Educators As "Equity Warriors"

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ABSTRACT

Despite the multifaceted causes of educational disparities, schools' responsibility for reducing inequality undergirds American ideals. Educators operate as street-level bureaucrats to accomplish this equalizing work. Surprisingly, we know little about how teachers think about inequality or enact strategies to combat it, even though their execution of this mandate is almost certainly mediated through pre-existing understandings. This paper provides a framework (applicable to other sectors) to examine educators' beliefs about inequality and their role in advancing equity. To progress, teachers need to believe that doing so is valuable, feel empowered to overcome disadvantage, and be willing to make tradeoffs in pursuit of equity goals. Our framework highlights the salience of individual differences between low- and highachievers as a form of inequality that may divert teachers' focus from the structural inequality that is central to policy and sociological concern. We test this framework empirically using novel survey data from over 1,500 teachers collected in a diverse urban school district. Although most surveyed teachers believe addressing inequality is important and feel empowered to do so, many seemingly equity-minded educators do not endorse strategies aligned with closing racial and socioeconomic inequality—indicating an important barrier to reducing inequality.

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Abstract

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"The enduring popularity of equal educational opportunity probably derives from the fact that we can all define it in different ways without realizing how profound our differences really are."

– Jencks (1988, p. 518)

INTRODUCTION

The relationship between social background and educational outcomes is of central importance to understanding social inequality in the U.S., particularly inequality that is socially structured along racial/ethnic and economic lines. Disparities in educational achievement and attainment are longstanding and progress toward closing them is slow or even reverting in recent years (Gamoran 2001, 2014; Reardon 2011). These educational disparities have consequences for longer-term gaps in earnings and other markers of well-being, such as health and criminal behavior (Neal and Johnson 1996). While the underlying causes of such gaps are multifaceted— stemming in large part from structural inequalities in society—contemporary American society relies heavily on the institution of schools for addressing and reducing inequality. Schools' responsibility to provide equal opportunity undergirds the meritocratic ideals of the American dream (Noguera 2003).

Combating inequality in the form of achievement gaps has been a center-point of U.S. education policy, dating back to the original Elementary and Secondary Education Act of 1965, and in its reauthorizations since. To accomplish the equalizing work of schools, teachers are tasked with doing the heavy lifting to close achievement gaps through their work with students (Bensimon, 2007). Teachers operate as street-level bureaucrats, providing the final interpretation of how policy is put into practice (Bridwell-Mitchell 2015; Honig 2006; Weatherley and Lipsky 1977). That is, educators have some ability to focus their efforts and resources to address the inequalities that they see.

Teachers' execution of policy intentions is mediated through their pre-existing understandings (Cohen and Ball 1990; Spillane, Reiser, and Reimer 2002). Teachers and school leaders are among key adults who can transmit attitudes about inequality—including stigmatizing stereotypes about different students' potential to succeed and positive attitudes about students' potential—to the children they are in contact with in their daily work. Educators' attitudes about inequality may directly and regularly influence the children they teach, conveying anything from a disregard for the ideals of social justice, to a resigned complacency with the status quo, to a sense of empowerment and invigoration to make a difference

Despite the centrality of teachers to the theory of action for reducing inequality, we know little about how teachers and other school personnel understand the relationship between social background and educational success, how they think about inequality within education, and what their attitudes and priorities are for reducing inequalities in their schools and classrooms. Rhetoric emphasizing the importance of closing gaps has been prevalent in schools of education, where teachers and school leaders are trained (Boyd et. al. 2008a; Cochran-Smith et al. 2009), and within many of the school districts in which they work. In spite of the salience of gap closing language and ideology in many K-12 spaces, it is unclear how educators view themselves within this process. This lack of understanding is surprising given that educators are the frontline practitioners encountering disparities.

This paper provides a framework to examine educators' beliefs about inequality and their role in closing achievement gaps. This teacher-specific framework could easily be broadened to address the similar role of other street-level bureaucrats whose work intersects with policies aimed to address societal inequalities. We argue that the logic underlying inequality reduction in schools—perhaps the route to inequality reduction most relied upon in the U.S.—rests on several

untested assumptions about these bureaucrats' values and attitudes, as well as the choices they make.

To combat inequality, teachers must value equity and feel empowered to act in an equitable way. Furthermore, and perhaps most crucially, this logic hinges on the form of inequality teachers see as the greatest concern. Although we think sociologists', policymakers', and school districts' enduring focus on socially-structured inequalities is justified, an unintended consequence may be that we fail to consider the inequality implied by the great variation in students' educational performance that is not necessarily tied to social identities or background (DiPrete 2007). Any measure of educational achievement typically evinces a wide range of student abilities, implying a high degree of difference between low and high achievers—a different form of inequality.

Recognizing this overlooked within-group inequality helps to identify a crucial disjuncture in how rhetoric and policies devoted to reducing structural disparities may fail to ameliorate social inequality on the ground. To the extent that teachers serve students who vary in social background or achievement, both forms of inequality should be visible to them; however, while rhetoric foregrounds the importance of socially-structured inequality, it is not obvious nor empirically known whether teachers focus on this type of disparity, or whether individual differences between low- and high-achievers are a more salient type of inequality. We know little about the importance teachers place on achievement differences, which achievement differences they think are most important to address, or the extent to which they are willing to see tradeoffs made or make tradeoffs themselves in their classrooms to close gaps. In elucidating our framework, based in and motivated by prior research, this paper explains why the dearth of research in this specific area is important.

Finally, it is not enough for teachers to simply hold particular beliefs about inequality; rather, to actually make a difference, these beliefs must also motivate teachers' actions. Thus, teachers must make decisions and tradeoffs with their time and resources that promote equity and must support and engage with school- and district-level policies that are intended to address inequality.

We test the alignment of teachers' beliefs with this framework empirically using two years of novel survey data collected in a diverse urban school district. Our measures target the following dimensions of attitudes about inequality:

- What importance do teachers place on closing achievement gaps?
- Do teachers feel empowered to overcome students' disadvantages and address gaps?
- Among different forms of inequality, which gaps do they believe deserve the greatest focus?
- What tradeoffs at the school-system level are teachers willing to endorse to achieve equity goals in both the resources dedicated to different groups and in the achievement outcomes of these groups?
- What tradeoffs are teachers willing to enact in how they allocate their own resources to reach their goals?

Using data from the survey responses of over 1,500 teachers, we describe teachers' beliefs in each of these areas and assess the extent to which their responses indicate a single dimension of attitudes about inequality or a multi-dimensional landscape of attitudes in which the form of inequality teachers focus on shapes their willingness to make tradeoffs that interrupt the status quo.

Overall, we aim to understand whether teachers' beliefs about inequality align with the expressed goals of policy makers, teacher education programs, district leaders, and our national values, which emphasize addressing *structural inequality* versus *individual differences*, and whether such beliefs prompt them to endorse equity-promoting strategies. We find that nearly all teachers state strong support for reducing inequalities. However, teachers' equity priorities do

not align with those of the district. The district promotes goals of closing structural achievement gaps between income and racial/ethnic groups. Instead, teachers focus more on achievement differences between individual students. Although many teachers believe addressing gaps is vitally important and feel empowered to advance this goal, many of these seemingly equity-minded educators do not endorse strategies to meet goals aligned with closing racial and socioeconomic inequality.

BACKGROUND AND THEORETICAL LOGIC

Substantial rhetoric emphasizes schools' role in reducing systematic disparities across social groups. Although a great proportion of inequality of opportunity stems from broader social inequalities among families and neighborhoods, schools are the primary institution by which governments in the U.S. work to reduce the link between social background and educational achievement, with the implication that reducing inequalities in educational opportunities across students will also chart a path toward reducing other inequalities in society. Teachers are the street-level bureaucrats in schools. Of all of the features of schools, teachers play one of the most important roles in student learning (Kane and Staiger 2008; Nye, Konstantopoulos, and Hedges 2004; Rivkin, Hanushek, and Kain 2005; Rockoff 2004) and meaningfully affect students' long-run opportunities (Chetty, Friedman, and Rockoff 2011). Teachers vary considerably with respect to their effectiveness, yet we know little about the characteristics of teachers who are most effective, especially with traditionally underserved groups of students (Chetty, Friedman and Rockoff 2011, 2014; Rowan, Correnti, and Miller 2002; Rivkin, Hanushek, and Kain 2005). Social-psychological traits that teachers bring to their classrooms may offer a missing link in understanding teacher quality.

The process by which teachers act to facilitate gap closing is not well understood, and the

role of teachers' beliefs has been largely absent from the implied mechanisms. To illustrate this, the top, direct arrow in Figure 1 displays the vague way policymakers and districts suppose gap closing will happen. Society, districts, and schools rely on teachers to take actions in their work with students that are expected to reduce inequality and close achievement gaps. llustrated lower in Figure 1, we contend that several untested assumptions about the attitudes that must underlie and motivate teachers' actions underpin this—namely, that teachers understand and value the **importance** of reducing inequality, they feel a sense of **empowerment** to do something about the problem, they **focus** on combating structural inequalities, they **endorse and enact** practices with the intent of closing gaps, and, finally, that these actions work to redress inequality.

[Figure 1 here]

Pathways to Reducing Inequality

The Importance of Closing Gaps. The first set of beliefs proposed in our model is that teachers must see reducing inequality as an important goal. The evidence on whether many teachers share this value is quite mixed. On the one hand, many educators today begin their careers in schools of education that teach an approach steeped in social justice principles. This preparation typically involves a curriculum based in understanding substantial racial and socioeconomic disparities in opportunities, resources, and outcomes, accompanied by explicit instruction around teachers' role in redistribution and as advocates for their students (Cochran-Smith et al. 2009; Boykin & Noguera 2011). On the other hand, research that comes closest to investigating teachers' beliefs about students' social or cultural background chiefly highlights "deficit thinking"—a focus on presumed deficits from students' backgrounds. Rather than showing that teachers stress the importance of closing disparities, this work underscores how teachers' beliefs reinforce pejorative stereotypes of students of color and students from low-

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income backgrounds (e.g. Bensimon 2007; Delpit 1995; Diamond, Randolph, and Spillane 2004; Valenzuela 1999). Consistent evidence shows that teachers' expectations are lowest for and matter most for the outcomes of students from underserved groups (Dee 2005; Downey and Pribesh 2004; McGrady and Reynolds 2012; Rist 1970). Although these studies do not speak specifically to teachers' attitudes about inequality, they imply that teachers may recognize inequality but interpret it as justifying low expectations and negative stereotypes.

Empowerment to close gaps. Beyond identifying the salience of teachers' attitudes about the importance of reducing inequality, our model proposes that teachers must feel a sense of empowerment to actually do something about the problems that they see. Ladson-Billings' (2009) classic work highlights how teachers who are particularly effective with African American students position themselves as key agents of change, acknowledging the reality and relevance of students' racial identities and socioeconomic circumstances while also emphasizing strengths in students' communities. Similarly, a school culture emphasizing educators' role in change underlies the evidence in studies of urban charter schools serving predominantly poor, minority students (as well as public schools implementing charter-like reforms). This research points to norms of high expectations as key to success (e.g. Abdulkadiroglu et al. 2011; Fryer 2011; Dobbie and Fryer 2013). In contrast, Lewis and Diamond's (2015) case study provides multiple examples of educators who identify race-based inequality in expectations and opportunities, but many describe the problem as beyond their control.

Recent work by Rochmes (2017) speaks directly to teachers' beliefs about their role in addressing inequality by using national data to examine teachers' attitudes about whether students' social background poses an obstacle to effective teaching. She finds that the majority of teachers express a sense of empowerment to overcome social disadvantages that students face,

but a nontrivial minority convey attitudes consistent with believing that social disadvantages strongly determine student learning—a sense of helplessness to make a difference. Highlighting the importance of such attitudes, Rochmes (2017) demonstrates that teachers' beliefs about students' social disadvantage are a causal mechanism driving the observed relationship between teachers' attitudes and student achievement. We are not aware of other research that speaks to teachers' beliefs about their ability to reduce inequality; however, research on teachers' sense of efficacy to accomplish their goals and sense of responsibility for student learning more generally underline that teachers' beliefs about their own capacity are consequential for their interactions with students and for student outcomes (e.g., Brown 2008; Fenstermacher 1978; Kagan 1992; Lee and Loeb 2000; Lee and Smith 1996; Pajares 1992;Tschannen-Moran and Woolfolk Hoy 2001).

Varied Understandings of Inequality

Because rhetoric about equity and social justice is so widespread within school systems, one might assume that educators believe strongly in the importance of closing education gaps. However, as Jencks (1988) notes, "the enduring popularity of equal educational opportunity probably derives from the fact that we can all define it in different ways without realizing how profound our differences really are" (p. 518). Distinctions among different forms of inequality have received little attention, and therefore our framework highlights the importance of the form of inequality teachers have in mind when they make sense of their goals and target their efforts. For our purposes, two forms of inequality are particularly important.

Structural Inequality in Education. An area of deep educational and sociological concern is persistence of disparities in educational achievement and attainment between socially salient groups. The elevated importance of racial and socioeconomic disparities is underscored by their

consequences for longer-term gaps in earnings and other markers of well-being (Hout 2012; Neal and Johnson 1996). These gaps endure despite decades of attention. American society saw sharp progress in reducing the black-white achievement gap in the decades following the *Brown v. Board* decision that overturned *de jure* segregation in schools; but this progress stagnated in the 1980s and '90s (Reardon 2011). Although the years since the mid-2000's have seen a slow narrowing (Reardon, Robinson-Cimpian, and Weathers 2014), the black-white achievement gap remains over half a standard deviation in size. Latino-white achievement disparities are sizable as well, especially at early ages (Bloom et al. 2008; Reardon and Portilla 2015). Meanwhile, recent years have seen an intensification of socioeconomic inequality, with disparities growing by more than 40 percent over the same period that witnessed progress and stagnation in reducing racial gaps (Reardon 2011). The achievement gap between students at the 90th and 10th percentiles of family income is now over a standard deviation (Reardon 2011), and is as large as the race gap was at the time of *Brown v. Board*. These standardized differences between racial and socioeconomic groups correspond to roughly three to six grade levels of learning. Although these patterns are interrelated, they are not interchangeable: Racial disparities in achievement persist even when comparing students with similar socioeconomic backgrounds; and racial disparities are highest among the most socioeconomically advantaged students (Gosa and Alexander 2007; Grodsky, Warren and Felts 2008).

Individual Differences in Education. The structural inequalities just described are familiar to many social scientists and policymakers. Yet these large gaps between social groups still allow for substantial variation in achievement within groups and substantial overlap between groups, highlighting how students' educational achievements vary dramatically in ways that are not linked to social identities or background. Figure 2 demonstrates this variation with stylized

distributions derived from the National Assessment of Educational Progress (NAEP—also known as "the Nation's Report Card") reading test administered to fourth graders in 2013. We use a common proxy for household poverty, eligibility for free or reduced-price lunch (FRPL), which represents up to 185 percent of the Federal Poverty Line (Snyder and Musu-Gilette 2015). Although FRPL eligibility is only a rough indicator of poverty (Michelmore and Dynarski 2016), the FRPL/non-FRPL (or "poor"/ "non-poor") gap, shown on the left side of Figure 2, is three quarters of a standard deviation—equivalent to at least a couple years of schooling. However, also apparent in these overlapping distributions is that there are many "non-poor" students below the "poor" mean and many "poor" students above the "non-poor" mean. The right side of Figure 2 highlights the size of the within-group variation further, by indicating how different points along these distributions correspond to the reading skill proficiency our education system expects students to have. These differences in achievement are large – in some cases more than 80 percent of a standard deviation – even larger than the structural socioeconomic gap.

[Figure 2 here]

Highlighting these alternative forms of inequality graphically helps to underscore an important point: addressing inequality within groups requires a different approach than addressing inequality between groups. Reducing individual achievement differences would require improving achievement among lower-achieving students—bringing up the lower tail of the graph and narrowing the overall distribution. But reducing structural inequality would require shifting the entire distribution of the lower-performing group up, rather than focusing just on those students who are low-achieving.

While within-group differences in achievement have real implications for students' life chances, structural inequalities across social groups are especially problematic because they

derive from in opportunities and highlight prior failures to advance equal opportunity through education. Structural inequality also is the rhetorical focus in educational policies, schools of education, and many school districts and the focus of court decisions including *Brown v. Board*. If structural inequality is not teachers' main focus, it marks an important disjuncture between larger goals and teachers' priorities. Nevertheless, the disparities between high- and low-achievers do represent a form of inequality, and within schools, this type of inequality may be particularly salient, as teachers observe these differences each day in their classrooms.

Because the rhetoric about achievement gaps is often vague, educators may assume that reducing achievement differences between students, or simply focusing on the lowest achieving students, will meaningfully close structural achievement gaps. This assumption might seem safe given the lower academic performance on average of more disadvantaged groups—blacks, Latinos, and lower-income students—compared to their upper- and middle-class white and Asian peers. But the reduction of one form of inequality may not follow closely from the other. The underlying logic is analogous to how class-based affirmative action does not accomplish racial integration of colleges as effectively as race-conscious admissions does (Long 2007).

Distinguishing Structural Inequality and Individual Differences. Because this distinction is so central to our model, we make this logic concrete with a stylized example in Figure 3, using fourth-grade NAEP reading scores across three proficiency groups and students proportioned accurately according to racial representation in the population. We consider hypothetical changes to the achievement distribution if teachers focused their effort in the two ways our framework highlights: toward individual differences or structural inequality. Distribution 1 plots the real NAEP proficiency levels of whites and blacks, underscoring the dramatic racial inequality: the modal proficiency level for white students is proficiency, whereas for black students it is below

basic. Distribution 2 shows the hypothetical distribution if teachers targeted their effort exclusively to the lowest achievers, advancing 10 percent of students, regardless of race, from "below basic" status to the "basic" level. This improves the average within each group, yet great inequality still exists. Distribution 3 shows the hypothetical distribution if teachers focused on improving the achievement of students in the same numbers as in distribution 2, but targeting efforts specifically to black students across achievement levels. This approach produces far more similar distributions between blacks to whites.

[Figure 3 here]

Our example is exaggerated and simplified compared with actual schools and classrooms, where teachers rarely encounter students who perfectly match the racial or achievement composition of the U.S. as a whole. However, it serves to emphasize that the type of inequality that teachers focus on for reduction has important implications for resulting outcomes. Focusing on individual differences—on the lowest achieving students in a race-blind way—is not an effective way to reduce the structural inequality that social scientists, schools of education, and school districts deplore. Our theoretical model foregrounds the significance of understanding what kind of inequality teachers have in mind.

Moving from Beliefs to Action

Endorsing and Enacting Inequality-Mitigating Practices. Along with holding beliefs in the importance and feasibility of addressing inequalities, our theoretical logic reflects that educators must act on these beliefs in their classroom practices and decision-making and engage with school- and distict-level policies aimed at addressing structural inequalities in order to affect student opportunities (e.g., Calderhead 1996; Kagan 1992; Pajares 1992). Beliefs can impact every part of a teacher's craft including content, pedagogy, planning, and student and

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parent interactions (Bandura 1986; Calderhead 1996; Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, and Sendurur 2012; Fenstermacher 1978; Kagan 1992; Lewis and Diamond 2005; Mansour 2009; Pajares 1992; Richardson, Anders, Tidwell, and Lloyd 1991; Stipek, Givvin, Salmon, and MacGyvers 2001). Hoffman and Seidel (2014) argue that beliefs are so integral to teacher practice that, "the precise measure of beliefs is a prerequisite to helping teachers understand how beliefs can influence superior learning outcomes…and pedagogy." (p. 106).

Teachers' expectations for individual students' achievement as well as beliefs in their ability to promote student learning can be reflected in teachers' interactions with students and behaviors in the classroom. These actions influence student learning by moderating the types of educational opportunities that teachers provide and alter students' self-perceptions of their own abilities and goals (Calarco 2011; Fox 2016; Gershenson et al. 2016; Lee and Loeb 2000; Lee and Smith 1996; Olah, Lawrence, and Riggan 2010; Rist 1970; Rosenthal & Jacobson 1968; Tenenbaum and Ruck 2007; Tschannen-Moran and Woolfolk Hoy 2001). Calarco (2011), for example, finds that teachers' beliefs about and expectations for students impact the ways in which they respond to student behaviors such as help-seeking. This response then influences the types of educational opportunities and support that teachers provide to different students. Similarly, educator assumptions and philosophies influence the ways in which teachers make use of student data in socially constructed ways, but also how they can leverage such data for equitable practices, such as in student placement decisions (Park and Datnow 2017). In contrast, Lewis & Diamond also demonstrate how teachers' beliefs about student capacities and deservingness can blind educators to systemic inequities perpetuated by school structures.

The final pathway in our model hypothesizes that for teachers to execute their role in reducing inequality, their practices must work in a truly equitable way. The research just noted

underscores how teachers who have equity in mind are more likely to engage in teaching with socially just ends. Moreover, several studies find that teachers' expectations for student ability and achievement matter most for the outcomes of students from disadvantaged groups (Dee 2005; Downey and Pribesh 2004; McGrady and Reynolds 2012; Rist 1970), suggesting that attitudes about inequality have consequences for patterns of inequality on the ground. The entire model is further supported by literature indicating that how teachers are affected by broader policies and interpret them in practice is mediated through their existing knowledge and beliefs (Cohen and Ball 1990; Spillane, Reiser, and Reimer 2002). Thus, to the extent that widespread policy and rhetoric emphasizes schools' and teachers' responsibility to reduce inequality, the sense that teachers make of larger messages will be interpreted in light of the values they already hold and enact in their daily practice.

BRINGING EMPIRICAL DATA TO BEAR ON THE THEORETICAL LOGIC

If national and school district policy on reducing inequality relies on educators' values, choices, and actions, then understanding these beliefs can shed light on the likely effectiveness of different policy approaches. Although we can safely say that teachers see their role as promoting learning among their students, we know little about how much teachers value closing achievement gaps—either individual or structural—what they think their role and ability is to close these gaps, or what, if anything, teachers do or would like schools to do to reduce these differences. Structural inequality and individual differences are distinct forms of inequality in education, and teachers' role in reducing inequality hinges not only on their attitudes about inequality, but also on what "inequality" means to them; which gaps command the most teacher attention affects what they choose to do about the inequality they perceive.

We bring empirical data to bear on the framework described above by asking teachers about the value they place on reducing educational inequality generally as well as closing a variety of achievement gaps; their assessment of their own ability to overcome social disadvantages that underlie gaps; and their willingness to make tradeoffs both in resource provision and student outcomes in the pursuit of closing gaps. The final pathway—understanding whether teachers' attitudes and actions truly produce equitable outcomes—we leave for future work, which will link teachers to their students and outcomes. To create measures of teachers' attitudes, we draw on prior measures of teachers' beliefs and of Americans' racial attitudes, as well as the theoretical/philosophical literature on values and addressing achievement gaps (e.g. Jencks 1988). We also incorporate rankings and experimental conditions into our survey data collection to limit respondents' capacity for simply expressing socially desirable responses and to gauge teachers' willingness to make tradeoffs in the face of mutually desirable alternatives.

Research Setting

Our data come from a diverse, urban school district on the west coast of the United States. The district focuses particularly on equity and diversity, identifying in its mission the need to provide each student with an equal opportunity to succeed and achieve their maximum potential. District leadership actively cultivates an equity focus in its communications with teachers and the public, including the superintendent's Twitter account, which congratulated district personnel for their work as "equity warriors." The district's 100-plus schools demonstrate a substantial amount of performance heterogeneity, including both gold ribbon schools, acknowledged for outstanding and innovative performance, and schools identified as within the bottom five percent of the persistently-lowest achieving in the state.

In the 2014-2015 school year, the district served approximately 58,000 students (California Department of Education 2015). The student body is both racially and socioeconomically diverse: 26 percent of its students identify as Latino, 41 percent as Asian, 11 percent as white, 10 percent as African American, 1 percent as Native American, and 10 percent as other race; 26.5 percent speak English as a second language and 61 percent are eligible for free or reduced-price lunch. The district employs over 3,500 teachers and administrators to serve this student body. Its teaching force is more diverse than the national average: 53 percent identify as educators of color compared with 18 percent of public school teachers nationwide (National Center for Education Statistics 2015). The district's teachers have 11 years of teaching experience on average, which is slightly less than the national average of 14 years (National Center for Education Statistics 2015). Similarly, the district's school leaders are more diverse than the national average, with 50 percent identifying as administrators of color compared to roughly 22 percent nationwide (Department for Professional Employees AFL-CIO 2014).

In many ways, the stated commitments to equity, a more diverse teaching force, and the inclusive cultural ethos of the surrounding community make this particular district a best-case scenario for finding teachers who are oriented towards overcoming structural inequality. However, one might worry that this ideal case draws from perspectives that are not generalizable to most other settings across the country, and that surveyed teachers' attitudes are largely unique and differ substantially from attitudes espoused by teachers elsewhere. While we do find that many of the educators we surveyed respond in ways that are consistent with a social justice mission, their views vary enough that they cannot be considered monolithic. Moreover, on the belief items drawn from prior research, we show that these teachers share strikingly similar attitudes with teachers across the country. Thus, although the findings from this district cannot

necessarily be generalized broadly, they provides a useful case for considering the multitude of ways that teachers can think about inequality and for demonstrating the importance of measuring these views.

Survey Data Collection

To develop a deeper understanding of educators' beliefs and attitudes about educational inequality, we surveyed most of the district's teachers between May and August of 2015 and again in the spring of 2016. Our target sample included teachers across every non-charter public school within the district and was determined by job description. In both years, surveys were distributed via email and administered online with Qualtrics; participants who completed the survey were given a $15 Amazon gift card as a thank you. In 2015, our target teacher sample was limited to mainly those teaching core academic content in elementary, middle, and high schools, providing a target teacher population of 2,405 individuals; we achieved a response rate of 62 percent, resulting in 1,559 respondents. In 2016, we were able to include some teachers in non-classroom support roles, in early education jobs, and teachers with specializations in various impairments and other special education/special school day needs. The 2016 target population was 3,278 teachers; we achieved a response rate of 65 percent, resulting in 2,252 respondents.

Among other topics, the surveys asked teachers to respond to questions about their beliefs about equity and disadvantage which we describe in detail below. We matched survey results to administrative records on educators to provide background information about respondents. These data include standard measures, such as teacher race and gender, years of work experience within the district, and highest degree earned.

Descriptive statistics for respondents in each year are shown in Table 1. Not surprisingly, our sample of teachers is over 70 percent female. It is also racially diverse; roughly 45 percent of

teachers are white, 25 percent are Asian, 12 percent are Hispanic, and four percent are black. (An additional ten percent decline to report their race to the school district.) Surveyed teachers are 43 years old, on average, with about 13 years of experience in the district. Less than 15 percent of them have earned a master's or other graduate degree. A plurality of teachers (44 percent) teach elementary students, while just over a quarter teach high school. These statistics are broadly similar to the district's teachers overall; we report comparisons between respondent and non-respondent teachers in Appendix Table A1.[1]

[Table 1 here]

The surveys provide self-reported measures of beliefs about achievement gaps and different kinds of inequality. Self-reports of beliefs can be problematic both because respondents can believe that there are preferred responses and so do not report their true beliefs, and because individuals' interpretations of answer options can differ. While we can't overcome these issues completely, we utilize multiple measures, some of which are far less likely to have this type of bias. Specifically, we ask teachers about: (1) the **importance** of closing gaps, (2) how **empowered** they feel to overcome disadvantage to close gaps, (3) which types of gaps deserve the most **focus**, and (4) what strategies they **endorse or enact** to close gaps. Because of the importance of these measures for the goals of this paper, we provide details on each:

(1) *The **Importance** of Closing Gaps*: To assess the value teachers place on reducing educational inequality generally, we ask a straightforward question: "How important of a challenge are achievement gaps (e.g. by race, socioeconomic status) for [the district]?" with

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[1] Differences are small, however T-tests indicate that our survey respondents somewhat over-represent the district's female, Asian, and elementary school teachers, while under-representing African American and Hispanic teachers. Our respondents are also slightly younger on average than non-respondent teachers. Survey respondents and non-respondents are largely similar on measures of teacher qualifications, but consistent with age differences our respondents have slightly fewer years of experience in the district than non-respondents.

answer choices ranging from "The most important challenge facing the district" to "Not an important challenge at all." This question corresponds to the first component of our framework (Figure 1).

(2) *How **Empowered** Educators Feel to Overcome Disadvantage to Reduce Gaps*: Building on previous work (Rochmes 2017), we include six Likert-type items—each specifically referencing family background, home environment, or social inequity—to measure educators' beliefs about the feasibility of overcoming students' social disadvantage as the extent to which they agree or disagree with:

- The amount a student can learn is primarily related to family background.
- You are very limited in what you can achieve because a student's home environment is a large influence on their achievement.
- When it comes right down to it, you really cannot do much because most of a student's motivation and performance depends on their home environment.
- It is unreasonable to try to reach the same academic level with children from different family backgrounds.
- I can meet the academic needs of all of the students I teach regardless of their family background.
- Teachers have an important role to play in challenging social inequities.

The first three of these items have a history in psychological research (see e.g. Gibson and Dembo 1984; Guskey and Passaro 1994) and they are the items that Rochmes (2017) used to measure teachers' beliefs about students' social disadvantage using nationally representative data from high school math and science teachers. We can, therefore, compare estimates using data from our partner district to national estimates. The latter three items we developed for this study to pose positively-oriented items and to gain greater reliability for a combined beliefs scale. Together, these items examine the second component represented in Figure 1.

(3) The Types of Gaps That Deserve the Most **Focus**: To assess how teachers consider different types of inequality, we ask respondents to rank the following types of achievement gaps according to the amount of effort they would like to devote to each gap: (a) between students

from different racial groups; (b) between students from high- and low-income families; (c)

between students with more- and less-supportive home environments; and (d) between higher-

and lower-achieving students regardless of their race, ethnicity or family income.[2] The first two

of these gaps are clearly structural inequalities, the third echoes teacher beliefs that attribute

achievement gaps to failings of individual family responsibility (Lewis & Diamond, 2015), while

the fourth encompasses individual differences across students. This question fits the third

pathway of our framework, by gauging the form of inequality teachers focus on.

(4) *What Strategies Educators **Endorse** or **Enact** to Interrupt Inequality and Close Gaps*:

In order to better understand what educators do and what they would like to do to close gaps, we

included a series of questions that ask about teachers' preferred allocations of district funding

and teacher time, as well as preferred trends in outcomes for students. By introducing

comparisons, these questions assess what tradeoffs teachers are willing to see in the pursuit of

equality.

In 2016, we posed an experimental question (modeled on a General Social Survey

question that utilized vignettes about equal housing laws) in which we asked respondents to

consider how funding should be distributed among schools. We tested whether different

tradeoffs were differentially acceptable by randomly varying how concentrated a group of

disadvantaged schools would be targeted with extra funding. We presented this vignette:

> *Now we would like you to think about a hypothetical scenario, and what your opinion would be if this scenario were real. Suppose [city] voters pass a ballot measure allocating additional funds to [district] schools, and the district has two proposals for how to distribute the additional funds. Proposal A calls for giving each school roughly equivalent amounts, proportional to their number of students. Proposal B calls for identifying the **X%** of schools serving [the district's] most disadvantaged students and dividing the funds among just those schools for targeted interventions. Which of these proposals would you prefer?*

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[2] In the 2015 survey we did not include the phrase "regardless of their race, ethnicity or family income."

Respondents were randomly assigned to see *X*% as 10% or 50% of schools serving the most disadvantaged students, so that we could test for differences in attitudes depending on how extreme a level of redistribution is proposed.

Second, starting in 2015 we introduced experimental questions requiring educators to consider potential tradeoffs in pursuing equality in outcomes. Here we asked educators to tradeoff overall improvement for gap closing and we gave them graphical answer options. Specifically, we asked, "If you could set priorities for [the district], which of the following 5-year achievement trends for low- and high-income students do you think would be a more desirable goal?" We presented respondents with two of the graphs in Figure 4, randomly either 1 and 2 or 1 and 3. The question required them to choose between conditions of equal gains and equal outcomes. Equal outcomes come with a more costly tradeoff, a decrease in high-income student achievement, in graph 3.[3]

[Figure 4 here]

Finally, we included a question that focused on one of the main classroom resources directly under teachers' control: their time. We asked, "Deciding how to allocate time and effort to students is a difficult problem. Which of the following best resembles how you typically allocate your time in your classroom? Do you..." and provided the following five answer choices (in random order):

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[3] We considered including an equal outcomes graph showing upward trends among both low- and high-income students with the gap closing due to a steeper slope for low-income students. However, we decided not to include such an option because it seemed like too obviously the "best" choice, and because we wanted equity-minded educators to grapple with the very real possibility that equalizing outcomes may require tradeoffs in the treatment of more advantaged students.

- Allocate equal time to all students
- Allocate more time to students who put in the most effort
- Allocate more time to students with more disadvantaged backgrounds
- Allocate more time to students who are low achieving
- Allocate more time to students who you think will benefit most from your efforts

We modeled these answer options on Jencks' (1988) philosophical rendition of the variety of ways teachers may conceptualize the equitable treatment of students.

The first three types of questions in our surveys interrogate educators' expressed values and beliefs about disadvantage and disparities. The fourth series of questions encompasses three measures that introduce alternative equity outcomes, to capture what strategies teachers are willing to endorse or support if given the option. Although we cannot measure the compensatory actions of such a large sample of teachers, this last set of questions on equity strategies indicates the types of actions teachers would like to see to reduce inequality—the fourth component in our framework.

While a concern with self-reported attitudes is the potential for social desirability bias, we designed these survey questions so that caring, committed teachers could respond in a variety of ways. We aimed for the questions not to have a "right" answer that teachers would infer they ought to choose. However, the responses do measure commitment to reducing structural inequality and provide insights into how teachers respond to potential tradeoffs in reducing inequalities. The variation in responses that we will show provides some reassurance that educators do not uniformly see a "right" answer.

Analytical Methods

To understand whether teachers' attitudes align with the broader rhetoric around reducing inequality, our results include describing teachers' responses to all of the key measures of attitudes about inequality to show the full range of values, beliefs, and preferences for equity

strategies that teachers express. We begin by reporting teacher responses for each of the measures separately. For the questions that we asked in both 2015 and 2016, we present responses separately by year.

After presenting univariate descriptives, our analysis examines the relationships among the measures, demonstrating the extent to which responses cohere in a single, recognizable equity mindset or demonstrate multidimensionality in teachers' attitudes about inequality. We seek to understand whether teachers' expressed values and beliefs are consistent with endorsing strategies that are more likely to reduce inequality in practice, and whether the form of inequality teachers care about matters. Our approach uses straightforward regression methods. Pooling 2015 and 2016 data where possible, and analyzing solely 2016 data for measures only available in that year, we use each of the three measures of expressed values and beliefs to predict each of the three measures of equity strategies teachers endorse or enact. First, we present the bivariate relationship (Model 1); second, we account for teacher demographic and human capital characteristics (Model 2), controlling for correlations between attitudes and other important traits. Finally, because teachers may sort to schools based on their attitudes (if school leaders value attitudes differently in their hiring choices or if schools are differentially attractive places to work for teachers with differing perspectives on inequality) and because the composition of schools may influence teachers' beliefs (Diamond, Randolph, and Spillane 2004), we net out any such variation in a model that includes school fixed effects (Model 3). This approach—assessing relationships overall as well as within-school—allows us to test whether variation in teacher beliefs exists both between and within schools, and to reduce the possibility that the relationships we estimate are simply due to teachers in particular schools responding similarly for some school-specific reason, rather than representing the individual teacher's attitudes.

Most of our measures are categorical, which shapes how we approach the analysis. For each categorical measure we treat the most common response as a reference category, and when that measure is the outcome, we estimate multiple models comparing each other category response to the reference group response separately. This approach is similar to a traditional multinomial model with categorical dependent variables. Our analyses utilize linear probability models (LPMs), which under most circumstances produce results nearly identical to the logistic model and are far easier to interpret; concerns over interpretation between the two methods are generally overstated (Hellevik 2007; Von Hippel 2015). LPM coefficients are the predicted percentage point change in the probability of choosing the outcome response rather than the reference, while the logistic model produce estimates of log odds which are not as concrete. Estimating LPMs allows us to produce results in Model 3 (with school fixed effects) on the same analytical sample as Models 1 and 2 and allows us to weight observations differently within schools. In models of data pooled across survey years, we weight observations by 0.5 if the same teacher answered the question in both years and we cluster the standard errors by teacher. We present the LPM estimates in the main text; however, logistic models produce substantively identical results and are presented in Appendix B.

In all models, a teacher only contributes to the analysis if she responded to the outcome measure question on the survey. We deal with non-response on predictor measures by using missing indicators, though teachers who participated in the survey had high response rates to the attitude questions.

RESULTS

The goal of these empirical analyses is to describe teachers' views of inequality along the dimensions of importance, empowerment, and focus in keeping with the framework in Figure 1, and then to see whether these stated beliefs are predictive of strategies educators endorse or enact to interrupt the status quo of inequality.

Teacher Responses to Measures of Attitudes about Inequality

Expressed Values and Beliefs. Table 2A shows descriptive results for educators' values about the general and relative importance of achievement disparities. First, it is clear that when considering the importance of achievement gaps, the real variation is between the majority (60 to 62 percent) who believe achievement gaps are one important challenge among many and the third who more fervently respond that achievement gaps are the most important challenge for the district. In both 2015 and 2016, less than seven percent of teachers respond that gaps are only a moderately important challenge, and less than one percent believe gaps are not important at all. Teachers in this district recognize achievement gaps as an important problem for the district to confront.

[Table 2A here]

To assess how empowered teachers feel to overcome students' social disadvantage, we analyzed each belief item separately and then created a combined scale. Across the items, shown in Table 2B, teachers largely express empowered beliefs about the feasibility of overcoming disadvantage. Over three quarters of teachers disagree or strongly disagree that "the amount a student can learn is primarily related to family background" or that "you really can not do much because most of a student's motivation and performance depends on their home environment." At least half of teachers agree or strongly agree that they can meet their students' academic needs "regardless of their family background." They overwhelmingly believe that "teachers have an

important role to play in challenging social inequities." However, despite these optimistic notes, there are non-trivial minorities who hold far less empowered beliefs. Roughly 15 percent agree they "really can not do much" and that "it is unreasonable to try to reach the same academic level with children from different family backgrounds," while roughly 30 percent agree that they are "very limited in what you can achieve" because of the influence of home environment on students.

A national survey of high school math and science teachers includes the first three items in Table 2B, so we can compare the responses of teachers in our district to a national sample. Compared to teachers in the High School Longitudinal Survey of 2009 (HSLS:09), fielded by the National Center for Education Statistics (NCES), our teachers skew somewhat toward the more empowered end of each distribution. Importantly, though, in many cases the differences are not as strong as one might expect, given the equity focus and student body of the district in which teachers have chosen to teach. For example, compared to 30 percent of teachers in our sample, 38 percent of HSLS:09 teachers agree they feel "very limited in what you can achieve because a student's home environment is a large influence on their achievement." Likewise, across datasets 15 percent agree that "you really can not do much." Even with the strong social justice rhetoric in our setting, our teachers' beliefs are similar to the beliefs of teachers across the country.

[Table 2B here]

Based on past literature (e.g. Gibson and Dembo 1984; Guskey and Passaro 1994; Rochmes 2017), we used confirmatory factor analysis to combine the six items into a single scale of teachers' beliefs of empowerment. In both 2015 and 2016, the coefficient of determination from the CFA model indicates a strong fit: the teachers' beliefs factor explains over 80 percent of the

total variance in the observed belief items. We standardize this measure of teachers' beliefs to use in later analyses.

Responses further indicate that teachers are oriented toward equity in a general sense, but are less focused on structural inequality than the district's social justice mission would suggest (Table 2A). When we consider how respondents ranked the types of gaps for which is their primary focus, a plurality in each survey year—41 to 44 percent of teachers—ranked achievement differences across students as their first priority. The next most common response was the other individual-focused measures, "gap between students with more and less supportive home environments," with roughly a quarter of teachers ranking it first. Only 15 to 18 percent of teachers chose income gaps or race gaps—the more explicitly defined structural inequalities. Although we might think that teachers who care deeply about structural inequality generally could have a hard time choosing between racial and income inequality as their main focus, even taken together these responses were not chosen as frequently as the gap between high and low achievers. This finding indicates that for many teachers, individual differences are a more salient form of inequality than are structural disparities.

Endorsing and Enacting Equity Strategies and Tradeoffs. Table 2C displays responses to each of our measures assessing teachers' endorsement for and willingness to enact equity strategies. Our experimental school funding vignette aims to assess teachers' preference for equality of overall district inputs. Respondents had the option of choosing to distribute funding equally among all schools in the district or targeting extra funding to the most disadvantaged schools; the experimental condition varied what percentage of schools would be targeted for extra funding. Willingness to target just ten percent of schools for more funding—the absolute most disadvantaged schools—represented a more extreme tradeoff, compared to the alternative

condition that the most disadvantaged 50 percent of schools would share the funds. We find

essentially no contrast in this experiment: 65 percent of teachers support targeting the most

disadvantaged 10 percent of schools for extra funding, while 69 percent support targeting the

most disadvantaged 50 percent of schools. In this case, teachers either endorse targeted funding

or not—and roughly two-thirds of teachers think providing extra funding to schools serving more

disadvantaged students is appropriate. In later analyses, we combine teachers in both

experimental conditions together to create one indicator of willingness to target funding to

schools serving more disadvantaged students.

[Table 2C here]

In both 2015 and 2016, we used the experimental graph question to understand whether

teachers value closing the achievement gap enough that they would be willing to accept a

tradeoff in more advantaged students' achievement. In each condition, teachers could choose

"equal gains"—improving the achievement trajectories of both high-income and low-income

students equivalently, maintaining the gap (see graphs depicted in Figure 4). In the "less costly"

condition, the "equal outcomes" tradeoff option was that high-income students' achievement

trajectory remains flat while low-income students catch up. We find that a majority of teachers

(62 to 65 percent) are willing to endorse this tradeoff in order to close the gap. However, we see

a substantial shift in teachers' choices when the tradeoff is "more costly"—that is, "equal

outcomes" is achieved because the high-income students' trajectory declines, meeting the rising

trajectory of low-income students. Only 23 percent of teachers who saw this tradeoff chose the

graph that represented closing the gap; instead, over three quarters of teachers would prefer the

"equal gains" condition where both groups improve and the district makes no progress toward

reducing the gap.

Finally, although we could not directly observe teacher actions, we could ask teachers about whether they enact practices that impact equity in students' opportunities to learn. Two important resources that teachers have at least some control over are their time and effort in their day-to-day interactions with students. Our goal is to better understand whether they use these resources to address gaps. Just under one fifth say they typically allocate their time equally among all students—the purely egalitarian, if not necessarily equitable (Jencks 1988) response. In comparison, almost half of all teachers (48 percent) say they typically allocate more time to low achievers, and an additional 20 percent respond that they typically allocate more time to students who will benefit most—addressing individual differences across students. Only 10 percent say they allocate more time to students who come from more disadvantaged backgrounds. Although this response does not mention race or socioeconomic conditions explicitly, it is the only option that implies allocating time and effort differentially according to structural conditions. It is notable that teachers are five times as likely to allocate their time disproportionately to low achievers, a result that echoes our finding from the measure asking teachers which among different achievement gaps is their primary focus: For many teachers, the most salient disparity in their classrooms is that between their lowest achievers and their higher achieving peers.

Are Stated Beliefs about Importance, Empowerment, and Focus Predictive of Preferences for Strategies that Would Interrupt the Status Quo of Inequality?

The Importance of Gaps. Since very few teachers view achievement gaps as only moderately or not important, we focus on comparing the ardent believers who view gaps as the most important challenge for the district, to their counterparts in the majority who see gaps as one important challenge among many. We find that these impassioned teachers are more likely

to support equity strategies and outcomes—but only those that come with smaller tradeoffs. As shown in Table 3A, teachers who believe gaps are the most important challenge for the district are 17.8 percentage points more likely to choose targeted funding, 15.6 percentage points more likely to choose equal outcomes in the less costly tradeoff condition, 5.0 percentage points more likely to choose equal outcomes in the more costly tradeoff condition, and 4.9 percentage points more likely to allocate their time disproportionately to students from more disadvantaged backgrounds than disproportionately to low achievers. The latter two relationships are reduced to non-significance when we account for other teacher characteristics and school fixed effects. That is, when we compare teachers with different beliefs within the same school, teachers who believe gaps are the most important challenge are not clearly more likely to choose equal outcomes in the more costly condition or to allocate more time to students from more disadvantaged backgrounds—the equity approaches that appear hardest for teachers to endorse overall. However, they are significantly more likely to choose targeted funding and equal outcomes in the less costly condition, by 9.9 and 11.5 percentage points, respectively, indicating that teachers who believe gaps are the most important challenge are more likely than their less ardent counterparts to endorse equity strategies, but only if the tradeoff does not appear to be too high.

[Table 3A here]

Empowerment to Address Gaps. Similarly, Table 3B shows that teachers who feel more empowered to overcome social disadvantage are also more likely to choose equity strategies, but again only when they come with smaller tradeoffs. Having beliefs one standard deviation more empowered predicts a nearly eight percentage point increase in the likelihood of endorsing the targeted funding strategy or choosing equal outcomes in the less costly condition in the bivariate model. These relationships are reduced to 3.3 percentage points and 5.4 percentage points

predicted increase when teacher characteristics and school fixed effects are included, but remain statistically significant. Yet teachers with more empowered beliefs are no more likely to choose equal outcomes in the more costly tradeoff condition or to allocate their time to students from more disadvantaged backgrounds rather than to students who are low-achievers. In fact, the point estimates in the more costly condition are negative, though only marginally significant.

[Table 3B here]

Focusing on Structural Inequalities. We see an important distinction in Table 3C, however, where we focus on comparing teachers who ranked race and income achievement gaps—the two structural inequalities—as their primary focus gap to teachers who ranked individual achievement differences as the gap deserving the most effort. Once differences by teacher traits and school context are controlled, we see little difference among teachers in their willingness to endorse targeted funding—a relatively easy strategy for the majority of teachers to endorse. But in Model 3 with all controls, teachers who rank the racial achievement gap as their top priority are roughly seven percentage points more likely to choose equal outcomes in both tradeoff conditions, even when it requires a more costly tradeoff, and teachers who rank either race or income gaps as their first priority are roughly nine percentage points more likely to allocate their time disproportionately to students from more disadvantaged backgrounds rather than to low-achievers. These relationships are strong and significant, changing little across models. Particularly given that only ten percent of teachers chose this time allocation strategy to begin with (or 17 percent of the reduced sample comparing only the two focal categories) and just 23 percent of teachers chose equal outcomes in the more costly tradeoff condition, the predicted increases in the likelihood of choosing either strategy for teachers who prioritize

structural disparities are sizable. These results indicate that teachers who prioritize structural inequalities are more willing to accept larger tradeoffs in pursuit of reducing inequality.

[Table 3C here]

Discussion

These results together provide evidence that teachers are highly cognizant of the challenges inequality poses; however, few of them are "equity warriors" focused on socially constructed, structural inequalities as defined by most policy and sociological discussions. The measures designed for this study draw key distinctions in how teachers think about inequality in education, and highlight the salience for many educators of individual differences among students, rather than structural inequality. Furthermore, teachers vary substantially in how empowered they feel to overcome issues of student disadvantage, and in their support of various strategies for pursuing equity.

Many teachers believe they should fill a compensatory role. Focusing on their lowest-achieving students compensates for differences across individual students in skills and knowledge. However, this holding belief differs from being willing to make tradeoffs or sacrifices—on one's own behalf or on behalf of others—that would reduce structural inequality. As our stylized example (Figure 3) demonstrated, although social characteristics and achievement are related, focusing on the lowest achievers is not an effective way to reduce structural inequality, which requires shifting entire distributions. Teachers who prioritize the importance of race and class gaps are most likely to endorse equity strategies that focus on the standing of disadvantaged students, even when they come with tradeoffs to more privileged groups.

Many teachers who otherwise believe inequality is an important problem and feel empowered to make a difference are not willing to make more costly tradeoffs. Even when teachers view inequality as pressing and important, they do not necessarily agree with strategies that are consistent with reducing inequality. This pattern is analogous to findings in the racial attitudes literature showing how stated attitudes do not align with choices in practice. Rapid changes in Americans' prejudicial attitudes over the latter half of the twentieth century were not accompanied by support for many policies that would actually serve to reduce racial inequality (what Bobo, Kluegel, and Smith [1997] term *laissez-faire racism*). Likewise, even in schools and districts with strong equity rhetoric, we see sorting of more effective and more experienced teachers to schools serving higher income students and to classes within schools serving higher achieving students (Clotfelter, Ladd, and Vigdor 2005; Kalogrides and Loeb 2013; Kalogrides, Loeb, and Beteille 2013; Lankford, Loeb, and Wyckoff 2002). As with efforts to reduce inequality more broadly in American society, the finding that teachers with egalitarian attitudes still often resist strategies that would reduce structural inequality suggests an important obstacle for closing the gaps.

Revisiting the model in Figure 1, our measures and results shed light on the first four components in how teachers' work with students is implicated in the logic underlying discussions of how schools reduce inequality. The measures and analyses presented here do not address the fifth component—that the actions that follow from teachers' attitudes actually work in a compensatory way—which is the ultimate indication of whether teachers' attitudes about inequality matter for patterns of inequality in practice. Although this is outside the scope of the present paper, we have planned these analyses for future work.

Additional limitations of these results are important to acknowledge. First, our survey measures rely on teachers' self-reports of their attitudes and these types of questions may be subject to social desirability bias. The concern that individuals may not be able to accurately assess their own attitudes, or that they will not be honest about them if they can, is present in much of the attitude literature. We have attempted to mitigate these concerns in multiple ways. First, teachers complete our surveys online and are assured the district will never see their individual results. That so many teachers respond in ways inconsistent with the district's focus on structural inequalities suggests that teachers did not simply respond in ways their employer or others would find socially desirable. Further, although they could skip any question they did not wish to answer, item-level response rates were high for all of our attitude measures. Finally, we designed several questions with varied types of answer options in order to capture multiple dimensions of teachers' attitudes while still providing multiple ways for caring, committed educators to convey their views.

Second, our partner district might or might not be well suited for the study, given its focus on social justice. One might argue that the responses of teachers in this district tell us little about the broader landscape of attitudes about inequality in education. However, many urban districts in the U.S. share a similar rhetorical emphasis on social justice goals, and teachers throughout the country are trained in schools of education that make equity a central focus. Moreover, the responses of teachers in our setting to the belief items are strikingly similar to responses from teachers nationally. Thus, it is possible that our results are more representative of teachers broadly than might be supposed. Additionally, although we recognize the limitations in a single district study, its key advantage is that it enables us to collect new data on a large sample

of teachers. To our knowledge, no other data provide extensive insight into educator attitudes about inequality with such high coverage within and across schools.

Existing research on teachers' attitudes about inequality is sparse. Our framework and findings help to build theory in understanding how teachers' attitudes about inequality matter. Distinguishing individual differences across students, which are salient to teachers, from the structural disparities central to sociological and policy debates clearly is key to understanding how teachers as street-level bureaucrats work towards equity goals but are not effective at closing structural gaps. Our findings challenge whether patterns on the ground reflect the underlying logic about teachers' role in reducing inequality. If the logic underlying national and school district policy on reducing inequality relies on educators' values, choices, and actions, then understanding these beliefs sheds light on progress and stagnation in advancing this important goal.

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Figure 1: Theoretical Logic
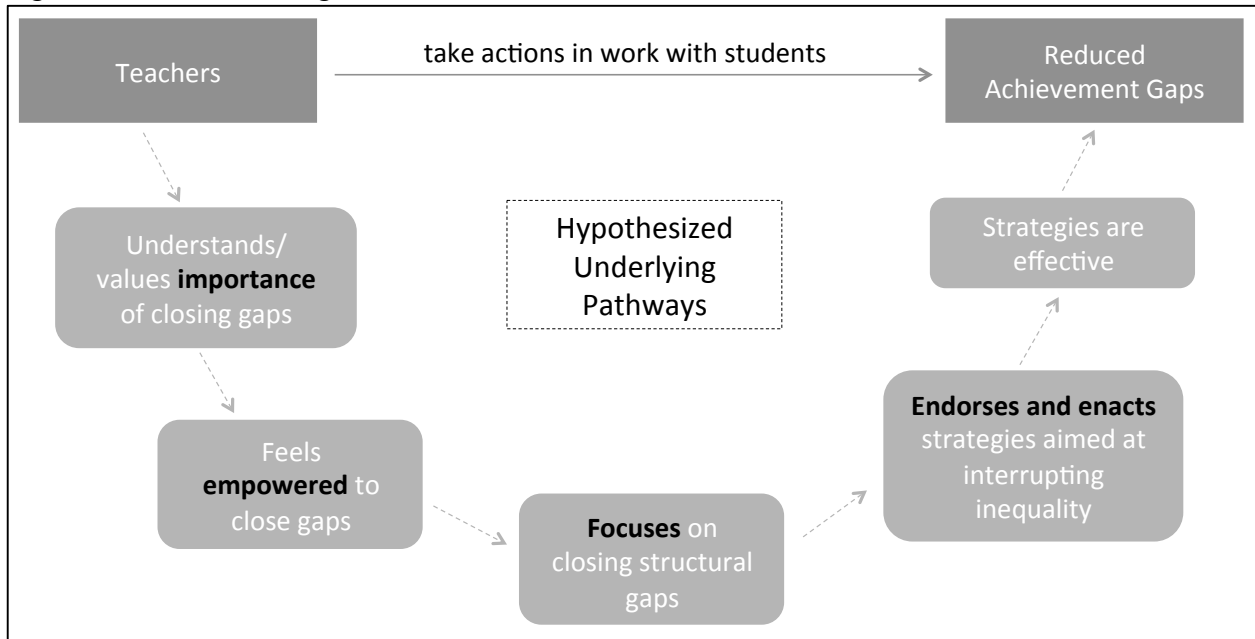
Figure 2. Stylized Depiction of Structural Inequality and Individual Achievement Differences
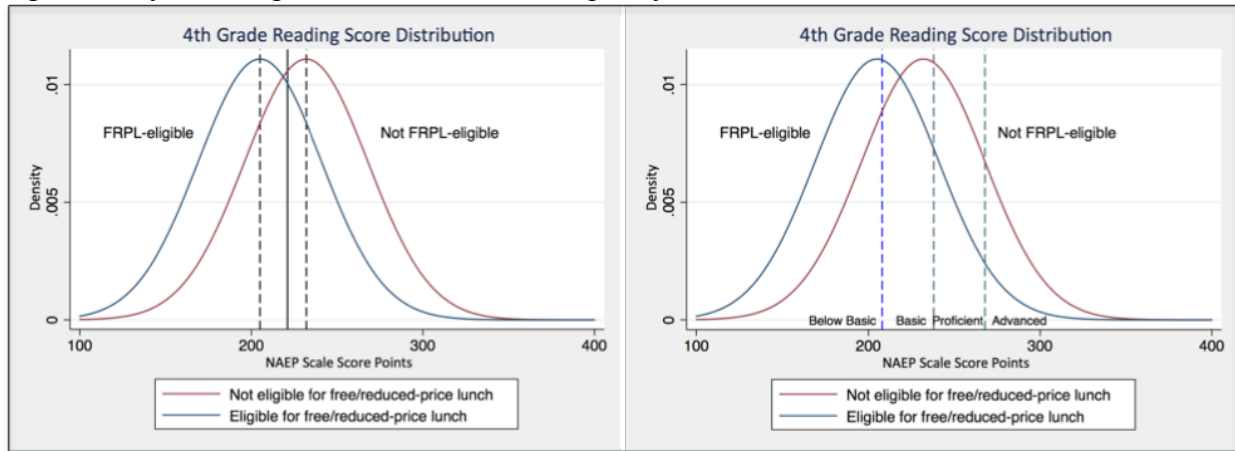
Figure 3. Real & Hypothetical White/Black Distributions Across Achievement Levels Under Alternative Strategies for Targeting Student Improvement
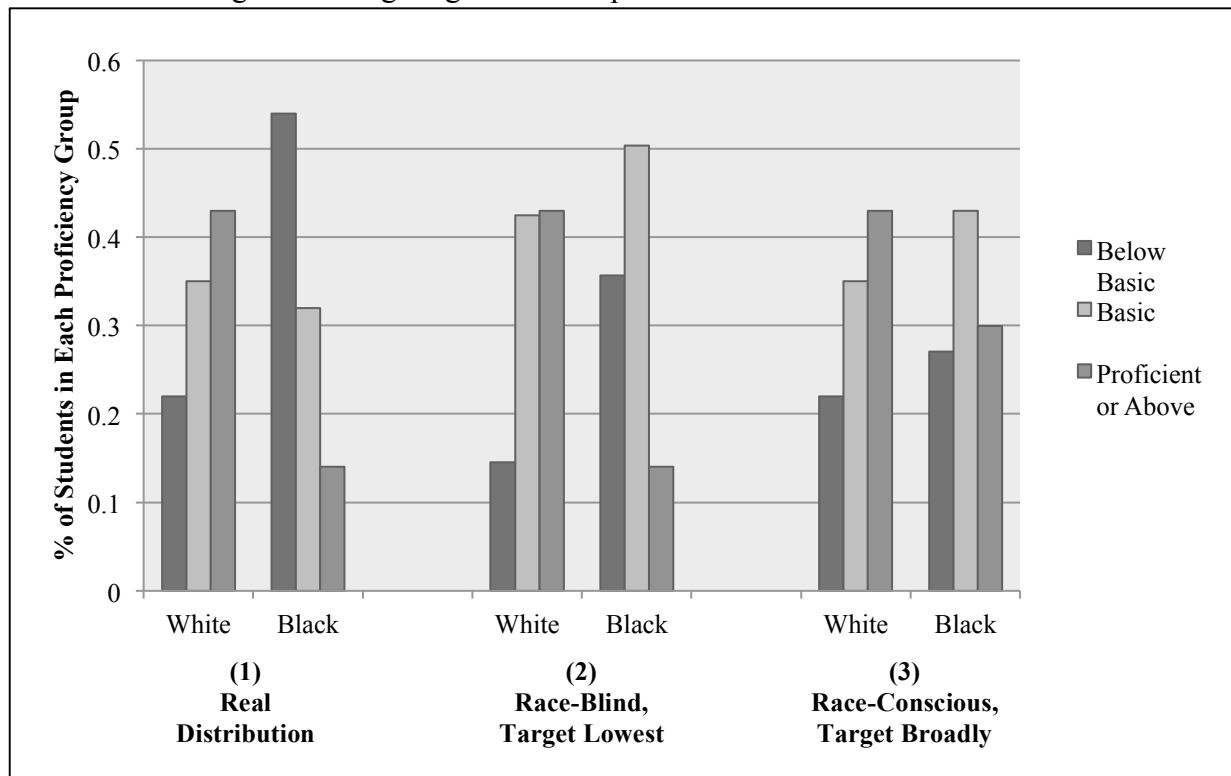
Notes: Source data in (1) is the 4th grade reading achievement levels from the 2007 NAEP (reported in Aud, Fox, and KewalRamani 2010, Figure 11.1a, p. 58). (2) and (3) represent hypothetical distributions, each targeting for improvement a population equivalent to 10 percent of the total student population, but employing alternative strategies. The hypothetical distribution in (2) moves 10 percent of students—both whites and blacks proportionate to their representation in the population—from "below basic" to "basic." The hypothetical distribution in (3) moves the same raw number of students—but only black students—from "below basic" and "basic" to one achievement level higher. The racial distribution of students used in calculations comes from the distribution of public elementary and secondary students by race/ethnicity in the 2007–08 school year (reported in Aud, Fox, and KewalRamani 2010, Figure 7.1, p. 27).

Figure 4. Graphs Presented as Answer Options to A Survey Question Comparing Overall Improvement versus Gap Closing
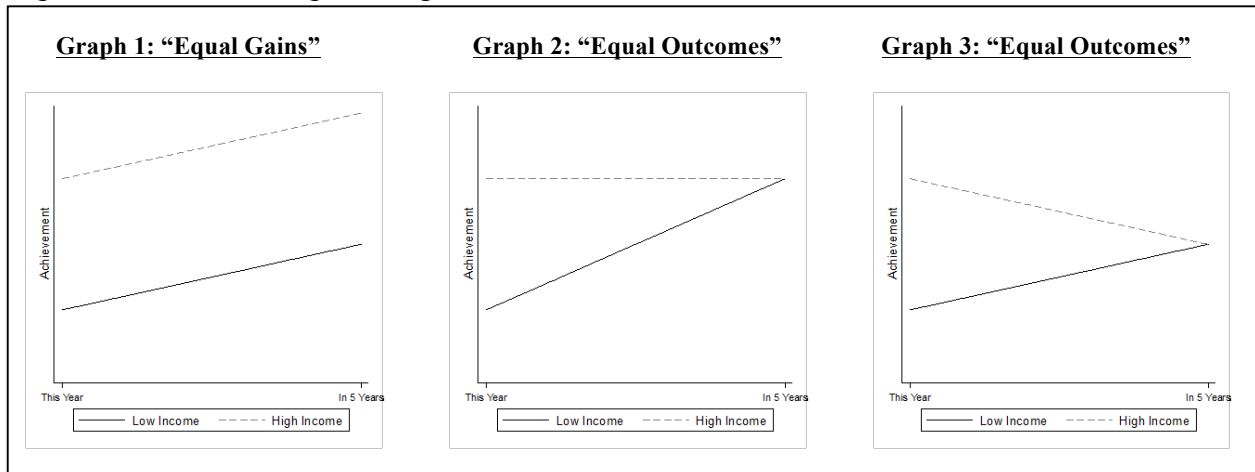
The graphs above accompanied the survey question, "If you could set priorities for [the district], which of the following 5-year achievement trends for low- and high-income students do you think would be a more desirable goal?" Respondents saw two of the graphs, either 1 and 2 or 1 and 3, assigned at random.

Table 1. Descriptive Statistics for 2015 and 2016 Teacher Samples

	2015 Teachers (n = 1,693)	2016 Teachers (n = 2,272)
	Mean (SD)	Mean (SD)
Demographics		
Female	0.705	0.728
Race		
White	0.468	0.456
Black	0.034	0.044
Asian/Pacific Islander	0.255	0.249
Hispanic	0.118	0.129
Native American/Multiracial	0.019	0.022
Decline to state	0.106	0.100
Age	43.497	42.719
	(11.786)	(12.202)
Parental Education $\geq$ BA	0.577	0.581
Human Capital Qualifications		
Own educ $\geq$ MA	0.148	0.126
Years of experience in district		
Total years	13.142	12.631
	(8.946)	(9.237)
Categories (used in regressions)		
1-2 years	0.102	0.117
3-5 years	0.173	0.202
6-10 years	0.182	0.183
11-20 years	0.329	0.278
21+ years	0.215	0.221
School Type		
PreK or Early Ed	0.008	0.039
Elementary school	0.442	0.435
K-8 school	0.073	0.076
Middle school	0.137	0.150
High school	0.268	0.275
Administration or central office	0.072	0.022

Table 2A. Descriptive Statistics of Attitudes: Expressed Values About Achievement Gaps

	2015 Teachers	2016 Teachers
	Mean	Mean
Importance of Achievement Gaps		
The most important challenge	0.322	0.319
One among a number of important challenges	0.604	0.621
A moderately important challenge	0.067	0.053
Not an important challenge at all	0.008	0.007
Observations	1451	2149
Gap Deserving Primary Focus		
Achievement-level gaps ranked 1st	0.406	0.437
Home support gaps ranked 1st	0.240	0.228
Income gaps ranked 1st	0.175	0.155
Race gaps ranked 1st	0.179	0.180
Observations	1392	2054

Table 2B. Distributions of Beliefs of Empowerment to Overcome Students' Social Disadvantage

"The amount a student can learn is primarily related to family background"

Response	HSLS:09 Teachers Weighted Mean	District Teachers 2015 Mean	2016 Mean
Strongly agree	0.040	0.030	0.035
Agree	0.235	0.145	0.166
Disagree	0.548	0.583	0.528
Strongly disagree	0.177	0.243	0.270
Observations	6,850	1,442	2,127

"You are very limited in what you can achieve because a student's home environment is a large influence on their achievement"

Response	HSLS:09 Teachers Weighted Mean	District Teachers 2015 Mean	2016 Mean
Strongly agree	0.074	0.080	0.063
Agree	0.380	0.319	0.288
Disagree	0.492	0.472	0.504
Strongly disagree	0.054	0.129	0.146
Observations	6,850	1,444	2,121

"When it comes right down to it, you really can not do much because most of a student's motivation and performance depends on their home environment"

Response	HSLS:09 Teachers Weighted Mean	District Teachers 2015 Mean	2016 Mean
Strongly agree	0.021	0.036	0.028
Agree	0.156	0.153	0.141
Disagree	0.645	0.543	0.579
Strongly disagree	0.178	0.269	0.252
Observations	6,850	1,437	2,128

"It is unreasonable to try to reach the same academic level with children from different family backgrounds"

Response		District Teachers 2015 Mean	2016 Mean
Strongly agree		0.042	0.045
Agree		0.138	0.124
Disagree		0.504	0.477
Strongly disagree		0.316	0.354
Observations		1,439	2,127

"I can meet the academic needs of all of the students I teach regardless of their family background"

Response		District Teachers 2015 Mean	2016 Mean
Strongly agree		0.148	0.177
Agree		0.492	0.521

Response	2015 Mean	2016 Mean
Disagree	0.313	0.264
Strongly disagree	0.046	0.039
Observations	1,443	2,128

"Teachers have an important role to play in challenging social inequities"

	District Teachers	
Response	2015 Mean	2016 Mean
Strongly agree	0.541	0.584
Agree	0.417	0.386
Disagree	0.032	0.023
Strongly disagree	0.010	0.007
Observations	1,443	2,135

Scale of Teachers' Beliefs of Empowerment created using confirmatory factor analysis

			District Teachers	
			2015	2016
	Mean	SD	Coefficient of Determination	Coefficient of Determination
Standardized Beliefs Scale	0	1	0.830	0.814
Observations			1,447	2,143

Note: Distributions of teachers' responses from the High School Longitudinal Study of 2009 (HSLS:09) are weighted to approximate national representativeness for ninth grade math and science teachers. Overall N is rounded to the nearest ten to comply with NCES license requirements.

Table 2C. Descriptive Statistics of Attitudes: Support for Equity Strategies & Tradeoffs

	2015 Teachers	2016 Teachers
	Mean	Mean
Achievement Trends Graph Condition and Choice		
Less Costly Tradeoff Condition		
Graph 1: Equal Gains	0.381	0.355
Graph 2: Equal Outcomes	0.619	0.645
Observations	679	957
More Costly Tradeoff Condition		
Graph 1: Equal Gains	0.772	0.769
Graph 3: Equal Outcomes	0.228	0.231
Observations	705	941
Preference for targeted rather than equal distribution of funding to		
Target 10% of most disadvantaged schools		0.651
Target 50% of most disadvantaged schools		0.690
Combined – chose targeted funding		0.671
Observations		2,107
How teacher typically allocates classroom time		
Typically allocates more time to low achievers		0.481
Typically allocates more time to students who will benefit most		0.198
Typically allocates equal time to all students		0.186
Typically allocates more time to more disadvantaged students		0.096
Typically allocates more time to students who put in the most effort		0.039
Observations		2,097

Table 3A. How Teachers' Attitudes toward the Importance of Gaps Predict Support for Equity Strategies and Tradeoffs (Coefficients from Linear Probability Models)

Achievement gaps are… (Ref: One among a number…)	Chose Targeted Funding			Chose Equal Outcomes in the… Less Costly Condition			More Costly Condition			Allocates More Time to Students from More Disadvantaged Backgrounds (Relative to Low Achievers)		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Not/moderately important	-0.139**	-0.139**	-0.115**	-0.112*	-0.097+	-0.083	0.091+	0.103*	0.101*	0.085	0.089+	0.081
	(0.044)	(0.043)	(0.043)	(0.052)	(0.050)	(0.053)	(0.050)	(0.049)	(0.049)	(0.053)	(0.054)	(0.056)
The most important challenge	0.177***	0.156***	0.099***	0.156***	0.136***	0.115***	0.050*	0.042+	0.029	0.049*	0.044+	0.036
	(0.022)	(0.022)	(0.022)	(0.025)	(0.026)	(0.027)	(0.024)	(0.024)	(0.026)	(0.023)	(0.023)	(0.024)
Teacher controls		✓	✓		✓	✓		✓	✓		✓	✓
School FE			✓			✓			✓			✓
R^2	0.040	0.101	0.254	0.031	0.063	0.190	0.005	0.064	0.166	0.006	0.022	0.174
Observations	2081	2081	2081	1636	1636	1636	1646	1646	1646	1210	1210	1210

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Standard errors in parentheses. Models of "Chose Equal Outcomes" are weighted so teachers surveyed in both years are not double-counted.

Results are from separate models of each equity strategy outcome with categories of the importance of achievement gaps as the key predictors of interest. Respondents who chose that achievement gaps are *one among a number of important challenges* are the reference category.

Table 3B. How Teachers' Beliefs of Empowerment to Overcome Disadvantage Predict Support for Equity Strategies and Tradeoffs (Coefficients from Linear Probability Models)

Beliefs of Empowerment to Overcome Social Disadvantage	Chose Targeted Funding			Chose Equal Outcomes in the…						Allocates More Time to Students from More Disadvantaged Backgrounds (Relative to Low Achievers)		
				Less Costly Condition			More Costly Condition					
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Beliefs Scale	0.078^{***}	0.054^{***}	0.033^{**}	0.079^{***}	0.073^{***}	0.054^{***}	-0.018^{+}	-0.017	-0.023^{+}	0.012	0.009	0.018
	(0.010)	(0.011)	(0.011)	(0.012)	(0.012)	(0.013)	(0.011)	(0.011)	(0.012)	(0.011)	(0.012)	(0.012)
Teacher controls		✓	✓		✓	✓		✓	✓		✓	✓
School FE			✓			✓			✓			✓
R^2	0.028	0.082	0.245	0.028	0.062	0.186	0.003	0.062	0.169	0.003	0.020	0.174
Observations	2081	2081	2081	1636	1636	1636	1646	1646	1646	1210	1210	1210

$^{+} p < 0.10, {}^{*} p < 0.05, {}^{**} p < 0.01, {}^{***} p < 0.001$

Notes: Standard errors in parentheses. Models of "Chose Equal Outcomes" are weighted so teachers surveyed in both years are not double-counted.

Results are from separate models of each equity strategy outcome with the continuous standardized scale of teachers' beliefs of empowerment to overcome social disadvantage as the key predictor of interest.

Table 3C. How Teachers' Choice of *Gap Deserving Primary Focus* Predicts Support for Equity Strategies and Tradeoffs (Coefficients from Linear Probability Models)

Gap Deserving Primary Focus (Ref: Individual achievement diff)	Chose Targeted Funding			Chose Equal Outcomes in the…						Allocates More Time to Students from More Disadvantaged Backgrounds (Relative to Low Achievers)		
				Less Costly Condition			More Costly Condition					
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Income gap	0.023	0.007	-0.013	0.069$^+$	0.068$^+$	0.063$^+$	0.001	0.009	0.006	0.089**	0.084**	0.086*
	(0.031)	(0.030)	(0.029)	(0.036)	(0.035)	(0.037)	(0.030)	(0.030)	(0.031)	(0.032)	(0.032)	(0.033)
Race gap	0.071*	0.044	0.019	0.098**	0.093**	0.073*	0.082*	0.076*	0.068*	0.113***	0.108***	0.090**
	(0.029)	(0.029)	(0.028)	(0.034)	(0.034)	(0.035)	(0.033)	(0.032)	(0.034)	(0.030)	(0.030)	(0.032)
Home support gap	-0.001	-0.002	-0.006	0.009	0.007	0.014	0.079**	0.081**	0.079**	0.053$^+$	0.045	0.028
	(0.027)	(0.026)	(0.026)	(0.033)	(0.033)	(0.034)	(0.029)	(0.028)	(0.029)	(0.028)	(0.028)	(0.029)
Teacher controls		✓	✓		✓	✓		✓	✓		✓	✓
School FE			✓			✓			✓			✓
R^2	0.009	0.075	0.244	0.007	0.046	0.180	0.010	0.069	0.171	0.019	0.035	0.184
Observations	2081	2081	2081	1636	1636	1636	1646	1646	1646	1210	1210	1210

$^+ p < 0.10,$ $^* p < 0.05,$ $^{**} p < 0.01,$ $^{***} p < 0.001$

Notes: Standard errors in parentheses. Models of "Chose Equal Outcomes" are weighted so teachers surveyed in both years are not double-counted.

Results are from separate models of each equity strategy outcome with categories of teachers' first priority gap as the key predictors of interest. Respondents who chose *Gap between higher- and lower-achieving* students as the gap that deserves primary focus are the reference category.

Appendix A: Analysis of Survey Nonresponse

Table A1. Descriptive Statistics for Respondents & Non-Respondents

	2015 Teachers			2016 Teachers		
	Respondent (n = 1,693)	Non-respondent (n = 1,056)		Respondent (n = 2,272)	Non-respondent (n = 1,018)	
	Mean (SD)	Mean (SD)	Sig. diff?	Mean (SD)	Mean (SD)	Sig. diff?
Demographics						
Female	0.705	0.631	***	0.728	0.627	***
Race						
White	0.468	0.445		0.456	0.452	
Black	0.034	0.055	**	0.044	0.067	**
Asian/PI	0.255	0.217	*	0.249	0.215	*
Hispanic	0.118	0.153	**	0.129	0.150	
Nat. Am./Multiracial	0.019	0.011		0.022	0.018	
Decline to state	0.106	0.118		0.100	0.098	
Age	43.497 (11.786)	44.466 (12.473)	*	42.719 (12.202)	45.134 (12.735)	***
Parent Educ. ≥ BA	0.577	–		0.581	–	
Human Capital Qualif.						
Own educ ≥ MA	0.148	0.162		0.126	0.143	
Years of exp. in district						
Total years	13.142 (8.946)	13.776 (9.660)		12.631 (9.237)	13.939 (9.707)	***
Categories (used in regressions)						
1-2 years	0.102	0.101		0.117	0.099	
3-5 years	0.173	0.155		0.202	0.170	*
6-10 years	0.182	0.197		0.183	0.167	
11-20 years	0.329	0.313		0.278	0.315	*
21+ years	0.215	0.234		0.221	0.248	
School Type						
PreK or Early Ed	0.008	0.005		0.039	0.102	***
Elementary school	0.442	0.389	**	0.435	0.346	***
K-8 school	0.073	0.080		0.076	0.074	
Middle school	0.137	0.145		0.150	0.154	
High school	0.268	0.310	*	0.275	0.285	
Administration or central office	0.072	0.072		0.022	0.036	*

Note: T-tests compare respondent and non-respondent teachers within each survey year and indicate if a particular characteristic is over- or under-represented among respondent teachers, relative to those teachers we attempted to survey but did not respond.
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix B: Estimates Employing Logistic Regression Models Rather than Linear Probability Models

Appendix Table B1: Logistic Regression Coefficients Corresponding to Table 3A. How Teachers' Attitudes toward the Importance of Gaps Predict Support for Equity Strategies and Tradeoffs

Achievement gaps are… (Ref: One among a number…)	Chose Targeted Funding			Chose Equal Outcomes in the… Less Costly Condition			More Costly Condition			Allocates More Time to Students from More Disadvantaged Backgrounds (Relative to Low Achievers)		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Not/moderately important	-0.567**	-0.613**	-0.571*	-0.486*	-0.458*	-0.419+	0.368	0.517*	0.544*	0.561	0.603+	0.632
	(0.191)	(0.202)	(0.230)	(0.200)	(0.200)	(0.227)	(0.238)	(0.241)	(0.265)	(0.346)	(0.354)	(0.391)
The most important challenge	0.882***	0.831***	0.606***	0.754***	0.685***	0.615***	0.283*	0.274*	0.157	0.349*	0.319+	0.303+
	(0.113)	(0.117)	(0.129)	(0.121)	(0.124)	(0.133)	(0.126)	(0.131)	(0.145)	(0.161)	(0.164)	(0.184)
Teacher controls		✓	✓		✓	✓		✓	✓		✓	✓
School FE			✓			✓			✓			✓
Observations	2081	2081	1879	1636	1635	1511	1643	1643	1549	1207	1196	982

$^+ p < 0.10$, $^* p < 0.05$, $^{**} p < 0.01$, $^{***} p < 0.001$

Notes: Standard errors in parentheses.

Results are from separate models of each equity strategy outcome with categories of the importance of achievement gaps as the key predictors of interest. Respondents who chose that achievement gaps are *'one among a number of important challenges'* are the reference category.

Unlike the estimates in the main text, models of "Chose Equal Outcomes" are *not* weighted so teachers surveyed in both years are not double-counted. Available statistical routines for estimating logistic regression models with school fixed effects do not allow within-site weights to vary. However, logistic regression results for models (1) and (2), without fixed effects, are substantively identical when weighted (and are available from the authors by request).

Appendix Table B2: Logistic Regression Coefficients Corresponding to Table 3B. How Teachers' Beliefs of Empowerment to Overcome Disadvantage Predict Support for Equity Strategies and Tradeoffs

| Beliefs of Empowerment to Overcome Social Disadvantage | Chose Targeted Funding | | | Chose Equal Outcomes in the… | | | | | | Allocates More Time to Students from More Disadvantaged Backgrounds (Relative to Low Achievers) | | |
| | | | | Less Costly Condition | | | More Costly Condition | | | | | |
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Beliefs Scale	0.358***	0.261***	0.181** (0.059)	0.332***	0.318***	0.242***	-0.100 (0.061)	-0.096 (0.067)	-0.129+ (0.070)	0.087 (0.080)	0.071 (0.085)	0.129 (0.099)
	(0.048)	(0.052)		(0.055)	(0.058)	(0.061)						
Teacher controls		✓	✓		✓	✓		✓	✓		✓	✓
School FE			✓			✓			✓			✓
Observations	2081	2081	1879	1636	1635	1511	1646	1646	1549	1210	1199	982

+ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Notes: Standard errors in parentheses.

Results are from separate models of each equity strategy outcome with the continuous standardized scale of teachers' beliefs of empowerment to overcome social disadvantage as the key predictor of interest.

Unlike the estimates in the main text, models of "Chose Equal Outcomes" are *not* weighted so teachers surveyed in both years are not double-counted. Available statistical routines for estimating logistic regression models with school fixed effects do not allow within-site weights to vary. However, logistic regression results for models (1) and (2), without fixed effects, are substantively identical when weighted (and are available from the authors by request).

Appendix Table B3: Logistic Regression Coefficients Corresponding to Table 3C. How Teachers' Choice of *Gap Deserving Primary Focus* Predicts Support for Equity Strategies and Tradeoffs

Gap Deserving Primary Focus (Ref: Individual achievement diff)	Chose Targeted Funding			Chose Equal Outcomes in the… Less Costly Condition			More Costly Condition			Allocates More Time to Students from More Disadvantaged Backgrounds (Relative to Low Achievers)		
	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
Income gap	0.104	0.035	-0.061	0.281[+]	0.312[*]	0.321[+]	0.007	0.027	0.016	0.676[**]	0.650[**]	0.748[**]
	(0.141)	(0.147)	(0.161)	(0.158)	(0.158)	(0.171)	(0.182)	(0.190)	(0.204)	(0.231)	(0.234)	(0.256)
Race gap	0.339[*]	0.233	0.132	0.364[*]	0.378[*]	0.343[*]	0.480[**]	0.496[**]	0.428[*]	0.818[***]	0.795[***]	0.693[**]
	(0.139)	(0.145)	(0.162)	(0.151)	(0.156)	(0.167)	(0.169)	(0.178)	(0.186)	(0.213)	(0.219)	(0.246)
Home support gap	-0.006	-0.011	-0.040	0.039	0.034	0.080	0.448[**]	0.475[**]	0.483[**]	0.439[*]	0.392[+]	0.310
	(0.122)	(0.127)	(0.143)	(0.135)	(0.139)	(0.150)	(0.151)	(0.155)	(0.170)	(0.214)	(0.217)	(0.234)
Teacher controls		✓	✓		✓	✓		✓	✓		✓	✓
School FE			✓			✓			✓			✓
Observations	2081	2081	1879	1636	1635	1511	1646	1646	1549	1210	1210	1210

[+] $p < 0.10$, [*] $p < 0.05$, [**] $p < 0.01$, [***] $p < 0.001$

Notes: Standard errors in parentheses.

Results are from separate models of each equity strategy outcome with categories of teachers' first priority gap as the key predictors of interest. Respondents who chose *Gap between higher- and lower-achieving* students as the gap that deserves primary focus are the reference category.

Unlike the estimates in the main text, models of "Chose Equal Outcomes" are *not* weighted so teachers surveyed in both years are not double-counted. Available statistical routines for estimating logistic regression models with school fixed effects do not allow within-site weights to vary. However, logistic regression results for models (1) and (2), without fixed effects, are substantively identical when weighted (and are available from the authors by request).