Longevity of Math Teachers in Urban Schools

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This paper investigates reasons behind urban math teachers' job satisfaction and longevity, and examines if there are differences by teachers' race. The study site is a Title I urban public high school with many math teachers of color with long tenures at the school. Teachers of color are more likely than white teachers to remain in "hard to staff" urban schools. Therefore, retention of math teachers of color in urban schools may serve as a strategy to resolve math teacher shortages. Findings suggest the importance of administrative support for math teacher retention especially in urban schools. In addition, participants find deep meaning teaching in an urban school they say they would not experience teaching in a suburban school. Trends by teachers' race and suggestions for urban math teacher retention are discussed.

Objectives

Urban schools with diverse student bodies often struggle to find certified math teachers who remain in the classroom (Hanushek, Kain, O'Brien, & Rivkin, 2005; Jacob, 2007; Murnane & Steele, 2007). However, teachers of color are more likely to work in diverse urban schools (Borman & Dowling, 2008; Hanushek, Kain, & Rivkin, 2004; Ingersoll & May, 2011), making their retention a potential means of reducing math teacher shortages in such schools. Studies also indicate that teachers of color produce better academic results for students of color as measured by standardized tests, attendance, and advanced level course enrollment than white teachers (Achinstein et al., 2010; Hanushek et al., 2005).

This study investigates reasons for longevity of math teachers in one traditional urban Title I public school with high retention rates of math teachers, Beachside High School (pseudonym). Beachside High serves 98.5% students of color where 100% of students are

considered socioeconomically disadvantaged (California Department of Education, 2013). Specifically, I focus on these research questions.

1. What reasons do participants give for job satisfaction (and how might this differ by race)?
2. What conditions, factors, and/or experiences influence participants' longevity in the classroom (and how might this differ by race)?

Theoretical Framework

Students in urban setting schools, with high populations of students of color, have less than a 50% chance of being taught by a math (or science) teacher with teaching certification specific to their field of instruction (Oakes, 1990, in Darling-Hammond & Berry, 1999). Such schools typically serve poor students of color in under-resourced urban districts (Darling-Hammond & Sykes, 2003). Not only do urban schools struggle to find certified teachers, their teachers also exit at greater rates (Ingersoll, 2001) primarily due to job dissatisfaction, not retirement (Ingersoll & Perda, 2009). Half of teachers in high poverty schools leave within the first five years of teaching, and as soon as the first three years in some urban districts (Haberman, 2005). On average, teachers who remain in urban schools are as effective or better than those who exit, and high teacher turnover is detrimental to student achievement (Hanushek et al., 2005).

White teachers demonstrate "white flight," where the percentage of students of color in a school is independently and significantly related to (white) teacher turnover, even when holding school poverty constant (Ingersoll & May, 2011). For teachers of color, on the other hand, student demographics are not correlated with reasons for their transition to a different school nor to their exit from the field (Ingersoll & May, 2011). Unfortunately, teachers of color exhibit greater attrition rates because they are two to three times more likely to choose to teach in an under-resourced urban school with challenging work conditions (e.g. lack of support for new teachers, availability of classroom resources) (Ingersoll & May, 2011).

Retention of teachers of color may improve the shortage of math teachers in urban schools. The present study investigates what keeps

math teachers in one urban Title I public high school, examining differences by teachers' race.

Methods

All math teachers with more than five years' experience at Beachside High School, or BHS, were invited to sit for a 60-minute interview, and all those invited participated. All interviews were audio recorded with participants' consent. Interviews were transcribed through a transcription service. To ensure accuracy of transcription, I re-listened to audio files several times and made corrections to transcripts.

Using a grounded theory approach (Charmaz, 2006) I developed *initial codes* through line-by-line coding of transcript data (Thornberg & Charmaz, 2014). I used Atlas.ti to code and re-code transcripts. I synthesized data through *focused coding*. I created a matrix display (Miles & Huberman, 1994) with frequency and percentage of codes by participant, with participants of similar ethnic backgrounds in columns next to one another. I then returned to the coded transcripts I created in Atlas.ti to analyze and write narrative profiles for each teacher, pulling out illustrative vignettes and quotations. This perspective proved helpful to my analysis in developing *theoretical codes* and establishing overall themes.

To attend to concerns of validity I wrote self-reflective memos to be mindful of the potential bias my perspective brings to the work (Creswell, 2013) as a former urban math teacher of color (Asian American) of 11 years. To consider reliability concerns I re-listened to audio files multiples times to correct interview transcripts, conducted several rounds of coding and re-coding, and engaged with an interpretive community to discuss codes and themes.

Data Sources

Interviews were conducted with all eight math teachers who met the study criterion of more than five years' experience at Beachside High School. Because half of teachers in high poverty schools exit within the first five years, or even as low as three years in some urban districts (Haberman, 2005), I sought a site with many math teachers above

their fifth year. Eight of the total nine math teachers met the study criterion of teaching more than five years at BHS. The eight study participants have been teaching at Beachside High for 10 to 24 years.

Six of the eight participants are teachers of color (four are Asian American and two are African American), much more diverse than the national or California averages, where teachers of color comprise only 16.5% and 33.2% of the teaching force respectively (California Department of Education, 2013; Ingersoll & May 2010).

Beachside High School is a large traditional Title I public school in the Brookdale Unified School District, not a charter or specialized high school. Beachside High serves approximately 1,700 students, of whom 98.5% are students of color, 100% are socioeconomically disadvantaged, and 35.1% are English Language Learners (California Department of Education, 2013). The student body is 34.4% African American, 40.1% Asian American, 1.6% Filipino, 20.5% Latin@, 0.4% mixed race, 0.3% Native American, 0.6% Native Hawaiian or Pacific Islander, and 1.5% white (California Department of Education, 2013).

Beachside High School (pseudonym) is situated in Brookdale (pseudonym), an urban California city with 65.5% residents of color. Brookdale is one of the most diverse cities in the nation, with no majority ethnic group (U.S. Census Bureau, 2010).

Results

In this section I first describe what threatens participants' satisfaction and longevity specific to urban schools. Next I explain three factors that improve satisfaction and longevity, two that may also apply to suburban teachers and one factor specific to urban teachers. Lastly, I examine trends by teachers' race.

Lack of Administrative Support

The purpose of this study is to determine reasons urban math teachers stay in the classroom. To fully understand what keeps urban math teachers in the classroom, I first discuss barriers to longevity before discussing factors that improve retention. In interviews, six of the eight participants brought up the lack of administrative support

as challenges to their work. Participants' expectations for support centered solely around their desire for assistance with classroom management or safety concerns. Participants did not mention a desire for support from administration for any other matters, such as curricular design or opportunities for leadership development. Rather, participants expected administrators to "back them up" if needed for help with classroom management. For example, Mrs. Cao, 35, a Vietnamese American teacher of 13 years at BHS, who grew up in Brookdale, mentioned her struggles with classroom management. At times she needs to call security, but the school administrative systems did not providing the support she desires.

While BHS math teachers recounted stories that illustrate their management or safety concerns at BHS, due to what they characterized as poor administration, they did not express fear of the community itself. BHS math teachers expressed anger, frustration, and disappointment with administrators' "laissez faire" disciplinary approach that they felt "enabled" students. Ms. Allen (pseudonym), an African American math teacher with 10 years experience at BHS, mentioned safety concerns such as the following. "Kids are getting robbed, beat up and then instead of the kid getting consequences, the kid's sitting next to the kid who just stole their iPhone and beat them up in class with no consequence for the kid." She attributes the presence of such safety concerns to poor administration.

> I'd say the biggest, hugest, worst problem at Beachside High is not at all the kids. The kids are always fine. I don't even care if half of them are coming out of jail. They're fine. They're all fine. They're kids, you know. They just want to come here and enjoy their high school experience and talk to a girl and you know I mean silly stuff, right? Our biggest problem is they are children and they need consistency and our administrators are completely and totally inconsistent. There are no rules. There is no structure. There are no guidelines. There are no punishments. There are no rewards. There are no consequences. There's nothing, and it's just letting our kids know that nobody cares.

Like Ms. Allen, participants expressed frustration and disappointment with their administration's approach to management, adding that they believe it communicates low expectations to students. While

this threatens their longevity, the eight participants have been at BHS for 10 to 24 years. Their longevity is improved by three factors. The first two factors may also relate to suburban math teachers, and the third factor is specific to urban math teachers.

Structural Features

Common to teachers of various school settings (e.g. suburban teachers), BHS math teachers enjoy structural features of the profession, such as their autonomy, work hours, reliable employment, and summer vacations. For instance, Mr. Liu mentioned the unpredictability of his previous careers and his desire to find steady employment.

All eight participants felt they had autonomy in their classes to develop lessons, projects, and exams. Teachers described having "total autonomy" and "lots of freedom." Previous research indicates that autonomy influences teacher retention and attrition (Borman & Dowling, 2008; Boyd et al., 2009; Hanushek et al., 2004; Ingersoll, 2001). Autonomy is critical to job satisfaction not only for teachers (Ingersoll, 2001; Ingersoll & May, 2011) but overall for any profession (Spector, 1986). Autonomy in instruction also offered opportunities for BHS math teachers to be creative to find ways to "make the math accessible to all students." In addition to autonomy, teachers discussed their enjoyment of a "fresh start," "every day is a new day," and that their jobs are "never boring." Participants also mentioned this aspect as fitting their personalities, where they "get bored easily."

Student Interactions

In addition to structural features of the profession, participants, both of color and white, enjoy interactions with students. First, participants enjoy students' "aha" moments." For instance when asked what she likes best about teaching, Mrs. Talbott, 34, an African American teacher of 12 years at BHS who grew up in Brookdale, responds enthusiastically, " When students say, 'Oh I get it!' You know, I love that. I love that, I love that. It makes me feel like I've done my job and that I've opened up a new world for someone." When asked what he likes best about teaching Mr. Ngô, 35, a Vietnamese American math

teacher of 16 years at BHS, responded, "It's interacting with the students. Students ask me high level, critical thinking questions."

Second, participants enjoy learning from students. Mrs. Guo, for example, 61 years old and a Chinese American math teacher of 15 years, told me that she is "learning every day." When asked what keeps her motivated she said, "I'm learning from my kids, knowing humanity and knowing each kid can bring something." Mrs. Cao, 35, a Vietnamese American math teacher who grew up in Brookdale and attended Title I Brookdale public schools, described how she feels "inspired" and "empowered" by her students.

Third, not surprisingly, participants enjoy gratitude from students. Mr. Gardner, 59, a white teacher of 24 years at Beachside High responded, "The biggest impact is when students come back and are like, 'I am so glad you did this or I'm so glad you did that. You have no idea what you've done (for me).'" Even small gestures are meaningful to participants. Mrs. Talbott mentioned that getting a candy cane from a student at Christmas time "means the world" to her. This is consistent with social emotional rewards of teaching generally of various settings, subjects, and grade levels (Lortie, 1975).

Meaningful Work in an Urban School

Participants explained that they felt more useful, or more needed, in an urban under-resourced school like BHS. These findings are specific to teachers in an urban school. When asked if participants chose to teach at BHS intentionally or if by coincidence they affirmed their commitment to teaching in an urban school. For example, white Jewish math teacher Mr. Levi, 59, who has been at Beachside High for 15 years, explained why he teaches at BHS: "Because that is where the most need is. It's that simple. That's why I'm here. Being a math teacher I could go teach in almost any district in the country, but this is where I feel I have the most influence."

Brookdale native Mrs. Talbott told me that she would only teach in Brookdale schools. When I probed and asked if she would ever consider teaching in a suburban school, she responded quickly, "Oh heck no. No, nothing against that. That's fine, but I feel that I can have more impact in here, you know, in the neighbourhoods, in the schools that I'm from because that's where the struggle is." Mrs. Talbott's

personal experience growing up in Brookdale, attending Brookdale public schools, and currently living in Brookdale, makes her all too aware of the city's challenges. For Mrs. Talbott, Beachside High is "where the struggle is." Her sentiment indicates a social justice focus to her work as well as a commitment to her community. Like Mrs. Talbott, participants expressed personal meaning they gain from teaching in a Title I urban school rather than a suburban low poverty school.

Trends by Teachers' Race

African American teacher Ms. Allen described her experiences in a math fellowship program as the only black woman. She explained that she felt she was perceived as "the angry black person" by others in the fellowship. "When you're the only black person then you start thinking you're crazy unless there's another black person there because you can't process all these feelings, and then when you step out and dissect it you realize, 'That's super foul.'" Ms. Allen explicitly mentioned that she feels more comfortable and more respected teaching amongst her diverse colleagues at BHS, very unlike the environment of her math fellowship program. She explained how these experiences make her more understanding of others' struggles. "I think being an outside person makes you sensitive to other outsiders. It makes you more respectful, whether it's the money they have or don't have, or the countries they're coming from, or the language they have or don't have." She also noted that her ethnic identity influences her work with students.

> I think that my identity as a black person - if I see kids cursing on the bus I tell them to stop. A lot of people are afraid of black kids, so they don't want to correct them. They are children and need to be corrected. But because they're afraid that they might all pull out their guns, and I don't care even if they've got a gun, "Put the gun away and stop cursing. You're not going to shoot me, I know your mom. I'll call your mother." [laughter] I'm not afraid of black kids. I can look at them and know, "You don't do that at home, so don't even think about trying it here."

Similarly, Brookdale native Mrs. Talbott explained wanting to be a role model to African American students in her community:

> Growing up I think I only had one black math teacher, and I want show other black kids that, "We can do math too you know, like hello!" and I'm from the neighborhoods they're from. I want to be an inspiration for them like, "She's just like me," you know, and I still talk like them. I still live in the same neighborhoods as them.

Interestingly, Mr. Ngô, who like Mrs. Talbott grew up in Brookdale and attended Brookdale public schools, did not mention wanting to contribute to his community as an influential factor in his job satisfaction or longevity. Mrs. Cao, also a Brookdale native, mentioned being "inspired by her students" as influential to her job satisfaction, but did not express a strong commitment to the Brookdale community as Mrs. Talbott did. Mrs. Guo expressed a "special interest in helping immigrant students." Chinese American teacher Mr. Liu, who grew up in a city near Brookdale, also did not express a desire to serve as a role model or give back to the community. Further investigation may help uncover reasons behind Mr. Ngô, Mr. Liu, and Mrs. Cao's commitment to BHS, as well as white Jewish teacher Mr. Levi's relationship to the community.

White teacher Mr. Gardner described a transformative, or seminal (Warren, 2010), experience being immersed in a community of color through his student-teaching placement in a Brookdale middle school. He explained his initial discomfort leaving his "lily white" hometown to student teach in a school with 90% African American students. He described the racism of his hometown, explaining that there were laws regulating to whom homes could be sold. In his student-teaching placement, two African American teachers took him under their wings. He reflected fondly on his student-teaching experience:

> It was the best thing that could have happened to me. It scared the poop out of me when I was told I was going to student-teach there, but it opened my eyes to this whole world that I had no clue about growing up. It changed who I am and a lot about how I view the world. That's how I came in to Beachside High.

These findings highlight trends by teachers' race of how participants gain meaning teaching in an urban school like BHS.

Discussion

Findings suggest the universality of certain factors of teachers' professional satisfaction, such as structural features of the profession and social emotional rewards gained through student interactions (Lortie, 1975). Participants' appreciation of seemingly small gestures by students (e.g. graduates returning to say hello, saying thank you) is consistent with Hargreaves's (2000) study of elementary and secondary teachers' perception of interactions with students.

However, findings also highlight the importance of other factors specific to a diverse, urban, high poverty high school. First, for math teachers at BHS, administrative support is critically important to their longevity. Second, study participants find deep meaning working in an urban school that they say they would not experience at a suburban school.

The Importance of Administrative Support

Nationwide, administrative support is a significant factor of teacher attrition, especially in urban, high poverty public schools (Borman & Dowling, 2008; Ingersoll, 2001; Ingersoll & Perda, 2009). An interview study of 12 teachers who left urban schools by Smith and Smith (2006) suggests that teachers who exit urban schools leave out of fear of the community and unsafe incidents that may make their way into the school setting. However, participants in the present study didn't express fear of the community.

BHS teachers may not be afraid for several reasons. First, participants have been teaching at BHS for ten to 24 years, and have experienced safe school climates with different administrators. Second, participants mentioned close relationships with students who engaged in unsafe actions. Third, participants from the present study either grew up in Brookdale, currently live in Brookdale, grew up in a community of similar demographics, or have had transformative experiences where they view the city of Brookdale positively.

The Importance of Finding Meaning Teaching in an Urban School

Study participants found considerable meaning teaching at BHS. Participants explicitly stated that they would not achieve these social emotional rewards teaching in a suburban low poverty school. These findings are consistent with research on the personal meaning dedicated teachers gain from their work in urban schools (Jupp, 2013; Nieto, 2003; Stanford, 2001).

How participants found meaning teaching in an urban school varied by teachers' race. A body of research suggests that teachers of color enter the profession for "humanistic" reasons and choose to teach in urban schools with students of color (Ainstein et al., 2001) in order to "raise the race" and "give back" to the community (Villegas & Irvine, 2010). Mrs. Allen, Mrs. Talbott and, to some degree, Mrs. Guo and Mrs. Cao expressed reasons that align with these findings. However, Mr. Liu and Mr. Ngô did not express a desire to give back to the community. This contrasts Su's (1997) case study of teacher candidates, where commitment to urban schools for participants of color was influenced by their awareness of educational inequalities. Su's work is relevant because although results are not parsed out by ethnicity, (participants of color are compared to white teachers) the majority of the participants of color in the study were Asian American. Quite possibly, because Mr. Ngô grew up in Brookdale and even attended BHS, his lack of exposure to schools with more resources makes him unaware of inequities. Likewise, Mr. Liu grew up in a city very close to Brookdale. Research on Asian American teachers, much less Asian American math teachers, is extremely sparse (Ng, Lee, & Pak, 2007), and further investigation may yield interesting findings about Mr. Liu and Mr. Ngô's commitment to Brookdale youth.

Significance

This study sheds light on what keeps math teachers in urban schools with predominantly students of color. Participants' longevity, for teachers of color and white teachers, is threatened by administrative issues, but improved by structural features of the profession, student

interactions, and meaningful work in an urban school. Math teacher longevity in urban schools may be improved with stronger administrative support and by cultivating positive relationships between teachers and administrators and between students and teachers. Schools that can support such relationship building may be able to better retain math teachers in urban schools.

Future research may address areas of the study's limitations. Participant observation and student interviews may add data to triangulate with interview data. Adding surveys, ranking activities (Stanford, 2001), or focus groups may also enrich data on math teacher satisfaction and longevity. Additional interviews with the same participants may illuminate more reasons behind teacher longevity (Seidman, 2006). Inclusion of data collection with teachers who recently left BHS may help understand the "tipping point" of how and when math teachers decide to exit an urban school.

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