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"Simply a matter of numbers": Public Commentators' Construction of a Mathematical Model of Equality Perpetuating the Myth of Mathematics as Objective and Neutral

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ABSTRACT

Within the larger narrative of mathematics as the key to both individuals' and society's economic prosperity (Jones, 2022; Shah, 2019), lies the commonly held perception that mathematics is an emotionless and objective subject (Goldin & DeBellis, 2006; Taylor, 1996). In the public political sphere quantitative measures have long been used to provide a mirage of logic and objectivity to arguments, and end conversations because one can only argue numbers with other numbers (see e.g., Ewing, 2018, Mudry, 2009). Additionally, the use of mathematics in political spaces cloaks the individual in a guise of neutrality because the numbers suggest a nonpartisan perspective of phenomena. These myths of mathematics as objective and neutral (i.e., acultural, ahistorical) are weaponized to divert responsibility such that the perpetuation of injustice goes unremedied and irremediable (see e.g., Bonilla-Silva, 2010). In this paper, we use a critical race spatial perspective (Morrison et al. 2017; Solórzano & Vélez, 2016; Vélez & Solórzano, 2017) to demonstrate how the myth of mathematics as objective and neutral provides opportunities to use those narratives to maintain and perpetuate white supremacy. We reveal this by focusing on the discourse of public comments given during a series of school board meetings on the redrawing of Wilhelm elementary school's attendance zone (all names are pseudonyms). Through the public comments, mathematics was evoked by those advocating for the proposed attendance zone to move 311 students, the majority of which are South Asian and Latinx, as a way to position themselves as neutral. Understanding how mathematics is used in public spheres, particularly in local political spaces like school board meetings, can provide insight into how racism is present in these conversations, yet not explicitly discussed.

Keywords: critical race spatial analysis, whiteness, civic engagement, school board, discourse analysis

Introduction

The issue here is not racism, classism, or fighting against diversity, you know, some people like to use these social shaming strategies to try to shut down discussions. To try to get their way, but this is not what this is about. This is only about enrollment data and geography. (Mason, Jan. 27 Boundary Hearing)

Within the larger narrative of mathematics as the key to both individuals' and society's economic prosperity (Jones, 2022; Shah, 2019), lies the commonly held perception that mathematics is an objective and neutral subject (e.g., acultural, ahistorical, emotionless; DeBellis & Goldin, 2007; Taylor, 1996). In the public political sphere, quantitative measures have long been used to provide a mirage of logic and objectivity to mathematical models and characterizations of a phenomenon; rather than supporting public discourse, numbers often end conversations because one can only argue numbers with other numbers (see e.g., Ewing, 2018, Mudry, 2009). Espeland and Sauder (2016) emphasize the perception of objectivity quantitative measures carry:

> [Quantitative measures] have the patina of objectivity: stripped of rhetoric and emotion, they show what is 'really going on.' Even more, they can reduce vast amounts of information to a figure that is easy to understand, a simplicity that intimates that there is nothing to hide, and indeed that nothing can be hidden. (p. 1)

Quantitative measures become normalized even when their construction and continued perpetuation is violent. We use the language of *flatten* to describe how the processes through which complex phenomena of human behavior and reality in a 3-dimensional world become a 2-dimensional mathematical model (see Tate et al., 1993). The construction of mathematical models and quantification of human phenomena is an important part of the maintenance and perpetuation of white supremacy (see Ewing, 2018; Harrison, 2021; Mudry, 2009; Zuberi, 2001). All mathematical models require human decision making about the inclusion and exclusion of particular variables. The longstanding practice of constructing mathematical models that exclude variables related to race, ethnicity, gender, nationality, sexuality, etc. serves to frame a phenomenon, and thereby a space, in such a way to maintain the comfort of white people (see Brunsma et al. 2020).

Additionally, the use of mathematics in political spaces cloaks the individual in a guise of neutrality because the numbers suggest a nonpartisan perspective of phenomena. For example, Ewing (2018) described a school representative at a school board meeting bombarding the public with quantitative measures (e.g., enrollment efficiency ranges; space utilization standards; value-added scores) to justify school closures. The school board representative did not adequately explain how the measures were determined and their connection to the school closures. Thereby, the guise of objectivity and neutrality obscured the human decision making which dictated the school closures; relieving the district personnel of responsibility. According to Ewing (2018), "[The school representative] is absolved of any personal responsibility for this decision. She is merely the messenger, delivering facts and numbers that can't be denied" (p. 101). This representative used mathematics to divert anger from the leaderships' decision-making processes to these presumed objective truths the quantitative measures captured. The district constructed a mathematical model explaining their reality of the situation through their own quantifiable measures, presenting them as settled and not up for discussion (Ewing, 2018). This mathematical model was constructed intentionally for serving the goals of those in power.

Building on Ewing's (2018) and Castro et al.'s (2022) work, we show how it is not just official authorities (e.g., school board trustees) who invoke the myth of mathematics as objective and neutral to maintain whiteness, but in addition white caregivers do so when participating in local political discourses. These myths of mathematics as objective and neutral are weaponized through the construction of mathematical models of equality—a mathematical solution to a social problem (Tate et al., 1993)—which divert responsibility and perpetuate injustice that normally goes unremedied and is irremediable (see Bonilla-Silva, 2010). To emphasize the roles of these myths in perpetuating white supremacy in the public political sphere, we focus on the public comments revolving around the redistricting of the attendance zone of an elementary school. We use a critical race spatial perspective

(Morrison et al. 2017; Solórzano & Vélez, 2016) to demonstrate how the myth of mathematics as objective and neutral provided opportunities for a group of parents read as white[1] to maintain and perpetuate white supremacy through the collaborative construction of a mathematical model for equality (Tate et al., 1993). We reveal this through a discourse analysis of public comments given during a series of school board and community meetings on the redrawing of Wilhelm Elementary school's attendance zone (all names are pseudonyms). Through the public comments, those advocating the proposed attendance zone changes evoked mathematics to appear neutral to redistricting 311 students; the majority being South Asian and Latinx. Understanding how mathematics is used in public spheres, particularly in local political spaces like school board meetings, can provide insight into how racism is present in these conversations, yet not explicitly discussed (see also Bonilla-Silva, 2010; Castro et al., 2022).

We begin with a summary of critical race theory and our application of a critical race spatial perspective to understand how the white parents worked towards shifting the color-line (Du Bois, 1903/1994; Solórzano & Vélez, 2016) of Wilhelm Elementary (i.e., the attendance zone). We continue by providing more context about Creator Independent School District (ISD) and Wilhelm Elementary. Thereafter, we describe our methodology analyzing the discourse of the white parents evoking a mathematical model of equality (Tate et al., 1993) co-constructed through their public comments. In the results, we explicate the white parents' mathematical model of equality by examining the variables they included and excluded as evidenced in their public comments. We concluded with a discussion and call for future projects on the relationship between white supremacy and the perpetuation of the myth of mathematics as objective and neutral during civic engagement.

Critical Race Theory and a Critical Race Spatial Perspective

Critical race theory (CRT) is a movement started in response to the inability of critical legal studies scholars to recognize "how race is a central component to the very systems of law being challenged" (Martinez, 2014, p. 17). Derrick Bell and several colleagues including Mari Matsuda, Richard Delgado, and Kimberlé Williams Crenshaw saw reforms since the civil rights movement as moving too slowly and being insufficient in disrupting systemic racism (Delgado & Stefncic, 2016). CRT emphasizes the endemic nature of racism in our everyday ways of being and acting in the world. Race matters, as West (2001) argued, and exploring race is fundamental to our democratic engagement, requiring action and accountability to be taken in political spheres.

> Race is the most explosive issue in American life precisely because it forces us to confront the tragic facts of poverty and paranoia, despair and distrust. In short, a candid examination of *race* matters takes us to the core of the crisis of American democracy. And the degree to which race *matters* in the plight and predicament of fellow citizens is a crucial measure of whether we can keep alive the best of this democratic experiment we call America. (West, 2001, p. 107, emphasis in original)

CRT brings to the forefront how racial (in)justice is embedded in our everyday discourses and white supremacy is within the entrails of our society.

Race continues to be a significant factor in education (e.g., Ladson-Billings & Tate, 1995; Tate et al., 1993; Miller et al., 2020; Solórzano, 1997; Solórzano & Yosso, 2002) and mathematics education

[1] We use "read as white" to recognize the authors are projecting a racial categorization to the individuals based on name and other physical features (e.g., hair, skin tone). This also emphasizes the white privilege they benefited from to be heard as they would be read as white by the audience, administrators, and school board members until they chose to provide evidence otherwise. For brevity future notations will be white parents.

(e.g., Battey & Leyva, 2016; Gutiérrez, 2014; Martin, 2009). Solórzano (1998) described at least five tenets of CRT in education (pp. 122–123):

- The centrality and intersectionality of race and racism
- The challenge to dominant ideology
- The commitment to social justice
- The centrality of experiential knowledge
- The interdisciplinary perspective

These tenets guide our larger project of exploring how whiteness was maintained in the political discourses of Wilhelm Elementary's color-line. As Leonardo (2004) wrote, "The hidden curriculum of whiteness saturates everyday school life and one of the first steps to articulating its features is coming to terms with its specific modes of discourse" (p. 144). In this paper, we use CRT to help in understanding the mathematical model of equality (Tate et al., 1993) constructed through the ideal (white) reality reliant on the myths of mathematics as objective and neutral.

Mathematical Model of Equality

Mathematical modeling requires individuals to "simplify the realistic situation by making justified assumptions and by identifying those variables they consider essential, leading to an idealized version of the reality" (Anhalt et al., 2018, p. 204). Modeling with mathematics is lauded as providing learners with rich and rigorous mathematical experiences (NCTM, 2016; National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). Through a CRT lens, we need to consider how mathematical models are constructed in political discourses and applied towards the maintenance of an idealized version of (white) reality. Moore (2005, 2020) describes this as a white institutional space: "a theoretical explication of organizations and institutions focusing on how advantage and disadvantage, exploitation and control, action and emotion, and meaning and identity get patterned in terms of a distinction between Whiteness and non-Whiteness" (Embrick & Moore, 2020, p. 1940). As we demonstrate, mathematical models can be co-constructed through civic engagement in socio-political contexts to preserve whiteness, maintain white institutional spaces, and nourish oppressive systems.

Our work is guided by Tate et al.'s (1993) application of the tenets of critical race theory to (re)read and (re)tell the story of *Brown v Board of Education* to demonstrate how the supreme court's decision pushed the mathematizing of a social problem (desegregation of public schools). A mathematical solution to a social problem flattens the complicated lived experiences of People of Color to an overly simplistic mathematical model centering equality over equity by focusing on purely quantitative measures and ignoring socio-political factors. As Tate et al. (1993) argued, desegregation became squarely about the number of Black bodies moved to violent white spaces (predominantly white schools) rather than the flourishing of Black learners. School districts responsible for desegregation did not need to report on the number of Black teachers, resources provided to Black learners, personal safety and well-being, nor the achievement of minoritized learners. Thereby, the mathematical model of equality constructed after *Brown v Board of Education* continued to provide opportunities to maintain idealized (white) realities.

Critical Race Spatial Perspective

A critical race spatial perspective combines critical race theory (Delgado & Stefancic, 2017) with a spatial justice consciousness (Soja, 2010). A critical race spatial perspective is "an explanatory framework and methodological approach that accounts for the role of race, racism and white

supremacy in examining geographic and social spaces" (Vélez & Solórzano, 2017, p. 20). Critical race theory emphasizes "the lived experience of the law" (Miller et al., 2020) and a critical race spatial perspective stresses the lived experiences within constructed racialized spaces of (white) realities. Therefore, we see the attendance zone as a racialized space delineating Wilhelm Elementary's student racial makeup and defining "privilege and opportunity, as well as subordination and marginality" (Solórzano & Vélez, 2016, p. 429). The power of the school board to change the attendance zone, and thereby the racial makeup of the student body, means that community conversations about these demarcations must be seen as racialized discourses. Fitting into Soja's (2010) description of "thoughts about space" or "how materialized space is conceptualized, imagined, or represented in various ways" (p. 101).

Building on Du Bois' (1903/1994) conceptualization of the color-line, Vélez and Solórzano (2016) describe the importance of the color-line in using critical race theory to understand the "way *space* comes to be defined and experienced as the conceived and constructed reality of a racist society" (p. 14). A critical race spatial perspective highlights how the color-line constructed maintains white supremacy in spaces and places like law schools (Moore, 2007), museums (Domínguez et al., 2020), and academia (Bracey & McIntosh, 2020; Martin, 2015). Thereby, an investigation into the discourse of attendance zones can be used to better understand the color-line controlling access to Wilhelm Elementary. In this paper, we emphasize the strategic uses of a mathematical model of equality invoking the myth of mathematics as objective and neutral by those white parents wanting to shift the color-line of Wilhelm Elementary.

Methodology

Our methods follow a critical race spatial analysis by focusing on how the public comments provide insight on the thoughts about the racialized space of Wilhelm Elementary. In this paper, we followed a grounded theory approach to conduct a discourse analysis of the white parents' public comments. Our goal was to ground in the data our mathematical model of equality constructed by the white parents and the included and excluded variables of the model. We begin by describing the context of the study including a timeline of the opportunities for public comments. This is followed by the data we collected and how it was analyzed.

Context of Study

Creator ISD is located in central Texas and is a suburb of a large metropolitan area. Wilhelm is one of 35 elementary schools (see Table 1 for demographics). The district school board is made up of seven individuals (no education/policy experience necessary) elected for a four-year term to determine policy alongside district administration (typically with relevant degrees in education). At the November 21, 2019, Creator ISD school board meeting, the administration presented a plan for rezoning four elementary schools to help with overcrowding and align feeder patterns. One of the proposals was for the rezoning of Wilhelm Elementary. The proposal had approximately 311 students from the Figure Eight luxury apartments rezoned to attend Nuno Pereira Elementary. The majority of those who reside at Figure Eight are identified as South Asian and Latinx.

Table 1

Wilhelm Elementary and District Demographics (2019-2020 TEA School Report card)

	Wilhelm Elementary (874 students enrolled)	Nuno Pereira Elementary (461 students enrolled)	Creator ISD
African American	3.3%	13.9%	8.9%
Latinx	13.3%	29.6%	30.4%
White	34.1%	33.0%	37.4%
American Indian	0.3%	0.6%	0.4%
Asian	44.6%	16.2%	18.7%
Pacific Islander	0.1%	0.4%	0.2%
Two or more races	4.3%	6.3%	4.0%
Economically Disadvantaged	7.8%	40.8%	26.6%
Special Education	6.4%	18.1%	10.3%
English Learners	17.3%	19.1%	10.7%

As part of the plan, the district administration recommended providing the varying school communities opportunities to provide public comments beyond the scheduled school board meetings between November 21 and February 20, 2020. The administration recommended scheduling community hearings at the schools whose attendance zones would be changed. Public comments about the plan would also be taken at the regular school board meetings (December 19, January 16, and February 20). In addition, to make sure enough conversation and consideration was given to the boundary changes, the school board members called a meeting—a boundary workshop (Feb. 13th)—specifically to get a summary of the community discussions and provide another opportunity for public comments. On January 27th, a boundary hearing was held at Wilhelm Elementary. By district policy, boundary changes need to be voted on and determined by February 20th to take place the next school year. Table 2 provides a detailed timeline of the meetings where public comments were made.

Data Collected

Video and audio recordings of the meetings are available online on the Creator ISD website. Public comments were heard at each meeting with community members having up to 3 minutes to speak to administrators and/or the school board members. There were a total of 81 public comments given across the five meetings by 45 individuals. Myths of mathematics as objective and neutral were evoked by those in favor of changing the color-line of Wilhelm Elementary (i.e., rezoning 311 mostly minoritized learners to Nuno Pereira Elementary). These 16 parents made 34 public comments and all these speakers read as white.

Table 2

Timeline of School Board Meetings and Public Comments

Date of meeting	Meeting type	Number of public comments regarding Wilhelm Elementary	Total number of public comments
Nov. 21, 2019	Regular	4	10
Dec. 19, 2019	Regular	4	9
Jan. 16, 2020	Regular	0	9
Jan. 27, 2020	Boundary Hearing at Wilhelm Elementary	28	31
Feb. 13, 2020	Boundary Workshop (Called meeting)	22	44
Feb. 20, 2020	Regular	23	35
TOTAL		81	138

Note: Three public comments made during the boundary hearing are not included in this analysis. A student and her father spoke as representatives of Nuno Pereira Elementary and the third speaker did not state a stance on the issue but asked for clarification about the 2018 bond.

Data Analysis

For this paper, we focus specifically on the 34 public comments made by white parents in favor of shifting the color-line of Wilhelm Elementary. Each of the public comments were transcribed for analysis. Critical race scholars recommend a grounded theory approach (Solórzano & Yosso, 2001, 2002). Malagon et al., (2009) argued, "A CRT framework may influence what is observed, how discussion topics arise, and so forth, but the emerging theory is driven by the data, not by a theoretical framework" (p. 263). Therefore, we sought to follow a grounded theory approach to conduct a discourse analysis of the white parents' public comments. An initial round of open coding (Glaser & Strauss, 1969) called our attention to how the proponents of the shifted color-line would invoke mathematical computations and ideas to warrant their claims. Through iterative rounds of coding and discussion amongst the research team, the white parents' specific ways of weaponizing mathematics' myth of objectivity and neutrality became the central concern of our analysis. As we returned to coding for these specific instances, we referred to these discursive moves as strategies used by the individuals during their public comments. But, this did not capture the preservation of whiteness occurring across the meetings nor how collectively the white parents learned the genre of speaking to the school board (see Tracey & Durfy, 2007). It also failed, in our opinion, to strongly ground a theory in the data.

We recognized the actions of the white parents as a byproduct of systemic white supremacy ideals in laws, policy, and other dominant narratives. Our objective through this analysis was to better understand the white parents' perpetuation of mathematical solutions to social problems that provided them an opportunity to redraw the color-line of Wilhelm Elementary. It was decided to return to the literature to help us in determining how to move forward with our discourse analysis. Tate et al.'s (1993) uncovering of the mathematical model of equality constructed after *Brown v Board of Education* gave us the needed discourse and framing to demonstrate how the white parents' were accruing whiteness. We returned to the data to capture moments where the myths were evoked and also coded

them for the included and excluded variables described. This provided us a way to (re)construct the white parents' mathematical model of equality.

A Mathematical Model of Equality For Shifting the Color-Line of Wilhelm Elementary

Those seeking to maintain the whiteness of Wilhelm Elementary applied a mathematical model of equality (Tate et al., 1993) to flatten complicated sociocultural issues and cloak white supremacist ideals in a guise of neutrality by offering a mathematical solution to overcrowding at Wilhelm Elementary. To argue shifting the color-line of Wilhelm Elementary, the parents' applied mathematical model of equality included school population variables and explicitly excluded sociocultural identities and affective variables. Thereby, their mathematical model of equality cyclically relied on and perpetuated the narrative of mathematics as an objective and neutral tool to warrant the political actions of the board. This narrative succeeded in shifting the color-line to construct a whiter space.

Balancing school populations

The white parents' mathematical model of equality is constructed to include and exclude particular variables for consideration when making meaning of Wilhelm Elementary's overcrowding. The model helps determine the criteria for an appropriate solution to the problem. The parents' inclusion variables focused on the goal of *balancing* the aggregate student populations at Wilhelm and Nuno Pereira Elementary. Throughout their public comments, the white proponents of shifting the color-line prioritized matching each school's student enrollment to school capacity. Thereby, the model simplifies the overcrowding problem to one of moving bodies from Wilhelm to Nuno Pereira Elementary. In this section, we discuss two of the inclusion variables used to emphasize how balancing the schools would resolve the crisis of overcrowding. The first variable is focused on the notions of fairness (equal distribution), and the second, on the quantification of capacity. Together, these variables, in combination with the excluded variables of race and emotion, perpetuate the myth of mathematics as objective and neutral. The mathematical model of equality provided the white parents a way to promote a mathematical solution to a social problem; consequently, dehumanizing the learners and community from the Figure Eight Apartments.

Fairness for all? Martin (2003) asserted educational policies or public conversations that purport to be focused on providing *Mathematic for All* arguments are vague and nonspecific; providing an illusion of care for equity and social justice. As part of the parents' mathematical model for equality stressing balance, the notions of "best for all", "for all students", and "best interest of all students" were used as justification for their solution to the overcrowding problem. The *for all* rhetoric was combined with the idea for fairness or equality. These parents argued that it was important for the solution to be one that was fair for all students; but in arguing this, they did not acknowledge that fairness would be achieved by shifting the color-line. Kayla spoke at the December 19th regular board meeting and during her public comment she described the mathematical model for equality's objective or goal. "Our goal is to bring our whole community together to work with the board to *ensure fair and equal solutions*, while considering *the best interest of all of Wilhelm students*" (Kayla, Dec. 19 Regular Board Meeting, emphasis added). Once the goal of the mathematical model had been determined, the parents' could continue to emphasize how to define fairness mathematically through a balance of the student populations.

The discourse around fairness was entangled with descriptions about space and the facilities of the schools. Working within the constructed model of mathematical equality, Mason adds to his argument how moving the Figure Eight Apartment learners to Nuno Pereira Elementary will be what is really fair for all because it alleviates the overcrowding.

> You might hear about *fairness—people complain about fairness, but what's unfair is all these kids in one one place overcrowding a school.* It's much better to have two schools that are at equal capacity to support the needs of all the students. *Everyone's going to be in great schools.* We are still in Creator ISD. We're still in the same feeder patterns. So *really rezoning is what's fair to all these students.* It's giving them the facilities that they need. (Mason, Jan. 27 Boundary Meeting, emphasis added)

While not acknowledging the resultant shift in the color-line, Mason emphasizes how rezoning is the only fair act because leaving the schools imbalanced will hurt the learners in the long run, not the act of moving them to another school. It assumes the resources and facilities available to each school are equivalent. But Wilhelm Elementary does not serve the same percentage of students living in poverty nor those receiving special education services. Nuno Pereira Elementary had 40.8% and 18.1% of students considered economically disadvantaged and receiving special education services respectively versus the 7.8% economically disadvantaged and 6.4% receiving special education services at Wilhelm Elementary. These differences in context were flattened in the white parents' model. Fairness was advantageous to their whiteness.

School capacity

A second related discourse used by the white parents advocating for shifting the color-line involved the capacity of Wilhelm Elementary. The quantification of the schools' capacity, usually discussed as a percentage, was weaponized by the white parents to demonstrate the urgency of rezoning. This included the usage of both the number of students attending the school and the consequences of being over capacity. It was important for the advocates to be explicit in their comparison to the under enrollment at Nuno Pereira Elementary. Mason used the percentage of capacity to justify the shift of the color-line: "Wilhelm is at nearly 140% capacity. Nuno Pereira Elementary is the number one most unenrolled school right now at 64% capacity" (Mason, Jan. 27 Boundary Hearing). Mason justifies the included variable and argues why it meets proponents' criteria of balancing the schools. If the attendance zones are redrawn, then the two schools would be used appropriately according to their capacity. Like Ewing's (2018) example previously discussed, there is no discussion by the district administration or the white parents of how capacity percentage is determined nor its relation to the phenomenon. Wyatt's comment at the February 20th school board meeting provides another example; he stated why capacity was consequential to the learners of Wilhelm Elementary and the importance for both schools to be at capacity.

> We've seen the data, *heard the stories of the overcrowding problems experienced at Wilhelm.* I know many of us have emailed each and every one of you. You've seen the data. You've seen the stories. *That's why it's imperative to make the decision now to provide relief to the almost 900 students currently at Wilhelm.* I'd like to point out that this is—doing so is in complete alignment with [the] Creator ISD strategic plan goals, the first of which states, *we will ensure that all facilities are safe* and advanced learning for every student while planning with our community for sustainable growth. I urge you to carry out this plan. *After the change both schools will then be operating within their design capacity, which reduces the strain on Wilhelm's inadequate bathrooms, its tiny gym space, undersized cafeteria, and many other problems.* From the data from the Creator ISD website, it shows that both schools *would be within capacity*, this will *improve safety and advance the learning of every student.* (Wyatt, Feb. 20 Regular Board Meeting, emphasis added)

Wyatt is demonstrating how focusing on capacity will alleviate the other issues of overcrowding at the school and align with Creator ISD's strategic plan. Quantifying capacity provided one way for the mathematical model of equality to meet the balance criteria. He appeals to the myth of mathematics

as objective and neutral by emphasizing how those who know mathematics would be able to see the crisis of overcrowding and the urgent need for a solution. This discourse silences those who feel less comfortable with mathematics by making clear that anyone who sees the data should understand it and come to the same conclusion. Moreover, he sets up the need for a mathematical counterargument because one can only argue numbers with other numbers (see Ewing, 2018; Mudry, 2009).

Included within these discourses was the relationship between whiteness and owning property (see Harris, 1993). Two public speakers explicitly discuss how the usage of the school's capacity was being questioned and the school board members, as elected officials determining the use of the taxes collected, have a responsibility to them as taxpayers and property owners (i.e., their power in having whiteness). This is further evidenced by how historically white people have used paying taxes to assume entitlements to better education than those who presumably do not (see Walsh, 2017). The speakers leaned on their property ownership to push their mathematical model of equality regarding the utilization of the schools in terms of their capacity.

> *I'm a homeowner in this neighborhood and I pay property taxes to fund these schools* and there's a duty here to *utilize these school*s. (Kayla, Feb. 13 Boundary workshop, emphasis added)

> Also there's a *fiscal responsibility to the taxpayer to balance* the school so I'm convinced this is the logical solution and I commend the administration on their recommendation. (Mason, Jan. 27 Boundary Meeting, emphasis added)

Kayla and Mason flaunt their whiteness to demonstrate why the mathematical model for equality is legitimate and through the model a mathematical solution can be reached. As taxpayers, they make a "claim of privileged public position that obscure[s] class divisions while simultaneously elevating those with 'more' taxable income to a position of 'more' rights, particularly education rights" (Walsh, 2022, p. 239). The model, therefore, deems the solution appropriate.

The inclusion criteria discussed provided the advocates of the shifting the color-line to promote their idealized version of (white) reality. By flattening the overcrowding issue to one of fairness and capacity or balance between the schools, the parents maintain the whiteness of Wilhelm Elementary. They are able to provide a mathematical solution to a social problem fitting the criteria included in the mathematical model and argue for why it is sufficient. As part of their argument of included variables, there also needs to be claims about excluded variables.

Excluded variables: The lived experiences of policy

As the meetings continued, more and more of the families of Figure Eight gave public comments to argue against the mathematical model of equality constructed by those for shifting the color-line of Wilhelm Elementary. As a result, white parents shifted their argument to be more explicit about the excluded criteria and how the exclusion was beneficial to their mathematical model. The justification of the included and excluded variables aligned with the myth of mathematics as objective and neutral and provided power to their arguments for race (and other social identities) and emotion to be excluded. In other words, the lived experiences of the policy were to be excluded. Two discourses surrounding this excluded variable emerged from the analysis: 1) That it is unnecessary to consider race and 2) that emotions as harmful to decision-making. The myth of mathematics as objective and neutral provided the necessary legitimization for the exclusion.

Unnecessary to consider race. From a CRT perspective, "race is biologically insignificant, but it doesn't follow that it is *socially* insignificant. Race is politically and socially real because, as with currency, people have imbued the concept with a value" (Ray, 2022, pp. 6–7, emphasis in original).

Race, therefore, is central to the conversations about the demarcated attendance zone and who gets to stay at Wilhelm Elementary. While the white parents' arguments would result in shifting the color-line, their public comments explicitly worked to devalue the necessity to consider race in the school board's decision-making. When emphasizing their mathematical model of equality, race and other social factors were irrelevant to the quantifiable measures leading to a solution. The problem was framed as a numerical one, and therefore, race—as not quantifiable—was an excluded variable. Jack and Joy provided direct disregard for race in their public comment:

> These are awesome kids. Nobody here is saying that these students are bad students, bad for the school, *that this is a class decision, or a race decision. This is simply a matter of numbers.* I love all these kids. I know a lot of these kids….it hurts me that somebody has to go. But the fact of the matter is *we can't continue at this rate*, this neighborhood is also expanding. This problem is only going to get worse. (Jack, Jan. 27 Boundary Hearing, emphasis added)

> The idea that kids will be ripped away from their friends or that this has anything to do *with race, ethnicity, or socio-economic status just simply isn't true. This is a logistical numbers problem* and you, as the trustees, have a duty to help facilitate *what is in the best interest for our kids*…. (Joy, Feb. 20 Regular Board Meeting, emphasis added).

Jack, like other parents, first praised the learners as good kids, but then proceeded to erase their social identities to claim those aspects should not be considered within their model of mathematical equality. Joy emphasized the school board's responsibility to take action, and therefore, the necessity to exclude unnecessary variables like race, ethnicity, and socio-economic status. No matter what the school board's decision is, some good students will be removed and it just happens to also be mostly South Asian and Latinx learners. The mathematical problem of space at Wilhelm Elementary took precedence to the identities and needs of the learners and parents of Figure Eight Apartments.

Emotionless Mathematics. DeBellis and Goldin (2007) wrote, "mathematics, unlike the humanities, music, or the arts, is commonly understood as 'purely rational', with emotion playing no role" (p. 131). Although DeBellis and Goldin along with others (Gomez, 2016; Hannula, 2012; Martinez-Sierra & Garcia-González, 2016) stress the importance of emotions in mathematics, the white parents stressed it was an excluded variable in their model of mathematical equality. Emotions were seen as outside of mathematics and it was only through emotionless mathematics that rational unbiased decisions could be made. Emotions distort one's ability to make the appropriate decisions according to the constructed mathematical model of equality. Therefore, the mathematical model is appropriate because it allows the school board to make a more objective decision on the color-line. The exclusion of the emotion variable was only possible due to the myth of mathematics as objective and neutral. Adrian and Kayla explicitly discuss the exclusion of this variable:

> We're asking you to make *a simple decision here that removes emotion and all the other class, culture considerations. We asked you to do the math. It's first grade math.* There are almost 300 students too many at Wilhelm. There is capacity for 300 students at Nuno Pereira Elementary. My first grader could solve that problem. (Adrian, Feb. 13 Boundary Workshop, emphasis added)

> I implore you to continue to *look at the facts and data regarding this issue and to not let emotions cloud the decision* that is in the best interest *of all students.* (Kayla, Feb. 13 Boundary Workshop, emphasis added)

The exclusion of emotions was purposeful in dehumanizing mathematical activity and erasing socio-political considerations in the school board's decision-making processes. It stressed the simple quantifiable measures over socio-cultural qualitative considerations. Adrain invokes the audiences' level of mathematics needed—equivalent to a 1st grader—to demonstrate the straightforward nature of the solution and require counterarguments to address the numbers. The mathematical model of equality constructed intentionally perpetuates the myth of mathematics as neutral and objective to maintain white institutional spaces.

Discussion

At the February 20th school board meeting, the trustees voted to shift the color-line of Wilhelm Elementary even though Creator ISD administration recommended the board reject the proposal.

> But in the end, in looking at everything and the project, our recommendation—because by policy we have to make a recommendation to you on anything you ask us to look at—was to not adjust Wilhelm at this time. Let the 2018 bond project move forward with the planning and see how we can adjust maybe in the future. (Senior Chief of Schools and Innovation, Feb. 20 Regular Board Meeting)

The administration wanted more time for a 2018 bond—approved by voters to expand the number of classrooms at Wilhelm Elementary—to be completed before determining the need to shift the attendance zone. When asked for a specific timeline, the Creator ISD administrators could not provide one because they claim timelines for attaining approved permits for construction are unpredictable, but that they hoped to have construction completed by Fall 2022. The board, however, felt an urgency to resolve the issue of overcrowding as captured by a trustee's questioning of the administration:

> So I'm confused here. So your recommendation is that we do—is we leave all the kids at Wilhelm. And we have almost 300 spots available over at Nuno Pereira. Like I don't understand that. Can you explain to me a little more how that makes sense? I don't understand. (Trustee, Feb. 20 Regular Board Meeting)

The school board ultimately rejected the administration's recommendation.

Wilhelm Elementary's shifted color-line positioned the white student population as the dominant population of the school compared to previous years where Asian learners were the majority. According to student data from Creator ISD records, the Asian learner population decreased by 68% from 390 learners in the 2019-2020 school year to 125 learners in the 2020-2021 school year. The number of white learners, however, became a majority of the student body (from 34.1% in 2019-2020 to 47.2% in 2020-2021); thereby, benefiting the most from the resources at Wilhelm. While the percentage of the student population was greater for Latinx learners, economically disadvantaged, and those receiving services through special education, it is deceptive as the number of students in each of those categories decreased by 22%, 16%, and 32% respectively. This follows a history of school board decisions involving attendance zones preserving the interests of white parents (see Castro, 2022; Mendez & Quark, 2022; Walsh, 2017).

This work contributes to the field of mathematics education and mathematics-related disciplines broadly as an example of how the myth of mathematics as objective and neutral served to reinscribe and reify racialization, segregation, and educational injustice in one central Texas district. Therefore, the results of this study provide space to discuss with teachers, policy makers, mathematics educators, and other researchers the power of supposed neutral quantification and how neutrality relates directly to the maintenance and perpetuation of white supremacy (see Espeland & Sauder,

2016; Zuberi, 2001). The results of the study provide advocates one way to understand and deconstruct the mathematical model of equality widely used in political discourse, drawing attention to the flattening done by quantitative models. This can illuminate tactics used by those with whiteness and prepare community actors with tools to challenge problematic mathematical models of equality. For example, Gómez Marchant et al. (under review) describe three community members' contestation of their school district's dehumanizing mathematical model of equality during school closure debates. Their strategies are multiple including both the outright refusal of the mathematical model presented as insufficiently attending to human affect and experience and the presentation of an alternative model with the inclusion of community selected quantitative measures. We call for more research on mathematics within the tapestry of civic engagement and what it could mean for families, community members, administrators and the professional development of teachers.

A critical race spatial perspective provided insight into the mathematical model of equality constructed by the white parents and their discourses about racialized space, in this case the attendance zone of Wilhelm Elementary. Tate et al. (1993) guided us in bringing to the forefront the racial components of the white parents' construction of a mathematical model of equality that emphasized their idealized (white) reality. Our focus on the included and excluded variables shows how the myth of mathematics as objective and neutral empowered their arguments to maintain Wilhelm as a white institutional space and legitimize their privilege as property owners and entitlements as taxpayers. Quantifiable measures were powerful in flattening the phenomenon being modeled; consequently, erasing and dehumanizing the families from the Figure Eight Apartments, but at the same time providing a cloak to white supremacy ideals in a guise of neutrality. The white parents in favor of shifting the color-line were ultimately successful in arguing their mathematical model of equality as being sufficient in modeling the phenomena and providing a solution to the issue.

Conclusion

The strategies used by those maintaining/increasing the whiteness of Wilhelm would not have been possible if mathematics was not promoted as an acultural, emotionless, objective subject. In endeavoring to solve the rezoning problem, these public comments dealt with the messiness and multidimensionality of their issue by presenting a new, single-dimension problem to the board. By reducing the students and their addresses, race, culture, class and more to a single variable—a number—a once complex concern now has a simple solution. The problem these parents attempted to solve is not the one originally presented. The public commenters highlighted in this piece used numbers of their own creation, and a solution for their abstraction may not be the best solution for the students, their families, or the community. A numerical version of events might be something a 'first grader could solve,' but a numerical version of events is entirely different from the complex and multifaceted issue of rezoning real students. In other words, mathematics was used to describe a phenomenon while purporting to have no connection to humanity (see also Bos, 1991; Rubel & McCloskey, 2021). These discursive moves dehumanized the learners and community of Figure Eight Apartments. Working together, each public comment made by white parents used mathematics as a way to grant permission to distance oneself from issues of race, class, and ethnicity (see also Ewing, 2018). Mathematics permits one to have no emotional connection to the erasure of the identities of the learners and community of Figure Eight Apartments. The myths about mathematics were weaponized by white parents to construct a new racialized space maintaining their dominance.

We conclude by turning to the question of resistance. Resistance was not absent. The South Asian and Latinx parents from the Figure Eight Apartments—along with some white allies—did construct their own counter-model, but it was not a mathematical model, and thereby, silenced by quantifiable measures (e.g., capacity, balance). Future work should explore the weaving of the construction of these models during civic engagement in a variety of political spaces. Mathematics has

shown to be very powerful in political spaces. As a field, we must continue to develop a richer understanding of the discourses revolving around mathematics to counter white supremacist narratives and prepare teachers, administrators, and other researchers to resist and advocate for humanizing mathematical ideals.

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