimes, Often]
- During the past semester, I have attended a school or class event/meeting. [Never, Rarely, Sometimes, Often]
- During the past semester, I have attended a formal school meeting. [Never, Rarely, Sometimes, Often]

Results paint a similar story to household behaviors. Non-minority parents behave as (slight) substitutes to school quality and minorities with complementary tendencies. Low-income parents have similar directional patterns and smaller magnitudes than minority parents. For minority parents, the strongest positive impacts of GT enrollment are on information related to student progress, information on school events, and speaking with teachers. These actions should seemingly be correlated, as one can imagine consistent communication between parent and teacher would lead to better information. However, one weakness of these estimates is that I cannot distinguish between the actions of parents and teachers. In other words, are minority GT parents engaging with teachers and schools more, or is it a result of the school reaching out to GT parents more often? Results of students engagement surveys shown in the Appendix show that teachers engage more with minority gifted students. For example, minority GT students are more likely to agree that "my teacher believes in my academic abilities" than minority non-GT students. Assuming teachers' behaviors are similar towards parents, teachers may be more willing to spend time engaging with GT parents than non-GT parents.

C Time and Pecuniary Investment Trade-offs

To provide further evidence, I examine the trade-off between the questions 'how often do you help your children with homework' and 'In the past year, have you paid for tutoring services for your child?' Using the entire population of students in the fourth grade, the overall correlation between these variables are slightly positive (0.11) for the entire available sample of students, indicating that in general parents who tend to help with their child's homework also provide more tutoring services for their children. On the contrary, the regression discontinuity sample show a slightly negative (-0.09) correlation, indicating that families closer to the threshold may have trade-offs between investing time and investing money in their children's studies. This correlates with results from the survey. Parents across all schools and student types have a control complier mean of 2.01 on the homework help question, whereas parents within the regression discontinuity threshold have a mean of 2.39[11]. A simple t-test shows that this difference is significant at the 1% level, indicating that parents of high-achieving students are already helping their child with homework more than the general student population. Therefore, it seems that parents close to the threshold are likely face more time constraints and therefore have more of a need to trade off in-home help for tutoring.

Table 11,12, and 13 presents the effect estimates on tutoring for all GT student types, non-minorities, and minorities, respectively. The dependent variables considered here includes variables on whether parents help with homework, the self-reported hours parents help with homework per week, whether parents paid for tutoring, the number of paid tutoring hours per week conditional on paying for tutoring, whether the student received free tutoring, the number of hours of free tutoring per week received conditional on receiving any free tutoring, and total tutoring hours.

When the full sample of parents at the margins are included, effects for paid tutoring, paid tutoring hours, and total tutoring hours are positive. However, effects are clearer when

[11] There is little practical meaning to the control complier means for survey questions, since it is coded as a one if parents state 'never,' a two if 'rarely,' a three if 'sometimes,' and a four if 'often'. However, we can interpret a higher mean as an implication that parents spend more time helping child with homework.

broken down by racial subgroups. Here, we find that non-minorities generally help their children less with homework at home, but substantially increase the amount of paid tutoring. Non-minorities do not increase on the amount of free tutoring significantly. Minority parents increase their amounts of homework help, consumption of paid tutoring, and consumption of free tutoring. Specifically, free tutoring hours increase by 1.2 hours a week on average from a control complier mean of 0.724 hours. Paid tutoring hours increased by 0.78 hours from 1.13 hours.

The tutoring results corroborates the experience of teachers I interviewed. Specifically, while tutoring opportunities are available for all students, teachers note that there is an emphasis for teachers to advertise free tutoring services at the elementary schools to gifted students. Tutoring sessions are generally taught by local high school students and older volunteers who have availability. The sessions are generally done to ensure that students do not fall behind. However, the take up of free tutoring services is substantially higher for minority students than non-minority students, consistent with the effects.

Crucial to this analysis is the apparent contrast in homework and tutoring investments between minority parents and non-minority parents. Non-minority parents help students with homework less as a result of the GT program, but substantially increase the number of hours dedicated to paid tutoring. From a control complier mean of 1.3 hours per week in paid tutoring, non-minorities increase this amount by 0.54 hours per week when enrolled in the GT program. This is consistent with parental behaviors as parental behaviors inside the home and towards the school.

VII Validity and Robustness

When underlying assumptions hold, regression discontinuity tends to have the highest internal validity among quasi-experimental methods, thus producing credible causal estimates at the margins of the threshold. The most relevant assumptions are the lack of manipulation of treatment status and the continuity of observable variables. Beyond these assumptions,

there are three potential internal validity issues that must be examined further.

The first potential issue is the control group. In this study's context, non-GT student share the same classrooms as GT students. If students from the control group are assigned to classrooms such that an inordinate share are placed in classrooms with GT students, and those classrooms are systematically different from regular classrooms in some observable or unobservable way, there is the potential for estimates to be biased. For example, if GT classrooms consistently have better teachers and control group students consistently received classroom placements with gifted clusters, then one may expect control group students to have better outcomes. This could attenuate effect estimates for the GT students. To test this possibility, I run exploratory regressions by restricting specifications to the control group and estimating coefficients by comparing the baseline covariates of control group students inside gifted classrooms to those outside gifted classrooms. In other words, I compare the "balance" in outcomes across different classroom types for the control group. There were no significant differences in baseline covariates.

The second issue is robustness. All primary outcomes were examined using regressions with varying optimal bandwidths, bandwidths, and kernel weights. For optimal bandwidths, by default I estimated optimal bandwidths using the procedure from Calonico, Cattaneo and Titiunik (2014). I also utilized the procedure proposed by Imbens and Kalyanaraman (2012) and noted very little differences in optimal bandwidths and estimates. Optimal bandwidths vary slightly by outcome, but it is usually between 2 to 2.5 percentile points away from the cutoff. Additionally, bandwidths of three, four, and five, and six percentile points away from the testing threshold were examined. Estimates are consistent at thresholds up to five percentile points away, but weaken after that and only when using a uniform kernel. By default I utilized triangular kernel weights, which weighs observations closer to the threshold more than those further from the threshold, for all my specifications. As mentioned, I also tested uniform weights and obtained consistent estimates up to five percentile points away. Standard errors are clustered at the third grade school level.

The third issue stems from the regression discontinuity design. While one can interpret

2SLS coefficients as the treatment-on-the-treated effect for the treatment group relative to the control group, a positive coefficient does not require that the program increased treated student outcomes relative to the control group. An alternate hypothesis is that control group outcomes decreases due to a lack of treatment. For example, minority parents increase homework help if their child is in the GT program. However, due to the nature of the RDD design, it is possible that minority parents of GT students do not increase homework help at all; Instead, non-GT peers may decrease the amount of homework help received.

The fourth major limitation is that the regression discontinuity framework, by its nature, will only generalize to students who are just above and just below the discontinuous cutoff. Similarly ,there is also limited external validity when compared to other GT programs. In particular, the structure of the program combines gifted and non-gifted students in the same classroom, which is a less common practice in many areas outside of California, so effects may be differ based on program context and structure.

The fifth concern is that parents' self-reported data could be unreliable. In particular, parents may not perceive their own actions in the same manner as their children. For example, a parent could feel that they help their child with homework a lot, whereas their child does not believe so. To check this, table 15 describes the impact of the GT program on students' perception of their parents by subgroups of interest. These are estimated from the student version of the engagement survey. Here, I show three indicators, which are "My parents care a lot about me," "My parents believe that I can do my best work," and "My parents always help me with homework" in column 6. While coefficients are generally smaller in magnitude and significance when compared to the results from parent engagement surveys, they point in the similar directions. In particular, the variable with the strongest correlative result is the 'time helping with homework' variable.

VIII Discussion

In the debate of whether parents behave as complements or substitutes to educational quality, the heterogeneous results point towards a more nuanced conclusion. In the context of the identification for gifted and talented programs, parents across demographics behave as neither purely complements nor substitutes when education quality is increased. Instead, the evidence presented here shows that it greatly depends on demographic and cultural backgrounds.

In the results presented, there is evidence that non-minority parents do not increase, and often decrease, their levels of effort. Minorities and low-income parents increase their effort, especially in-home efforts such as homework help. After a child is identified as gifted, non-minority parents tend to spend less time on homework help and increase their levels of tutoring for their children, thus trading off home-based homework help for external tutoring. Minorities and low-income parents increase their levels of both homework time investments and tutoring investments.

A Mechanisms

There is a multitude of possible reasons which may explain these results, either in full or in part. A first reason is parental beliefs of child's ability may change as a result of an offer into GT. Recent research has shown that parents' investments and engagement level may be driven by information and beliefs into their children's ability and effort levels (Bergman, forthcoming; Dizon-Ross, 2019). Such behaviors could explain some of the language differences, given that report cards and information sent home is not always translated into the household's preferred language. Under such circumstances, parents may have inaccurate beliefs about their child's ability, and therefore update their beliefs based on whether a child receives an offer of enrollment in the GT program. Since the median income of non-English speaking households is substantially lower than English speaker in this context, the results would be consistent with the findings of Dizon-Ross (2019), who finds in Malawi

that "poorer parents have less accurate beliefs than richer, more-educated parents, and often respond more to information."

I can examine this mechanism further. When students are in third grade, their parents take a parent engagement survey similar to the survey analyze previously toward the end of the year. At that point, parents have the GT offers or rejections in hand for approximately a month. One way to measure the change in this shock is to examine whether parental beliefs in their children shifts as a result of the offer. Table 14 presents estimates[12] for the question "I tell my child regularly that I believe in them" when parents were asked in the third grade by race. Two observations are notable. First, there are no significant impacts for non-minority parents. Second, there are significant positive impacts for minority parents. The evidence supports the notion that minority parents experience more shock in their beliefs about child ability than non-minority parents when their child receives an offer.

A second mechanism is that background and culture, which includes past experiences and current beliefs, may drive differences between parents in how they view their role in their child's education. While theoretical, Hornby and Lafaele (2011) provides a useful model of parental involvement which includes a discussion of how parental ethnicity, gender, and contexts may be one indicator of how parents approach engaging with their child's education.

A third explanation is that resources drive participation, time, and pecuniary decisions. An illustrative framework could be useful here. In a labor supply context, parents may change their own efforts ("labor") along intensive (time spent) or extensive (participation decision) margins. Under a scenario where parents are able to increase their their production (e.g., engaging with their child's education) within time and pecuniary constraints, they choose to increase labor supply along the intensive margin. If instead parents are reaching the limits of those constraints, they may choose to hire external services to help out, thereby either deciding to not or minimally participate in their child's education and/or decreasing labor along the intensive margin. From this perspective, I would argue that parents may generally

[12]For these estimates, the number of observations is much lower than the main tables. When the district allowed access to the data, they noted that for the years I was interested in the surveys were entirely on paper and needed to be inputted manually. Knowing that resources and time were limited and contributing to the fact that the survey were sorted by school, the research assistant and I randomized the schools we would collect data from. In all, we collected data for 33% of schools only for a few questions deemed necessary along with the identifiable information.

view their role as complementary to education, yet due to constraints must make choices to allocate the amount of various efforts related to those roles.

A fourth explanation could be non-linearities in the manner by which parents invest. For example, low socioeconomic parents could increase investments at the point when they find out their child has a realistic opportunity to attend college or a better college than they previously believed. In contrast, wealthier parents could be more sensitive to perceived school inputs and invest more when perceived school inputs are lower, but rely much more on school inputs once their child has better educational quality. A final explanation could be the differentiated nature of student demand. In a case where minority students possess personal preferences that demand additional parental inputs under improved quality, students themselves could be a driver of increased parental investments.

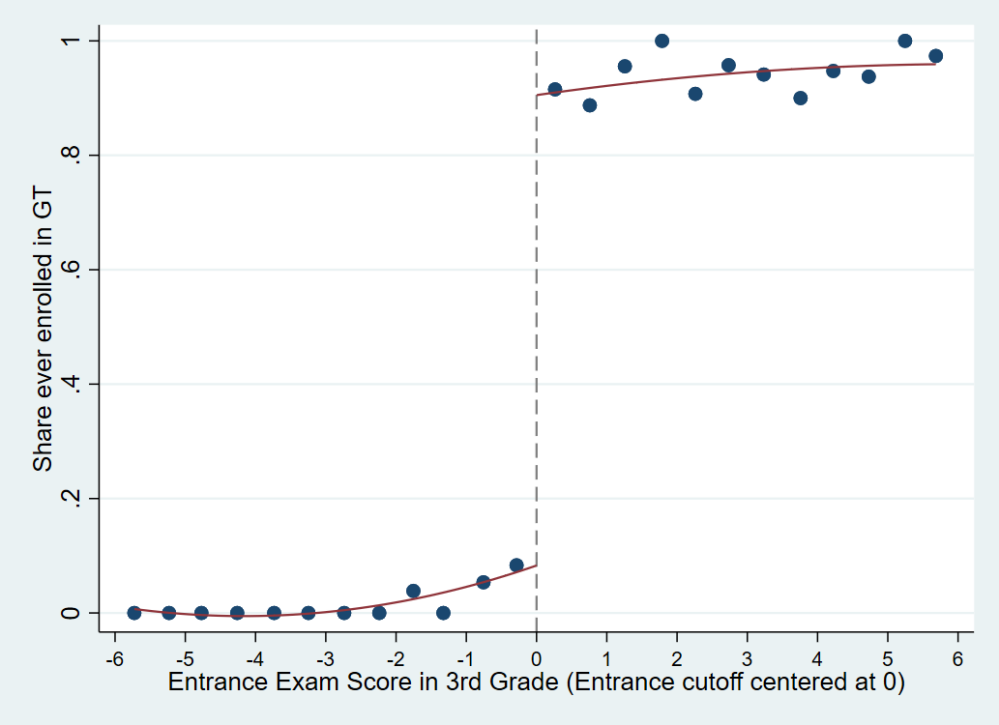
IX Conclusions

Using a fuzzy regression discontinuity framework, this paper estimates the parental time and pecuniary investment effects of a GT program in a context where gifted students are clustered in a group of six to eight students among mainstream classrooms in California. Parent survey results show little aggregate effects on multiple in-home measures, such as helping with homework, speaking to child daily about school, and telling the student that they believe in their abilities. However, there are clear and strong heterogeneity in effects. On one hand, non-minority parents do not exert additional effort, and often decrease engagement and investments, toward their children's education. On the other hand, minorities and low-income families see strong positive effects in parental engagement and tutoring investments. In terms of homework help, non-minority parents lowers in-home effort and increase external tutoring, whereas low socioeconomic parents do the opposite. The conclusions of this study contrasts with Pop-Eleches and Urquiola (2013), who find that parents in Romania behave more as substitutes when education quality increases. However, the context of this study is more heterogeneous in demographics and culture, allowing for analysis of relevant subgroups.

Additionally, exploratory evidence shows that parental beliefs is a primary mechanism for driving effects. This is consistent with literature showing that parental beliefs of a child's abilities can lead to changes in behaviors (Bergman, forthcoming; Dizon-Ross, 2019).

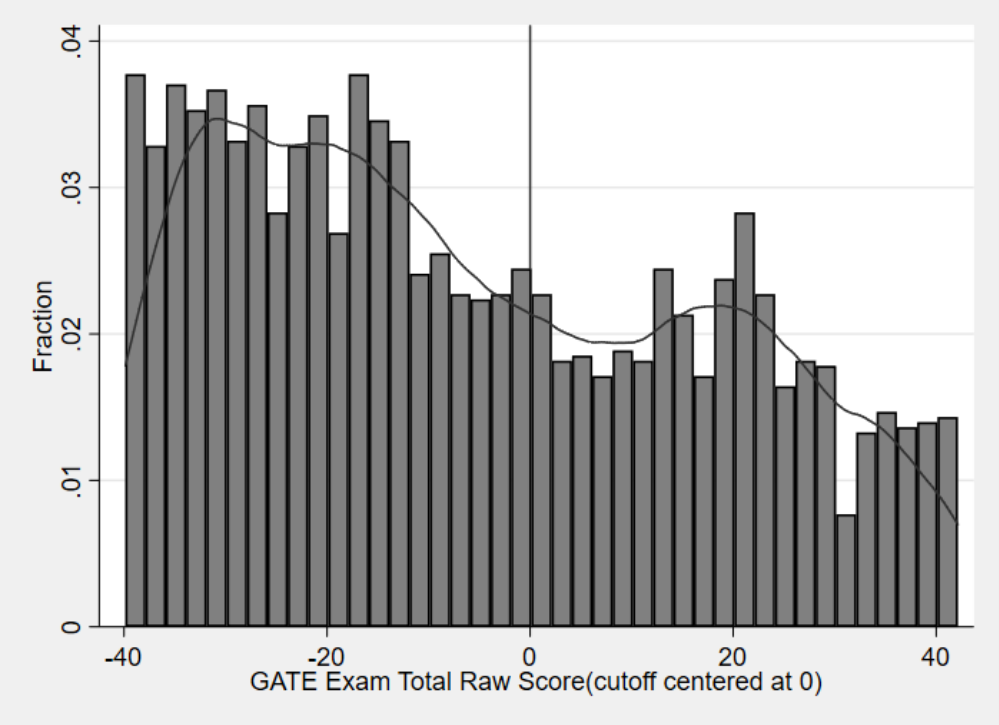
The importance of this study is predicated on the limited evidence regarding parental responses to educational quality. This is especially crucial for the school quality literature estimating impacts on the mechanisms that drive net direct effects. My results support the case that minority and low-income parents may be more positively impacted by the identification of their child being labeled as gifted. The policy implication of this research is that families react differently toward their children being identified as gifted. While high SES and non-minority parents treat their role as more substitutionary to education quality, low SES and minority parents behave as if their role is more complementary. By providing a more nuanced picture into the heterogeneity that may exist in how parents view their role, this research also provides a starting point for districts and policymakers to adjust their expectations for GT and education quality programs. Along with Card and Giuliano (2016), who finds that test scores improve more for black, Hispanic, and lower-income students, a case can be made for the inclusion of minorities at the exam margin. This is especially crucial due to the under-representation of minorities in GT programs (Grissom and Redding, 2015; Card and Giuliano, 2015).

Figure 1: Probability of GT Enrollment, Students close to the cutoff



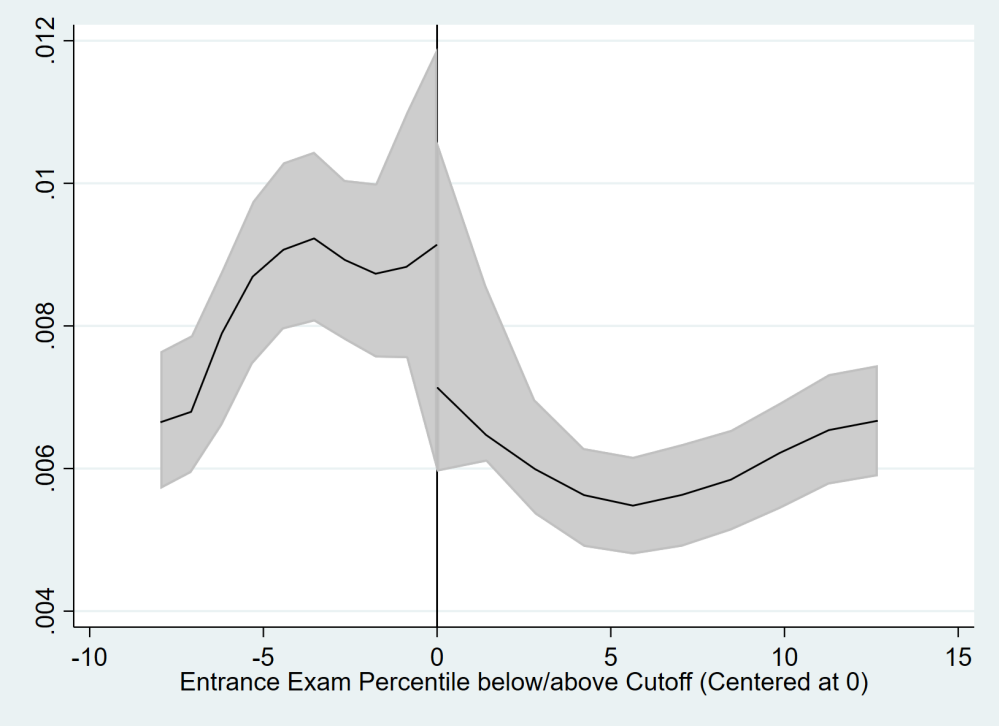
This figure shows the probability of enrollment by the GT exam percentile. The running variable is the exam score percentile from having taken the exam in the third grade, with the cutoff centered at 0. Only students who took the exam in the third grade from 2001-02 through 2015-16 are included in this chart, which represents about 96%+ of all who ever took the exam.

Figure 2: GT Exam Scores around Threshold, Histogram



This figure shows the raw exam scores for the assignment variable. Assignment variable is centered at zero, the threshold for GT offer.

Figure 3: GT Exam Scores around Threshold, Density Plot



This figure shows the density plot raw exam scores for the assignment variable. Assignment variable is centered at zero, the threshold for GT offer. At the 95% confidence level, there is insufficient evidence to reject the null hypothesis that there are significant differences between test scores below and above the threshold.

X Tables

Table 1: Summary Statistics

Variable	(1) All Students	(2) Enrolled in GT	(3) RDD Sample
Female	0.51	0.54	0.53
Hispanic	0.19	0.12	0.15
Black	0.07	0.02	0.04
White	0.25	0.26	0.27
Asian	0.46	0.53	0.51
English Learner	0.22	0.11	0.11
Special Education	0.05	0.01	0.01
Subsidized Lunch	0.20	0.14	0.15
Baseline ELA (Standardized)	0.00	1.32	1.25
Baseline Math (Standardized)	0.00	1.33	1.26
Baseline Attendance	0.86	0.93	0.93
Adults in Home	1.71	1.81	1.81
Observations	157,222	12,241	12,472

This table shows the demographics of (1) all sample students who have sat for the gifted identification exam from 2001-02 through 2015-16, (2) students ever enrolled in GT for students for any period from school year 2001-02 through 2015-16, and (3) the primary RDD sample for students who were enrolled in GT for any period from school year 2001-02 through 2015-16. Note that, going forward, optimal bandwidths may vary slightly depending on outcome in question. RDD Sample is measured by optimal bandwidth using Calonico, Cattaneo and Titiunik (2014) procedure for all students who could theoretically be included in Table 3 for responding to the parent survey.

Table 2: Covariate Balance Across Threshold

Variable	(1) Above Cutoff Mean	(2) Difference	(3) P-value	(4) Observations
Female	0.53	0.01	0.21	12,472
Hispanic	0.14	-0.01	0.19	12,472
Black	0.04	0.00	0.35	12,472
White	0.27	-0.02	0.10	12,472
Asian	0.52	0.01	0.25	12,472
English Learner	0.12	-0.02	0.07	12,472
Special Ed	0.01	0.00	0.78	12,472
Subsidized Lunch	0.15	-0.01	0.19	12,472
Baseline ELA	1.25	-0.02	0.17	11,889
Baseline Math	1.27	-0.01	0.34	11,907
Baseline Attendance	0.93	-0.01	0.93	12,340
Adults in Home	1.81	0.00	0.94	12,472
Parent Survey Response	0.67	-0.01	0.73	12,472
Student Survey Response	0.82	0.00	0.80	12,472

This table shows the differences in summary statistics of baseline covariates for the primary RDD sample for students who were enrolled in GT for any period from school year 2001-02 through 2015-16. Column 1 shows the RDD above-cutoff mean, whereas Column 2 shows the below cutoff subtracted from above cutoff mean. Note that, going forward, optimal bandwidths vary slightly depending on outcome in question. RDD Sample is measured by optimal bandwidth using Calonico, Cattaneo and Titiunik (2014) procedure for fourth grade math exam.

Table 3: Parents In-Home Behavior Effects: All Parents

Variable	Never	Rarely	Sometimes	Often	N
speak w/ child	0.003	0.068	-0.042	-0.052	8,495
S.E.	0.030	0.042	0.042	0.035	
p-value	0.931	0.109	0.317	0.134	
CCM	0.114	0.317	0.392	0.170	
believe in child	-0.008	0.078	0.004	-0.080*	8,472
S.E.	0.030	0.051	0.042	0.045	
p-value	0.787	0.127	0.930	0.074	
CCM	0.141	0.364	0.262	0.227	
library	0.026	0.134*	-0.060	-0.100*	8,551
S.E.	0.033	0.055	0.045	0.049	
p-value	0.437	0.074	0.182	0.080	
CCM	0.162	0.212	0.387	0.231	
assignment level	0.029	0.015	-0.024	-0.057	8,533
S.E.	0.027	0.044	0.051	0.035	
p-value	0.274	0.730	0.635	0.101	
CCM	0.101	0.347	0.414	0.131	
hw help	0.056	0.014	-0.052	-0.019	8,459
S.E.	0.047	0.045	0.046	0.031	
p-value	0.234	0.758	0.258	0.545	
CCM	0.229	0.278	0.353	0.132	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "I speak with my child regularly about their schoolwork", "I tell my child regularly that I believe in them", "I take my child to the library to borrow books", "Do you believe that the level of difficulty of assignments is appropriate for your child", and "I help my child with their homework". Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). All estimates are RDD estimates with robust standard errors clustered at the third-grade school level. CCM is the complier control mean.

Table 4: Parents In-Home Behavior Effects: Non-Minorities Subgroup

Variable	Never	Rarely	Sometimes	Often	N
speak w/ child	0.005	0.062*	-0.264**	-0.038*	6,873
S.E.	0.028	0.038	0.128	0.023	
p-value	0.862	0.081	0.043	0.095	
CCM	0.116	0.311	0.385	0.181	
believe in child	-0.006	0.057	0.007	-0.089*	6,856
S.E.	0.033	0.052	0.174	0.046	
p-value	0.860	0.274	0.968	0.052	
CCM	0.147	0.382	0.245	0.218	
library	0.022	0.125**	-0.880**	-0.102*	6,922
S.E.	0.034	0.061	0.370	0.055	
p-value	0.523	0.040	0.025	0.064	
CCM	0.150	0.211	0.397	0.242	
assignment level	0.027	0.071	-0.172	-0.071*	6,904
S.E.	0.037	0.057	0.332	0.040	
p-value	0.467	0.209	0.564	0.075	
CCM	0.098	0.348	0.409	0.138	
hw help	0.028	0.067*	-0.070*	-0.022	6,840
S.E.	0.052	0.041	0.040	0.028	
p-value	0.723	0.085	0.072	0.428	
CCM	0.210	0.268	0.353	0.167	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "I speak with my child regularly about their schoolwork", "I tell my child regularly that I believe in them", "I take my child to the library to borrow books", "Do you believe that the level of difficulty of assignments is appropriate for your child", and "I help my child with their homework". Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Analysis was restricted to non-minority subset, which consists of Asian and White students. For the sake of clarity, I excluded all multiracial and non-traditional US minority groups from the racial subgroup analysis. CCM is the complier control mean.

Table 5: Parents In-Home Behavior Effects: Minorities Subgroup

Variable	Never	Rarely	Sometimes	Often	N
speak w child	-0.083	-0.203	0.164**	0.130*	1,422
S.E.	0.071	0.154	0.078	0.083	
p-value	0.342	0.378	0.037	0.081	
CCM	0.138	0.399	0.410	0.065	
believe in child	-0.018	-0.099**	0.127**	0.072	1,416
S.E.	0.063	0.043	0.051	0.097	
p-value	0.772	0.042	0.021	0.414	
CCM	0.088	0.211	0.391	0.302	
library	-0.078	-0.121*	0.160***	0.044	1,429
S.E.	0.102	0.081	0.041	0.065	
p-value	0.525	0.068	0.005	0.256	
CCM	0.255	0.301	0.289	0.146	
assignment level	-0.127*	-0.161	0.131	0.085**	1,429
S.E.	0.070	0.202	0.192	0.036	
p-value	0.064	0.215	0.564	0.017	
CCM	0.126	0.338	0.450	0.077	
hw help	-0.053	-0.119*	0.080**	0.081*	1,419
S.E.	0.075	0.075	0.040	0.048	
p-value	0.698	0.094	0.033	0.088	
CCM	0.127	0.359	0.351	0.154	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "I speak with my child regularly about their schoolwork", "I tell my child regularly that I believe in them", "I take my child to the library to borrow books", "Do you believe that the level of difficulty of assignments is appropriate for your child", and "I help my child with their homework". Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Analysis was restricted to Minorities, which consists of black and Hispanic students. CCM is the complier control mean.

Table 6: Parents In-Home Behavior Effects: Low-Income Subgroup

Variable	Never	Rarely	Sometimes	Often	N
speak w/ child	0.038	-0.165***	0.264	0.068	1,199
S.E.	0.056	0.044	0.228	0.097	
p-value	0.491	0.001	0.247	0.485	
CCM	0.122	0.329	0.370	0.166	
believe in child	-0.061	-0.215**	0.007	-0.045	1,208
S.E.	0.114	0.100	0.074	0.089	
p-value	0.592	0.031	0.968	0.611	
CCM	0.147	0.236	0.409	0.196	
library	-0.041	-0.064	0.080**	-0.019	1,215
S.E.	0.108	0.130	0.031	0.089	
p-value	0.701	0.621	0.015	0.833	
CCM	0.172	0.308	0.287	0.220	
assign level	-0.081	-0.008	0.121	0.034	1,213
S.E.	0.093	0.110	0.112	0.031	
p-value	0.384	0.945	0.764	0.273	
CCM	0.121	0.358	0.409	0.100	
hw help	-0.097	-0.131*	0.067	0.095**	1,198
S.E.	0.080	0.076	0.060	0.041	
p-value	0.224	0.057	0.723	0.020	
CCM	0.142	0.377	0.349	0.120	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "I speak with my child regularly about their schoolwork", "I tell my child regularly that I believe in them", "I take my child to the library to borrow books", "Do you believe that the level of difficulty of assignments is appropriate for your child", and "I help my child with their homework". Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Analysis was restricted to low-income (free or reduced price lunch) subset. CCM is the complier control mean.

Table 7: Parents In-School Behavior Effects: All Parents

Variable	Never	Rarely	Sometimes	Often	N
volunteer	0.042	0.035	-0.013	-0.051	8,512
S.E.	0.038	0.041	0.046	0.041	
p-value	0.266	0.387	0.782	0.215	
CCM	0.201	0.310	0.275	0.207	
information - progress	-0.008	0.015	-0.029	-0.024	8,534
S.E.	0.018	0.043	0.049	0.052	
p-value	0.655	0.735	0.558	0.647	
CCM	0.041	0.250	0.348	0.354	
information - engaged	-0.016	0.066	-0.075*	-0.002	8,525
S.E.	0.039	0.056	0.046	0.018	
p-value	0.680	0.237	0.100	0.927	
CCM	0.231	0.495	0.210	0.056	
information - events	-0.022	0.004	-0.024	0.001	8,527
S.E.	0.049	0.049	0.030	0.026	
p-value	0.649	0.936	0.418	0.963	
CCM	0.358	0.418	0.100	0.116	
spoken w/ teacher	-0.003	0.039	-0.032	-0.013	8,527
S.E.	0.022	0.033	0.046	0.051	
p-value	0.893	0.240	0.487	0.805	
CCM	0.053	0.161	0.333	0.446	
attended event	-0.002	0.048	-0.017	-0.046	8,520
S.E.	0.018	0.047	0.048	0.045	
p-value	0.904	0.299	0.729	0.303	
CCM	0.052	0.287	0.426	0.229	
attended meeting	0.021	-0.001	-0.018	-0.003	8,513
S.E.	0.023	0.039	0.044	0.037	
p-value	0.361	0.976	0.683	0.926	
CCM	0.056	0.301	0.480	0.155	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "During the past semester, how often did you help out/volunteer at your child's school", "During the past semester, how often do you feel like you have sufficient information from your school regarding your child's academic progress", "During the past semester, how often do you feel like you have sufficient information from your school regarding how to be engaged in your child's education", "During the past semester, how often do you feel like you have sufficient information from your school regarding meetings and events", "During the past semester, I have spoken with my child's teacher", "During the past semester, I have attended a school or class event/meeting", and "During the past semester, I have attended a formal school meeting." Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). CCM is the complier control mean.

Table 8: Parents In-school Behavior Effects: Non-Minorities Subgroup

Variable	Never	Rarely	Sometimes	Often	N
volunteer	0.058	0.032	-0.014	-0.081*	6,883
S.E.	0.053	0.043	0.043	0.049	
p-value	0.274	0.448	0.746	0.095	
CCM	0.192	0.306	0.275	0.220	
information - progress	0.008	0.030	-0.069	-0.038	6,877
S.E.	0.020	0.043	0.051	0.052	
p-value	0.688	0.494	0.173	0.462	
CCM	0.039	0.247	0.341	0.366	
information - engaged	-0.024	-0.063	-0.070	-0.001	6,881
S.E.	0.047	0.060	0.048	0.020	
p-value	0.605	0.292	0.141	0.946	
CCM	0.233	0.491	0.213	0.057	
information - events	0.027	0.006	-0.012	-0.012	6,872
S.E.	0.047	0.054	0.028	0.032	
p-value	0.569	0.918	0.660	0.701	
CCM	0.353	0.417	0.102	0.121	
spoken w/ teacher	0.007	0.052	-0.099*	-0.035	6,900
S.E.	0.022	0.038	0.055	0.056	
p-value	0.768	0.174	0.071	0.526	
CCM	0.053	0.152	0.330	0.458	
attended event	-0.008	0.040	-0.011	-0.044	6,885
S.E.	0.016	0.048	0.054	0.049	
p-value	0.606	0.406	0.834	0.376	
CCM	0.044	0.285	0.423	0.240	
attended meeting	0.005	-0.009	0.008	-0.002	6,883
S.E.	0.025	0.044	0.046	0.038	
p-value	0.832	0.843	0.868	0.964	
CCM	0.051	0.296	0.487	0.158	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "During the past semester, how often did you help out/volunteer at your child's school", "During the past semester, how often do you feel like you have sufficient information from your school regarding your child's academic progress", "During the past semester, how often do you feel like you have sufficient information from your school regarding how to be engaged in your child's education", "During the past semester, how often do you feel like you have sufficient information from your school regarding meetings and events", "During the past semester, I have spoken with my child's teacher", "During the past semester, I have attended a school or class event/meeting", and "During the past semester, I have attended a formal school meeting." Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Analytical sample restricted to non-minority students, which consists of Asian and White students. CCM is the complier control mean.

Table 9: Parents In-school Behavior Effects: Minorities Subgroup

Variable	Never	Rarely	Sometimes	Often	N
volunteer	-0.121	-0.063	0.035	0.167	1,423
S.E.	0.102	0.134	0.136	0.166	
p-value	0.764	0.840	0.795	0.333	
CCM	0.266	0.341	0.278	0.107	
information - progress	-0.074	-0.098**	0.091***	0.057**	1,427
S.E.	0.057	0.041	0.030	0.022	
p-value	0.440	0.787	0.000	0.011	
CCM	0.057	0.278	0.400	0.258	
information - engaged	-0.128***	0.176	0.104	0.010	1,421
S.E.	0.043	0.183	0.112	0.019	
p-value	0.004	0.337	0.352	0.609	
CCM	0.223	0.531	0.187	0.050	
information - events	0.031	-0.028	0.181*	-0.320	1,421
S.E.	0.169	0.122	0.117	0.279	
p-value	0.857	0.819	0.033	0.252	
CCM	0.397	0.428	0.084	0.083	
spoken w/ teacher	-0.018	-0.078	0.141**	0.032	1,420
S.E.	0.034	0.105	0.062	0.101	
p-value	0.592	0.709	0.138	0.016	
CCM	0.055	0.233	0.352	0.351	
attended event	-0.223*	0.060	0.035	0.077	1,418
S.E.	0.119	0.116	0.128	0.086	
p-value	0.061	0.603	0.782	0.371	
CCM	0.109	0.295	0.445	0.142	
attended meeting	-0.190**	0.075	0.145	0.014	1,419
S.E.	0.089	0.112	0.109	0.099	
p-value	0.033	0.501	0.215	0.888	
CCM	0.091	0.341	0.428	0.131	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "During the past semester, how often did you help out/volunteer at your child's school", "During the past semester, how often do you feel like you have sufficient information from your school regarding your child's academic progress", "During the past semester, how often do you feel like you have sufficient information from your school regarding how to be engaged in your child's education", "During the past semester, how often do you feel like you have sufficient information from your school regarding meetings and events", "During the past semester, I have spoken with my child's teacher", "During the past semester, I have attended a school or class event/meeting", and "During the past semester, I have attended a formal school meeting." Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Analytical sample restricted to minorities. CCM is the complier control mean.

Table 10: Parents In-school Behavior Effects: Low-Income Subgroup

Variable	Never	Rarely	Sometimes	Often	N
volunteer	-0.030	-0.066	0.185	-0.082	1,199
S.E.	0.090	0.103	0.113	0.085	
p-value	0.739	0.523	0.102	0.333	
CCM	0.222	0.316	0.272	0.177	
information - progress	0.024	-0.120	0.211*	0.077	1,200
S.E.	0.033	0.099	0.122	0.118	
p-value	0.469	0.228	0.086	0.516	
CCM	0.050	0.258	0.335	0.345	
information - engaged	-0.105	0.011	0.138	-0.002	1,211
S.E.	0.091	0.118	0.101	0.034	
p-value	0.251	0.928	0.169	0.958	
CCM	0.248	0.477	0.213	0.050	
information - events	-0.038	-0.057	0.058	0.101**	1,210
S.E.	0.114	0.121	0.087	0.043	
p-value	0.736	0.640	0.505	0.019	
CCM	0.321	0.451	0.115	0.101	
spoken w/ teacher	-0.037	-0.165**	0.168*	0.086*	1,197
S.E.	0.071	0.065	0.097	0.046	
p-value	0.606	0.041	0.083	0.092	
CCM	0.057	0.188	0.277	0.466	
attended event	-0.099	0.061	0.044	-0.017	1,193
S.E.	0.073	0.128	0.125	0.077	
p-value	0.173	0.634	0.724	0.821	
CCM	0.071	0.303	0.430	0.184	
attended meeting	-0.043	-0.110	0.136	0.047	1,196
S.E.	0.066	0.107	0.130	0.052	
p-value	0.518	0.304	0.295	0.371	
CCM	0.058	0.311	0.487	0.132	

Notes: Data from District's parent engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "During the past semester, how often did you help out/volunteer at your child's school", "During the past semester, how often do you feel like you have sufficient information from your school regarding your child's academic progress", "During the past semester, how often do you feel like you have sufficient information from your school regarding how to be engaged in your child's education", "During the past semester, how often do you feel like you have sufficient information from your school regarding meetings and events", "During the past semester, I have spoken with my child's teacher", "During the past semester, I have attended a school or class event/meeting", and "During the past semester, I have attended a formal school meeting". Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Analytical sample restricted to low-income (free or reduced lunch) students. CCM is the control complier mean.

Table 11: Effects on Parental Tutoring Investments: All Students

Variable	CCM	Coefficient	S.E.	P-Value	N
parent hw help	2.391	-0.154	0.106	0.144	8,459
parent help hw hrs	2.053	0.170	0.154	0.269	8,453
tutoring - paid	0.419	0.124**	0.051	0.015	8,352
tutoring paid hrs	1.282	0.418**	0.182	0.022	3,500
tutoring - free	0.208	0.003	0.041	0.940	8,308
tutoring free hrs	0.657	0.005	0.086	0.949	1,728
tutoring total	1.610	0.408**	0.185	0.018	3,500

Notes: Data from District Survey Administrative Data. By row, they show the estimates for how often parents help their child with homework at home (a categorical variable where strongly disagree is 1 and strongly agree is 4, the weekly amount of hours they help with homework, whether they purchased tutoring for their child, the amount of hours paid per week on average (conditional on paid tutoring), whether free tutoring was obtained for the child,the amount of free tutoring obtained in hours per week (conditional on free tutoring), and the total hours of tutoring per week (conditional on any tutoring).CCM is the control complier mean.

Table 12: Effects on Parental Tutoring Investments: Non-Minority Students

Variable	CCM	Coefficient	S.E.	P-Value	N
parent hw help	2.470	-0.184*	0.107	0.086	6,840
parent hw help hrs	2.055	-0.150	0.173	0.385	6,837
tutoring - paid	0.421	0.239***	0.064	0.000	6,833
tutoring paid hrs	1.301	0.536***	0.197	0.004	2,928
tutoring - free	0.207	0.026	0.047	0.585	6,756
tutoring free hrs	0.648	0.059	0.094	0.533	1,440
tutoring total	1.621	0.491**	0.202	0.017	6,834

Notes: Data from District Survey Administrative Data. By row, they show the estimates for how often parents help their child with homework at home (a categorical variable where strongly disagree is 1 and strongly agree is 4, the weekly amount of hours they help with homework, whether they purchased tutoring for their child, the amount of hours paid per week on average (conditional on paid tutoring), whether free tutoring was obtained for the child,the amount of free tutoring obtained in hours per week (conditional on free tutoring), and the total hours of tutoring per week (conditional on any tutoring). CCM is the complier control mean.

Table 13: Effects on Parental Tutoring Investments: Minority Students

Variable	CCM	Coefficient	S.E.	P-Value	N
parent hw help	2.320	0.380**	0.152	0.020	1,419
parent hw help hrs	2.044	0.656**	0.287	0.042	1,398
tutoring - paid	0.297	0.150*	0.083	0.063	1,353
tutoring paid hrs	1.132	0.781**	0.289	0.026	402
tutoring - free	0.114	0.094***	0.021	0.000	1,322
tutoring free hrs	0.724	1.215***	0.327	0.000	151
tutoring total	1.435	0.875***	0.237	0.008	1,357

Notes: Data from District Survey Administrative Data. By row, they show the estimates for how often parents help their child with homework at home (a categorical variable where strongly disagree is 1 and strongly agree is 4, the weekly amount of hours they help with homework, whether they purchased tutoring for their child, the amount of hours paid per week on average (conditional on paid tutoring), whether free tutoring was obtained for the child,the amount of free tutoring obtained in hours per week (conditional on free tutoring), and the total hours of tutoring per week (conditional on any tutoring). CCM is the compier control mean.

Table 14: Effects on Parental Beliefs after Offer or Rejection into GT Program

Variable	CCM	Coefficient	S.E.	P-Value	N
believe (non-minority)	2.116	-0.005	0.105	0.955	2,200
believe (minority)	2.053	0.170**	0.082	0.032	587

Notes: Data from District Survey Administrative Data. By row, they show the estimates for how often they tell their child that they "believe in [their abilities]" (a categorical variable where 'never' is 1 and 'often' is 4) by minority status. CCM is the control complier mean. The interpretation of the outcome variable itself is meaningless, but provides the context for the differences between subgroups. Standard errors are clustered at the third grade school level.

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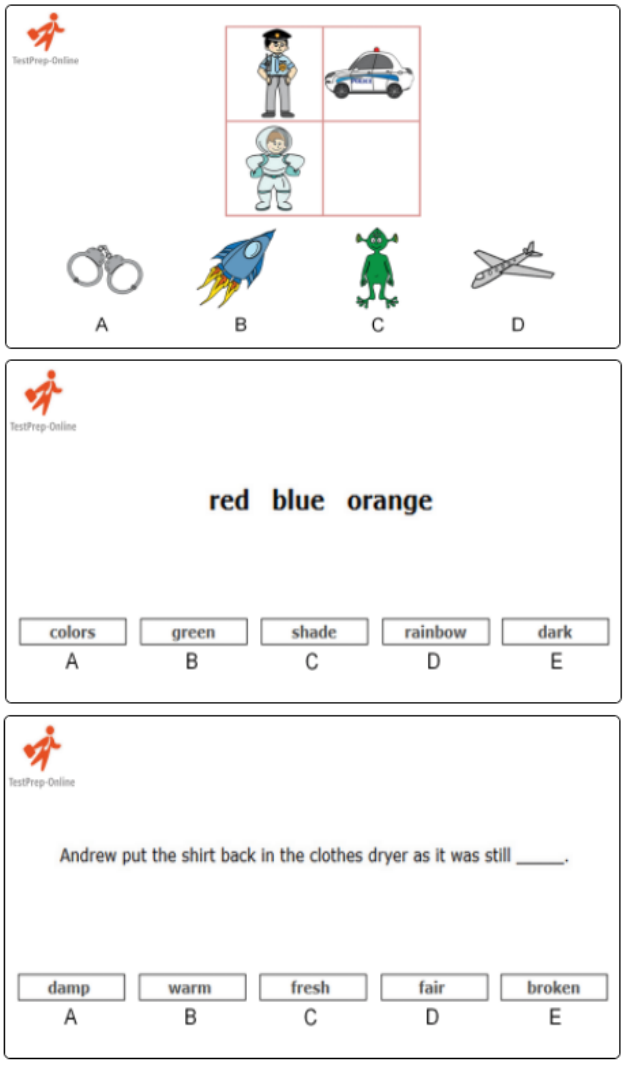
A Appendix

Figure 4: Gift and Talented Exam Assessment, Example Questions



This figure shows example questions from the verbal portion of the CogAT assessment. The questions have to do with picture/verbal analogies, picture/verbal classification, and sentence completion, respectively. The answers are B, B, and A, respectively.

Table 15: Students Behavior Effects: by relevant subgroups

Panel A. All Students					
Variable	Strongly Disagree	Disagree	Agree	Strongly Agree	N
parents care	0.044	0.050	-0.008	-0.099**	10,223
S.E.	0.032	0.040	0.043	0.044	
p-value	0.165	0.208	0.850	0.023	
CCM	0.089	0.215	0.413	0.276	
parents believe	-0.022	0.061	-0.049	-0.000	10,118
S.E.	0.026	0.051	0.051	0.031	
p-value	0.408	0.234	0.341	0.996	
CCM	0.095	0.394	0.344	0.160	
parents help hw	0.009	0.069	-0.079	-0.012	10,112
S.E.	0.038	0.054	0.051	0.028	
p-value	0.813	0.200	0.123	0.670	
CCM	0.264	0.303	0.330	0.096	
Panel B. Minority Students					
Variable	Strongly Disagree	Disagree	Agree	Strongly Agree	N
parents care	-0.051*	-0.066*	0.082***	0.070**	1,841
S.E.	0.033	0.038	0.027	0.028	
p-value	0.066	0.056	0.000	0.015	
CCM	0.079	0.255	0.427	0.231	
parents believe	-0.029	-0.093*	0.007	0.76*	1,837
S.E.	0.061	0.061	0.064	0.047	
p-value	0.630	0.426	0.951	0.084	
CCM	0.081	0.318	0.418	0.175	
parents help hw	-0.192**	0.145*	0.033	0.064	1,835
S.E.	0.076	0.076	0.078	0.070	
p-value	0.023	0.093	0.406	0.361	
CCM	0.154	0.311	0.419	0.108	
Panel C. Low-Income Students					
Variable	Strongly Disagree	Disagree	Agree	Strongly Agree	N
parents care	-0.051	-0.228**	0.464***	0.027	1,499
S.E.	0.077	0.101	0.127	0.102	
p-value	0.510	0.024	0.000	0.792	
CCM	0.094	0.213	0.413	0.267	
parents believe	-0.155*	0.182	0.007	0.077*	1,488
S.E.	0.087	0.112	0.116	0.043	
p-value	0.075	0.103	0.951	0.073	
CCM	0.102	0.423	0.317	0.147	
parents help hw	-0.272***	0.139	0.192	0.014	1,483
S.E.	0.101	0.113	0.188	0.014	
p-value	0.007	0.218	0.306	0.295	
CCM	0.274	0.315	0.328	0.071	

Notes: Data from District's student engagement survey data as responded from parents between 2001 and 2016. Dependent variables are answers from questions (from top to bottom): "My parents care about me a lot", "My parents believes that I can do my best work", and "My parents always help me with homework". Dependent variables are categorical. Thus, a dummy variable was created for each answer type (strongly disagree to strongly agree). Robust standard errors clustered at the third grade class level. CCM is the complier control mean.

Table 16: Parent Engagement Survey Questions

Panel A. Engagement at Home

Question	Possible Answers
I speak with my child regularly about their schoolwork	Never, Rarely, Sometimes, Often
I tell my child regularly that I believe in them	Never, Rarely, Sometimes, Often
I take my child to the library to borrow books	Never, Rarely, Sometimes, Often
Do you believe that the level of difficulty of assignments is appropriate for your child	Never, Rarely, Sometimes, Often
I help my child with their homework.	Never, Rarely, Sometimes, Often
On average, How many hours per week do you help your child with homework?	0 hours , 0+ to 3 hours, 3+ to 6 hours, 6+ hours
In the past year, have you paid for tutoring services for your child?	Yes/No
If so, how many hours/week?	[Fill in the blank]
In the past year, have you obtained free/voluntary tutoring services for your child?	Yes/No
If so, how many hours/week?	[Fill in the blank]

Panel B. Engagement at School

Question	Possible Answers
During the past semester, how often did you help out/volunteer at your child's school?	Never, Rarely, Sometimes, Often
During the past semester, how often do you feel like you have sufficient information from your school regarding:...	
...Your child's academic progress	Never, Rarely, Sometimes, Often
...How to be engaged in your child's education	Never, Rarely, Sometimes, Often
...Meetings and Events	Never, Rarely, Sometimes, Often
During the past semester, I have spoken with my child's teacher	Never, Rarely, Sometimes, Often
During the past semester, I have attended a school or class event/meeting	Never, Rarely, Sometimes, Often
During the past semester, I have attended a formal school meeting	Never, Rarely, Sometimes, Often
During the past semester, my student's teacher communicated with me regularly	Never, Rarely, Sometimes, Often
During the past semester, my student's teacher held high expectations of my child	Never, Rarely, Sometimes, Often

This table shows the relevant questions and possible answers to the parent engagement survey as distributed.

Table 17: Student Engagement Survey Questions

Question	Possible Answers
I always want to do my best work	Strongly Disagree, Disagree, Agree, Strongly Agree
I always finish my assignments for class	Strongly Disagree, Disagree, Agree, Strongly Agree
I make an effort to do my best work inside and outside of class	Strongly Disagree, Disagree, Agree, Strongly Agree
My parents care about me a lot	Strongly Disagree, Disagree, Agree, Strongly Agree
My parents believes that I can do my best work	Strongly Disagree, Disagree, Agree, Strongly Agree
My parents always help me with homework	Strongly Disagree, Disagree, Agree, Strongly Agree
My teacher challenges me to do my best work	Strongly Disagree, Disagree, Agree, Strongly Agree
My teacher believes I can do well in class	Strongly Disagree, Disagree, Agree, Strongly Agree
My teacher spends a lot of time with me	Strongly Disagree, Disagree, Agree, Strongly Agree
My teacher helps me when I have difficulty	Strongly Disagree, Disagree, Agree, Strongly Agree

This table shows the relevant questions and possible answers to the parent engagement survey as distributed.