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Retaining Teachers of Color: The Role of Relationships

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by

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ABSTRACT OF THE DISSERTATION

Retaining Teachers of Color: The Role of Relationships

by

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With an increasingly diverse student body, the retention of Teachers of Color continues to be an area of high interest within education research. In the context of in-service experiences, existing literature identified relationships as a key sustaining factor for teachers and source of social capital, although many Teachers of Color look outside the school to find these relationships (Achinstein et al., 2010; Dingus, 2008; Flores, 2011; Kohli, 2019; Pour-Khorshid,

2018; Ritchie, 2012). Social capital scholars have posited that resource exchange occurs within these relationships or social networks (Lin, 2001). For teachers, these networks and the capital held within can impact job satisfaction, teacher learning and reform, and educational leaders can play a pivotal role in fostering network formation (Bridwell-Mitchell & Cooc, 2016; Daly et al, 2010; Daly et al., 2011; Liou & Daly, 2014; Moolenaar et al., 2012; Penuel et al, 2009; Pil & Leana, 2009). Yet, for all the stated benefits of relationships in the teaching profession, very little research exists examining the social networks of Teachers of Color specifically, who must work in a racialized K-12 education system. This mixed methods study aimed to critically examine the social networks of secondary Teachers of Color at their school site. By drawing upon critical race and social capital theories, the study used critical social network analysis to mix semi structured interviews and social network methods and explore how these teachers form, maintain, and make meaning of their school networks. Findings revealed that participants engaged with the concept of network formation as a journey, were sensitive to the school culture and the value the school placed on emotional connection, and additionally noted the role of key mentors and individual actors within their networks. Implications are provided for schools and districts serving to increase teacher support at their schools.

Chapter 1: Introduction

Teachers of Color represent a small subset of the teaching workforce, but have higher migration and attrition rates compared to White teachers (Achinstein et al., 2010; Carver-Thomas, 2018; Ingersoll et al., 2017; Ingersoll & May, 2011). This places equal burden on teacher retention efforts within the public education system and warrants an examination of systems of support for the Black, Latinx, Asian/Pacific Islander, and Indigenous educators within schools –one that is grounded in critical race theory and a belief that the structures that perpetuate inequities for students within the education system also extends to their teachers. This is especially pressing, as recent reports state Teachers of Color comprise 20% of the teaching force in the United States, while Students of Color make up 50% of the nationwide student population (Carver-Thomas, 2018).

This discrepancy is an area of concern as Teachers of Color, or ToCs, produce a multitude of positive results for Students of Color, in the form of increased attendance, enrollment in advanced courses, and standardized test scores (Albert Shanker Institute, 2015; Buddin & Zamarro, 2009a, 2009b, 2009c; Dee, 2004; Dee 2005; Egalite et al., 2015; Fraga et al., 1986; Hess & Leal, 2007; Villegas & Irvine, 2010). High proportions of ToCs in large urban school districts correlate with higher high school completion and college enrollment rates for Students of Color (Fraga et al., 1986; Hess & Leal, 1997). Elementary schools across the nation with large numbers of Black and Latinx teachers and principals have greater proportions of Black and Latinx students in gifted programs (Grissom et al., 2017). Even when some studies demonstrate mixed results of student performance when taught by same race teachers, a strong body of evidence indicates ToCs produce positive outcomes for Students of Color (Buddin & Zamarro, 2009a, 2009b, 2009c; Dee, 2004; Egalite et al., 2015). Considering the stated benefits

of ToCs, it is encouraging that their presence in the teaching workforce has grown from 12% to 20% in the past 30 years (Carver-Thomas, 2018). However, the proportions relative to Students of Color reveal a complicated landscape, one that has stark implications for the retention of ToCs.

Statement of the Problem

According to national public school reports, Black teachers make up 6.7% of teachers, down from 8% just 30 years prior, and Indigenous teacher populations have decreased from 1.1% to 0.4% (Carver-Thomas, 2018). This negative percentage change is mirrored by a decrease in the proportions of Indigenous (now 1%) and Black (now 15%) students as well, although a gap between the numbers of teachers and students still persists (Ingersoll et al., 2017; National Center for Education Statistics, 2020b). While there are increases for Asian/Pacific Islander (0.9% to 2.3%) and Latinx teachers (2.9% to 9.3%) in the past 30 years, the overall proportion of students who are Asian/Pacific Islander and Latinx has also grown. In fact, the gap between Latinx teachers (roughly 9%) and Latinx students (growing more than 25%) has widened (Carver-Thomas, 2018; National Center for Education Statistics, 2020a). Accordingly, while there is a documented increase in the number of ToCs, there remains a call for increased racial parity.

A closer look at the growth of ToCs additionally reveals an unequal distribution of teachers. An overwhelming majority (92%) of ToCs work in public schools (Ingersoll, et al., 2017). About 64% work in high minority public schools, more than three times as many as White teachers, and 62% work in high poverty public schools, compared to the 31% of White teachers. Yet, ToCs move schools or leave teaching at a higher rate (19%) than White teachers (15%), disproportionately affecting these high poverty and high minority schools (Carver-Thomas,

2018; Ingersoll et al., 2017). Consequently, the conversation shifts away from recruitment and towards retention, calling for a closer and critical examination of the fraught narrative surrounding ToCs, including the systems and structures that keep them from persisting in the teaching profession and the supports that allow them to thrive.

One such support is the professional relationships of ToCs. Teacher relationships and social networks increase access to a variety of work related and supportive resources, which can positively impact schools (Bridwell-Mitchell & Cooc, 2016; Daly et al, 2010; Daly et al., 2011; Liou & Daly, 2014; Moolenaar et al., 2012; Penuel et al, 2009; Pil & Leana, 2009). Since resources exist within relationships, understanding the formation and features of those relationships is essential for contextualizing the network as a whole and social capital exchange. For ToCs, whose retention is established as a necessity and who face troubling racial climates, understanding the presence or absence of their social networks at a school, especially as it pertains to sustaining them in their work, is a necessity (Albert Shanker Institute, 2015; Amos, 2010; Amos, 2016; Egalite et al., 2015; Ingersoll & May, 2011; Jay 2009; Kohli, 2012; Kohli, 2019; Pizarro & Kohli, 2020). In the context of critical race theory, these networks cannot be examined in isolation from the power dynamics that shape the experiences of these teachers.

Purpose of the Study

The purpose of this study was to use a critical perspective to examine the social networks of secondary public school ToCs at their school site. While extensive literature exists leveraging a critical race theory approach to centering the narratives of ToCs in the field, limited research exists applying a social capital lens to secondary ToCs. Thus, there existed an opportunity to use a critical social network approach - melding counternarratives with social capital theory to gain novel perspective on the social networks of ToCs. Specifically, this study aimed to characterize

the nature of these networks, with emphasis on the content and significance of the networks, to address the retention of ToCs. Additionally, the study examined the factors that impact production and maintenance of these social networks.

Research Questions

This study used critical race theory and social capital theory to explore the following research question, via two sub questions: In what ways, if at all, do social networks, when viewed from a critical perspective, support or constrain the retention of Teachers of Color at their school site?

Sub Question #1: How do Teachers of Color describe their social networks at their school site?

Sub Question #2: What do Teachers of Color believe about school context factors that enable or constrain the formation of social networks at their school site, when viewed from a critical perspective?

Theoretical Framework

The following review used critical race theory and social capital theory as lenses to frame the existing literature around Teachers of Color and social networks, in addition to the proposed research methodology.

Critical race theorists examine race as a central structure in society, and emphasize the need to push back on dominant master narratives that uphold perspectives of a post racial, meritocratic society (Ladson Billings & Tate, 1995; Solórzano & Yosso, 2001; Zamudio et al., 2011). In the context of education, critical race theory (CRT) links contemporary racial inequality in schools to past historical processes and relies on counternarratives as an effective tool in uplifting the experiences of People of Color. Consequently, CRT scholars leverage this process of interrogation within systems to understand and explain inequities within education

and educational outcomes. CRT, then, has impacts on the lens with which to study broad systems in society, but also methodological implications for how to do so. In this study, CRT was be used in conjunction with social capital theory to delve into the workplace relationships of ToCs.

Social capital theory focuses on resource exchange within patterns of relationships; capital exists within networks and varying relationships will result in differential access to those resources (Lin, 2001). These resources exist in multiple forms, whether advice, emotional support, financial support, or tangible goods or services. Given the differential access to social capital, there is potential within systems and networks for unequal distribution of capital to produce and reproduce inequity (Bourdieu, 1986). At the same time, access to social capital can offer strength and opportunity to communities (Coleman, 1988). In the context of teacher networks, bridging and bonding capital is an especially useful concept, where strong ties can result in bonding social capital, more homogenous by nature and useful for solidarity and support (Granovetter, 1973; Putnam, 2000). Alternatively, bridging capital draws on weak ties, creating access to new ideas and resources.

Extending Bourdieu's conceptualization of social capital, wherein the unequal distribution of capital reproduces inequity, a more critical approach to examining teacher networks was needed to account for power imbalances, whether formal (hierarchical structures) or informal (race, gender) that may impact resource acquisition for ToCs.

Altogether, combining both critical race theory and social capital theory to examine the experiences of ToCs offered an opportunity to leverage multiple, complementary methodologies (see Figure 1). A facet of critical race theory is the use of counternarratives as a qualitative tool for making visible racial inequality – a tangible method to offer a challenge to dominant narratives. At the same time, a growing approach in social capital – social network analysis –

offers a variety of tools to examine individual networks and organizations as a whole. Most recently, a newly emerging methodological framework – critical social network analysis – creates an opportunity to examine the sharing of resources, informed by the power dynamics in a given organization (Gonzalez Canche & Rios Aguilar, 2015; Hopkins et al, 2022). It is within this space that this study existed.

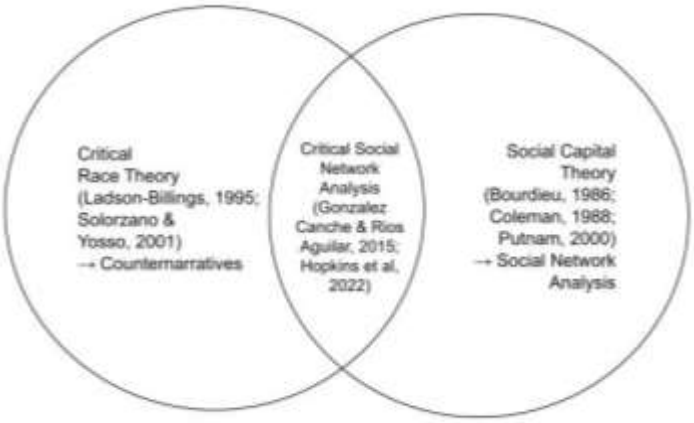


Figure 1

Framework for Examining Networks of Teachers of Color

Research Methodology

This study used a mixed methods design drawing on ego network methods embedded within semi structured interviews of six individuals. Egocentric mapping was chosen because it offered an opportunity to determine how individuals are embedded within the teacher networks at their school. The focus remained on mapping the network as defined and perceived by the participant, without making assumptions about pre-existing boundaries, relationships, or community structures (Carolan, 2014; Van Waes et al., 2016). The semi structured interviews offered a qualitative element to the study, providing access to insight on the quality of the relationships in individuals' networks and informing how, if at all, race, culture, and power

manifests in the production and maintenance of these networks, as is a key component of a critical perspective.

Significance of the Study

This study offered school leaders perspective on how they can create supportive structures that facilitate inclusive relationship building amongst their teaching staff, especially for ToCs. Additionally, this study extended the research on social networks in education by focusing on ToCs as a specific population. Both research goals serve to address broader concerns around the retention of ToCs, given the demonstrated benefits they have for Students of Color (Albert Shanker Institute, 2015; Buddin & Zamarro, 2009a, 2009b, 2009c; Dee, 2004; Dee 2005; Egalite et al., 2015; Fraga et al., 1986; Hess & Leal, 2007; Villegas & Irvine, 2010).

Definition of Terms

This works adopted the capitalized phrase "Teachers of Color," to highlight the shared experiences of Indigenous, Black, Latinx, and Asian/Pacific Islander teachers in this profession, while acknowledging the phrase also results in the erasure of identities (Carter Andrews et al., 2019, p. 10). This allowed for a more comprehensive exploration of these teachers' experiences. Where possible, specific reference to identity was made to honor educators and the nuances of their multifaceted cultural, linguistic, and ethnic heritage. In the same vein, the phrases Students of Color, Communities of Color, Staff of Color, and People of Color are also capitalized.

Chapter 2: Literature Review

Introduction

Teachers of Color exist at a unique intersection in education. Some carry the emotional weight of being the lone voices advocating for Students of Color (Burciaga & Kohli, 2018; Hernandez-Johnson et al., 2021; Jay, 2009; Kohli, 2018; Pizarro & Kohli, 2020). Others flock to urban schools, where they produce substantial positive results for Students of Color, yet suffer from higher attrition rates than their White counterparts (Achinstein et al., 2010; Albert Shanker Institute, 2015; Buddin & Zamarro, 2009a, 2009b, 2009c; Carver-Thomas, 2018; Dee, 2004; Dee 2005; Egalite et al., 2015; Fraga et al., 1986; Hess & Leal, 2007; Ingersoll & May, 2011; Villegas & Irvine, 2010). Whereas White educators can persist without unpacking race, culture, and the power dynamics that exist within the mainstream education system, their colleagues of Color are asked to conform (DiAngelo, 2006). This includes not just the classroom experiences of teachers, but their pre service experiences as well.

Preservice Experiences of Teachers of Color

Prior to entering the workforce, prospective ToCs are faced with a litany of obstacles, beginning with certification exams. Many states require candidates to demonstrate subject matter competence and pedagogical knowledge through licensing exams (Goldhaber et al., 2017). Yet, existing literature and legal precedence indicate cultural bias within the language of these tests contributes to gaps within scores of teachers by race (*Gulino v. N.Y. State Educ. Dept*, 2006; Kolman et al., 2017; Medley & Quirk, 1974). In addition to the nature of the exams themselves, the expenses related to becoming a teacher pose an additional barrier. With the language of the traditional subject matter competence tests being culturally biased, many prospective ToCs incur additional costs, as they retake the tests multiple times (*Gulino v. N.Y. State Educ. Dept*, 2006;

Kolman et al., 2017; Medley & Quirk, 1974). The financial burdens of the teacher certification process continue once candidates are in a program. For prospective ToCs who are recent immigrants, first generation college students, or care for family members in multigenerational households, the unpaid student teaching work required by traditional teacher education programs and costly tests serve as an additional financial toll (Darling-Hammond & Snyder, 2000).

Shifting from the logistical challenges of teacher preparation, within the coursework itself, ToCs struggle to belong. They may feel silenced after experiencing frustration, despair, and fear, even in multicultural education courses or find themselves in a space that promotes colorblindness (Amos, 2010; Endo, 2015). Others may feel the program does not align with their social justice orientations, approaches the education of Communities of Color in problematic ways, or that they must take on the additional burden of serving as a counternarrative for the consumption of others, or to prove belonging (Cheruvu et al., 2014; Endo, 2015; Kohli, 2019). This is further complicated by the significant amount of implementation efforts, research, and program changes geared towards White preservice teachers as a population of interest, once again silencing preservice ToCs and their needs (Sleeter, 2001). Even if the teacher education program does align with their social justice orientations, these teachers feel the program still fails to sufficiently prepare them for navigating the racial climates of schools, to the extent they may eventually leave their school site (Kohli, 2019). For many ToCs, as they complete their preservice requirements and enter into their classroom, their struggles with belonging continue.

In Service Experiences of Teachers of Color

A wealth of studies reveal that for ToCs, once they transition into the classroom, the factors impacting their in service experiences are deeply contextual and multifaceted. Differences in leadership, organizational structure, school culture and climate, and the presence

or absence of other ToCs at a school site results in a wide range of outcomes (Achinstein et al., 2010; Achinstein & Ogawa, 2011; Amos, 2016; Choi, 2018; Endo, 2015; Farinade et al, 2016; Flores, 2011; Jay, 2009; Madsen et al, 2018).

For Latina teachers, their status as a bilingual cultural broker manifests differently depending on the demographics and organizational culture of their school site. Where they exist as a numerical minority, or as a commodified bilingual resource, these teachers face pushback in their culturally responsive work or are burdened with additional unpaid work as a translator, English as a Second Language (ESL) curriculum specialist, or community event organizer (Achinstein & Ogawa, 2011; Amos, 2016; Flores, 2011). At the same time, when Latina teachers feel strongly supported through new teacher initiatives, administrator support, or access to social capital, they find their community orientations valued, and view their school sites more favorably (Achinstein & Ogawa, 2011; Flores, 2011).

When one of few minority teachers at a school, Black teachers report existing as both hyper-visible and invisible members of staff; visible when tokenized, yet microaggressions render them and their voices invisible at other times (Jay, 2009). In the end, these educators suffer from coping fatigue and find their confidence shattered. Alternatively, Black female teachers feel school sites offering administrative support, increased salary, and opportunities for advancement contribute to their desire to persist in the profession (Farinade et al., 2016). In the same vein as Latina teachers who are perceived as the natural choice to serve as parent liaisons for the Latinx community, perceptions of Black teachers as the Black expert, result in these teachers being assigned the bulk of the work meeting the needs of Students of Color (Flores, 2011; Jay, 2009; Madsen et al., 2018).

This pattern occurs again for Asian American teachers, expected to take the lead on planning the bulk of school sponsored diversity events (Endo, 2015). Asian teachers may additionally have their authenticity as an American citizen questioned, struggle with reconciling the model minority myth with their teacher identity, and female teachers in particular, face stereotypes from their colleagues around the racial fetishization of Asian women (Choi, 2018; Endo, 2015). In one case study, a Korean American teacher felt their social justice lens towards their curriculum was more easily accepted due to a perception of their increased "Americanness" (Choi, 2018, p.111). This reveals, however, acceptance due to a proximity to Whiteness. In fact, while these experiences reflect a variety of outcomes, all reveal ToCs must navigate being othered in a field dominated by and centering Whiteness as the norm, and that the school context plays a key determining role. Notably, many of these teachers find themselves taking on additional responsibilities as representatives of their communities.

In addition to the challenges associated with the amount of additional emotional and physical labor asked of ToCs due to their race, the stressors associated with that work are made more substantial by weak professional networks and feelings of alienation (Amos, 2016). These teachers approach their practice with a community orientation, identifying as part of the community their students and families come from (Dingus, 2008; Endo, 2015; Flores, 2011; Hernandez-Johnson et al., 2021). They find themselves invested in the overall well-being of their students, and ground their practice in developing relationships with their students. Yet, multiple studies suggest critical work can be isolating for ToCs, especially when their expertise, perspectives, and funds of knowledge are minimized (Burciaga & Kohli, 2018; Hernandez-Johnson et al., 2021; Jay, 2009; Kohli, 2018; Pizarro & Kohli, 2020). These teachers feel undervalued for their insights into Communities of Color; their engagement and connection to

students perceived as unprofessional or biased (Burciaga & Kohli, 2018). Others are challenged for pushing curricular boundaries, or state a general lack of appreciation, support and respect contributes to a sense of isolation (Hernandez-Johnson et al., 2021). Even more teachers feel alone in their advocacy work, both physically and psychologically (Amos, 2016; Kohli, 2018; Pizarro & Kohli, 2020).

In short, the cultural hierarchies of public school systems challenge these teachers and their philosophies of education. ToCs who are ultimately pushed out of the profession articulate this tension as a struggle between reconciling their identity as a teacher with their identity as a Person of Color (Hernandez-Johnson et al., 2021). They feel isolated, are overlooked for leadership opportunities, or lack support, all of which ultimately hinder their growth towards their goals, and their ability to support their students (Flores, 2011; Kohli & Pizarro, 2016).

Finding Strength in Community

Given that critical work can be isolating for ToCs, professional peer relationships serve to sustain them (Achinstein et al., 2010; Dingus, 2008; Flores, 2011; Kohli, 2019; Pour-Khorshid, 2018; Ritchie, 2012). At times, this can occur at the school itself, such as when teachers work in school communities with larger populations of ToCs, where they feel supported through advice sharing, mentorship, and dismantling of divisions due to occupational hierarchies (Flores, 2011). Other studies, though, suggest that many teachers must look to racial affinity groups outside the school or district (Dingus, 2008; Kohli, 2019; Pour-Khorshid, 2018).

In one example, for a small group of educators in California, having access to a learning space where teachers could engage with others was deeply impactful, especially when they could reconcile working in a racialized school system where they do not feel they belong (Pour-Khorshid, 2018). Similarly, three generations of Black women in California, Georgia, and North

Carolina each formed mentoring networks specifically due to their shared beliefs and philosophies about the education of Black students, which they perceived as different from their White teacher colleagues. These women used these networks to access leadership models and safe cultural spaces (Dingus, 2008). When ToCs found community through professional development that used a critical lens, they engaged in cooperative dialogue and shared leadership for building unity and developing racial literacy (Kohli, 2019). They perceived this community and its impacts as a mechanism of survival, keeping them in the profession. Even for a racially heterogeneous group of teachers, participation in an external professional development program where they were given the opportunity to adopt a social justice lens and have structured, explicit, and reflective conversations around race and gender, provided cultural support and growth in their agency and leadership (Yonezawa et al., 2011).

While in the four aforementioned studies, teachers found safe cultural spaces in their relationships, many of them stated that ToCs seek safety and support outside of the school or district. Dingus (2008) examined an intergenerational model of Black teachers in local communities, and made recommendations for district-led culturally based mentorship models. Educators in Pour-Khorshid's study (2018) used community spaces to meet, leveraging rich traditions of oral storytelling and testimonios to heal, and engage in learning with other educators. Kohli (2019) examined the role of local universities offering critical approaches to professional development, and Yonezawa et al. (2011) studied an external professional development program, the National Writing Project. These networks, where teachers accessed essential social capital, were a practice of solidarity and persistence (Gist, 2018). Yet, most were not housed at their school site. Consequently, existing research contends there is a need to improve the racial climates of schools and establish more support networks for ToCs; these

teachers can persist in the profession without being asked to conform to existing hegemonies (Kohli, 2018). In seeking to examine these networks, however, a critical perspective is needed to account for the racialized system in which they must form.

Critical Race Theory

Rooted in legal scholarship, critical race theory began as an outgrowth from critical legal studies, ensuring that race was central to scholars' critique of legal ideologies (Zamudio et al., 2011). Ladson Billings and Tate (1995) extended the thinking to education, positing that mainstream education continues to exist as a racialized institution, reproducing unequal power structures, and necessitating a closer and purposeful look at race when examining issues of inequity within education.

Solórzano and Yosso (2001) further explicated this line of reasoning by putting forth five tenets of critical race theory in education:

1. The centrality and intersection of race and racism
2. The challenge to dominant ideology
3. The commitment to social justice
4. The centrality of experiential knowledge
5. The transdisciplinary perspective

With these five tenets, critical race theory is poised as a framework to examine the experiences of marginalized students amidst the background of generations of oppression and discrimination.

In the same vein, these assertions posited by critical race theory scholars, that the mainstream K-12 public education system is not a neutral system that serves all students equally, can be extended to teachers as well (Perez Huber, 2010). The systemic oppression derived from a meritocratic, post racial, and colorblind perspective has specific implications for ToCs and

mediates their experiences in education (Zamudio et al., 2011). If behavior is viewed as a function of culture, it follows when there is a dominant culture in an educational space, the resulting behaviors will embrace or marginalize members of dominated cultural groups (Lindsey et al., 2018). This effort to institutionalize hierarchy reifies white supremacy, putting not just students at risk, but all stakeholders of dominated cultural groups, including teachers (Smith, 2006). In effect, ToCs, like Students of Color, are forced to survive in an institution not built for them, an experience that begins well before the start of their careers (Kohli, 2018; Pizarro & Kohli, 2020).

The bulk of the research presented on the in-service experiences of ToCs utilize critical race theory as a framework, with some outliers including community cultural wealth, womanist frameworks, and Black feminist thought. Leveraging critical race theory ensures, through the construction of counternarratives via in depth interviews, testimonios, and ethnographic approaches, the unique experiences of Teachers of Color are heard (Amos, 2016; Choi, 2018; Gist, 2018; Hernandez-Johnson et al, 2021; Jay, 2009; Kohli, 2018; Pizarro & Kohli, 2020; Pour-Khorsid, 2018; Zamudio et al., 2011). However, for administrators to effectively lead their schools so that all teachers can thrive, a closer examination is needed not just of the experiences of ToCs, but a critical look at their experiences in the context of the relationships, networks, and social capital exchange that exists within school sites. Thus, while existing literature points to the value of relationships in sustaining ToCs, and the proceeding section on social capital reveals a growing body of work on teacher networks, very little work on ToCs exists employing a critical perspective on their social networks, creating space for further empirical research. Given ToCs must often leave their school space to find sustaining groups, there is dire need to examine the structure of networks and social capital exchange, or lack thereof, for ToCs within school sites.

Social Capital Theory

At its core, social capital is defined as the "resources embedded in a social structure that are accessed and mobilized in purposive actions" (Lin, 2001, p. 29). Key in this explanation is the understanding that resources exist within networks. Through interaction with the network, individuals can access those resources for a particular goal. The underlying assumption is that there is differential access to and influence on resources. Thus, interactions within networks are not only centered on patterns of relationships, but patterns of resource distribution within those relationships (Lin, 2001). In work related or instrumental interactions, these resources may involve exchange of professional advice, job related resources, or access to materials. Comparatively, social or expressive interactions provide access to mentorship, friendship, trust and social support (Ibarra, 1993).

From a class perspective, noting that capital is dependent on one's capacity to mobilize and build networks, Bourdieu (1986), claimed unequal distribution of social capital serves to reproduce inequity and problematic power dynamics. In effect, individuals reaffirm a given group's collective social capital in an attempt to maintain a foothold on economic capital. Coleman (1988), however, pointed to the power of social capital in offering opportunity and strength to communities, and achieving goals that would not be possible otherwise.

Putnam (2000) further built on this line of thinking by distinguishing between bridging and bonding social capital. Bonding social capital is more exclusive by nature, fostered in networks that are more homogenous, dense, and useful for solidarity building. At the same time, bonding social capital may restrict access to new ideas and information. Alternatively, bridging social capital links and expands on one's resources by drawing on weaker social ties within

networks. More inclusive by nature, bridging social capital opens doors to new connections, resources, and information.

Applied to the role of teachers, teacher social capital can be conceptualized as resources available to teachers as they form and develop professional interactions. These include instrumental resources such as expertise in subject matter or information on improving instruction, or expressive resources such as trust or feelings of collective efficacy (Coburn et al., 2010, Moolenar et al., 2012; Pil & Leana, 2009). Teacher bonding social capital may develop through same group networks, such as grade level teams, content area teams, or those who share similar characteristics or values; these teachers can lean on each other for solidarity and support, in addition to resource sharing (Minckler, 2014). Teacher bridging social capital can allow new information to enter the existing and immediate social network through working across grade levels or content areas, or through connecting with teachers from other schools or districts.

Teacher Social Networks

Teacher relationships and networks present the opportunity for instrumental and expressive resource exchange that can support teachers in varying aspects of their practice (Bridwell-Mitchell & Cooc, 2016; Daly et al, 2010; Daly et al., 2011; Liou & Daly, 2014; Moolenaar et al., 2012; Penuel et al., 2009; Pil & Leana, 2009). Indeed, in regard to student outcomes, teachers' collegial relationships and the social capital held within are a key asset for a school (Daly et al., 2011; Moolenaar et al., 2012; Pil & Leana, 2009). This can occur through direct impact, when teachers work in collaborative teams. In a review of over 200 elementary schools in a large urban district, grade level teams with strong horizontal group ties (across teachers) were associated with positive increases in student math achievement scores (Pil & Leana, 2009). These teams created space for rich ideas and resource exchange. At the individual

teacher level, those with vertical ties (across occupational hierarchies, such as with an administrator), also observed gains in student scores, though strong teacher team connections contributed to comparatively larger gains. Teacher networks can indirectly impact student achievement, as well. Dense instrumental and expressive advice networks amongst teachers in 53 elementary schools correlated with increased perceptions of collective efficacy (Moolenaar et al., 2012). These perceptions of teacher collective efficacy were positively associated with increased student language achievement on standardized assessments, although the same did not hold true for math scores.

When it comes to teaching practice, social capital can foster teacher learning, knowledge sharing, and reform (Bridwell-Mitchell & Cooc, 2016; Daly et al., 2010; Liou & Daly, 2014; Penuel et al., 2009). In four high performing elementary schools, when teachers had stronger perceptions of trust in colleagues and leaders, there was increased dissemination of information and advice (Liou & Daly, 2014). A comparative case analysis of two elementary schools undergoing educational reform noted teachers at schools which demonstrated more successful implementation efforts had increased and easier access to social capital, in the form of support and resources, combined with more opportunities to plan and discuss these efforts (Penuel et al., 2009). Similarly, teachers in K-8 schools with more dense networks embodied a stronger focus on teaching and learning, demonstrated shared decision making, and exhibited goal setting behaviors (Daly et al., 2010). Through peer observation, these teachers collaborated to refine instructional practices, provided feedback to each other, and shared lessons, assessments, and rubrics. While these studies document many benefits of teacher networks, as it pertains to the sharing of social capital, there is a dearth of literature looking specifically at networks for ToCs.

One exception in the literature regarding networks for ToCs focused on instrumental or work-related networks of elementary school Staff of Color (teachers and administrators) in regards to the implementation of a mathematics curriculum (Bristol & Shirrell, 2019). Where Staff of Color were likely to be the only Staff of Color at their school, these members existed in the periphery of the school networks, being less likely to both seek out advice, and broker ties between individuals than White colleagues. However, these Staff of Color were not sought out less by their White colleagues. Notably, though, this study, in addition to many of the aforementioned studies reviewed elementary schools and elementary school teachers (Bristol & Shirrell, 2019; Daly et al., 2011; Liou & Daly, 2014; Moolenaar et al., 2012; Pil & Leana, 2009, Penuel et al., 2009). More empirical research is needed to study the social networks of secondary school teachers, as the structure of middle and high schools lend themselves to different and complex sets of interactions between teachers.

Outside of work related or instrumental impacts, expressive collegial relationships among teachers also serve a key supportive role in their success (Edinger & Edinger, 2018; Fox & Wilson, 2015; Gu & Day, 2013; LeCornu, 2013; Liou & Daly, 2014; Struyve et al., 2016). Early career teachers report relationships as providing a sense of belonging and social connectedness, fostering trust, providing emotional support, and leading to increased ability to cope (LeCornu, 2013). Teachers additionally identify a collegial and supportive culture as key in providing social capital, trust, and boosting morale. Conversely, without social support from colleagues, teachers risk higher amounts of emotional exhaustion (Gu & Day, 2013). When it comes to job satisfaction and retention, high amounts of social connectedness, as a factor of social capital, positively influence job attitudes for early career teachers, which consequently mitigates intentions to leave the field (Struyve et al., 2016). Similarly, even with the implementation of

formal support structures for new teachers in a teacher education program, it is the social capital developed through active networking that is key for successful experiences early on in teaching careers (Fox & Wilson, 2015). Interestingly, types of social capital networks can have varying effects. Whereas trust networks may have positive associations with information sharing and job satisfaction, dense networks for teachers who are asked for advice often may negatively impact job satisfaction (Edinger & Edinger, 2018; Liou & Daly, 2014). Therefore, when it comes to student achievement, teacher learning, reform, and job satisfaction, the outcomes of networks and social capital exchange are multifaceted and complex. Accordingly, these outcomes warrant delving into the initial formation and maintenance of teacher social networks. One particular factor of interest affecting network formation, and thus social capital exchange, is homophily.

The principle of homophily states individuals are more likely to interact and form relationships with those who are similar to them by age, race, education, gender, or in the case of teachers, teaching philosophy (Daly, 2010; McPherson et al., 2001). In schools, homophily may contribute to the formation of subgroups within an organization, perhaps through content or grade level teams (Daly, 2010). Homophily in race and ethnicity can have a particularly strong impact on the construction of social relationships (McPherson et al., 2001), which is notable given the extent to which ToCs feel isolated (Burciaga & Kohli, 2018; Jay, 2009; Kohli, 2018; Pizarro & Kohli, 2020). Additionally, as some ToCs perceive their beliefs about education as differing from their White colleagues, there exists potential for further dissimilarity (Amos, 2010; Dingus, 2008). In the end, where teachers fall on the spectrum of similarity or dissimilarity, will affect their network formation, which consequently will impact their social capital (Lin, 2001). Examining this research through Putnam's (2000) bridging and bonding lens, there is further need to determine how homophily helps or hinders network formation for ToCs,

depending on the racial makeup of their school site or the propensity for school staff and leaders to extend offers of bridging relationships.

Leadership and Teacher Social Networks

When examining social capital through a leadership lens, the research on both the production and maintenance of social ties is complex and has varied implications for educational leaders (Baker-Doyle & Yoon, 2011; Bridwell-Mitchell & Cooc, 2016; Coburn & Russell, 2008; Coburn et al., 2010; Minkler, 2014; Penuel et al., 2009; Spillane et al., 2010; Spillane et al., 2015). Researchers establish formal hierarchies of school systems do not always align with the social ties on the school campus (Spillane et al., 2010). While the extent of this can vary from site to site, informal leaders hold important roles in advice networks. They serve as advice givers within the groups or subgroups they occupy, and as brokers between groups. Likewise, while individual characteristics and formal organizational roles do impact the maintenance of community ties, the informal relationships teachers develop as they form their community of colleagues has a larger impact on maintaining ties (Bridwell-Mitchell & Cooc, 2016).

At the same time, the literature also demonstrates organizational conditions influence how social ties are formed to produce networks (Coburn & Russell, 2008; Coburn et al., 2010; Spillane et al., 2015). In fact, organizational conditions (such as professional development structures and formal positions) may facilitate inter- and intra-school staff interactions more than individual traits (Spillane et al., 2015). This is further supported by research suggesting positive correlations between leadership and the development of teacher social capital (Minkler, 2014). This may be useful from a systems standpoint, as other literature suggests teachers do not always naturally build the advice networks that are most productive for resource and information sharing (Baker-Doyle & Yoon, 2011).

As a result, network perspectives of teacher communities and social capital adds value to informal interactions at a school, in addition to formal structures, such as professional development. The literature on teacher networks suggests both formal and informal interactions play a role in how these teachers perceive their sense of belonging, and experience organizational culture (Baker-Doyle & Yoon, 2011; Bridwell-Mitchell & Cooc, 2016; Coburn & Russell, 2008; Coburn et al., 2010; Minkler, 2014; Penuel et al., 2009; Spillane et al., 2010; Spillane et al., 2015). Consequently, gaining an understanding of the internal structure of a school is useful for education leaders (Penuel et al., 2009). Given the complexity of results on leadership and social capital, there continues to be a need for further empirical research in this field. The reciprocal relationship between networks and organizational conditions may be meaningful in its implications for educational leaders aiming to foster increased social capital through the formation of teacher social networks.

The Social Networks of Teachers of Color

Existing research measures teacher social capital in a variety of contexts. These include impacts on student achievement (Daly et al., 2011; Pil & Leana, 2009; Moolenar et al., 2012), teacher retention (Edinger & Edinger, 2018), and implications for leadership and organizational culture (Baker-Doyle & Yoon, 2011; Bridwell-Mitchell & Cooc, 2016; Coburn et al., 2010; Coburn & Russell, 2008; Spillane et al., 2010; Spillane et al., 2015). An increasing amount of this work leverages social network analysis as a methodology, which is relatively novel in the field of education research, having only taken off in the past 20 years (Daly, 2010). While the studies mentioned above contribute to a growing understanding of teachers' social networks in general, very limited empirical research exists exploring the differences in social networks of teachers by race.

Within the breadth of work presented on ToCs, a majority of the literature examines the experiences of these teachers using a critical race theory lens. This provides necessary space to highlight counternarratives and uplift the voices of these teachers. However, there is scant work looking deeply at ToCs and their social capital through social network analysis. To ascribe meaning to the content and characteristics of the social capital shared within these networks for ToCs, qualitative methodologies are also needed; social network analysis and qualitative methods are complementary (Penuel et al., 2009). Thus, there lies an opportunity to bridge the voices of ToCs on their experiences with leveraging, obtaining, providing, and being pushed away from social capital with a quantitative analysis on their social networks at the school level.

Critical Social Network Analysis

Within the past decade, a nuanced application of social network analysis, critical social network analysis (CSNA), has emerged, notable for its potential to critically examine networks, network formation, and social capital exchange (Gonzalez-Canche & Rios-Aguilar, 2015). CSNA is inherently asset based in nature — it "allows researchers to move from a deficit perspective on students (and organizations) to a richer understanding of how context and structures affect underrepresented students' opportunities" (Gonzalez-Canche & Rios-Aguilar, 2015, p. 77). The proposed study aims to extend that lens to a new population; existing literature explicitly using CSNA has examined community college students, instructional improvement in elementary schools, and improvement in community-based learning environments, but no work exists examining ToCs (Gonzalez-Canche & Rios Aguilar, 2015; Hopkins et al., 2022). CSNA emerges, then, as a novel way to use critical perspectives to examine the social networks of ToCs, look specifically at how power mediates networks and network formation for ToCs, and consequently, examine some of the systemic factors that impact their retention. By existing in the

intersection of critical and social capital theories, CSNA is well primed to draw on both to inform a mixed methods design and provides a new roadmap for studying the experiences of ToCs (see Figure 1).

Chapter 3: Methodology

Introduction

Considering the power dynamics that impact the experiences of ToCs in schools, as described in Chapter 2, intertwining critical race theory with social capital theory led to a specific lens with which to conduct data collection and analysis – critical social network analysis (CSNA). CSNA bridges critical theories with the burgeoning scholarship on social networks to examine how formal and informal power structures moderates social networks (Hopkins et al., 2022). CSNA draws attention to the ways in which power mediates network formation for ToCs in mainstream K-12 public schools.

Using this lens, in order to effectively study the social networks of ToCs, multiple data sources are needed. Interviews serve to honor the voices of the participants in their conceptualization of their school sites and ego network maps add opportunity to quantify and compare the characteristics of their social networks. Given the emphasis on not just the teachers' experiences, but also the varying school contexts that impact the production and maintenance of networks, it was a necessary extension to compare ToCs at multiple school sites. Thus, a mixed methods study was appropriate. This chapter describes the setting, participants, data collection, and analysis methods that was used.

Research Questions

The study aimed to answer two sub questions under the following overarching research question: In what ways, if at all, do social networks, when viewed from a critical perspective, support or constrain the retention of Teachers of Color at their school site?

SQ #1: How do Teachers of Color describe their social networks at their school site?

SQ #2: What do Teachers of Color believe about school context factors that enable or constrain the formation of social networks at their school site, when viewed from a critical perspective?

Research Design

A strength of the mixed methods design was the opportunity to use both quantitative and qualitative data to provide an in depth understanding on the experiences of ToCs and their social networks (Plano Clark & Ivankova, 2017). Specifically, the study allows for the complexity of the critical examination of social networks – there existed space to quantify and compare ego networks of teachers at their school sites while additionally collecting data to situate and contextualize those networks to allow for meaningful comparison.

Given the critical race theory roots of this study, a research design that paired formal social network data collection with interviews of ToCs was appropriate; it ensured that teachers were given opportunity to share their stories in their voice and engage in sensemaking (Creswell & Poth, 2018; Lareau, 2021). Additionally, teachers could confirm the accurate overlaying of their personal contexts and school culture with network maps produced during data collection (Crossley et al., 2015). Consequently, a mixed methods study, drawing from an ethnographic approach, allowed for a design that melds qualitative tools with egocentric social network methods, resulting in a more nuanced perspective of the social networks of ToCs (Creswell & Plano Clark, 2017; Crossley et al., 2015).

Within the study, participants engaged in a four-step process with two main phases: two rounds of interviews, interspersed with two rounds of member checking. The first interview allowed participants to describe their school contexts, organizational structures, and the power dynamics held within. Embedded within the second interview, participants produced an ego

network map detailing their social networks within their school site. The map served as both a prompt for eliciting richer meaning, especially when leveraging the context introduced during the first interview, and an artifact for statistical analysis.

Setting

The systems and structures within public education in which Teachers and Students of Color must thrive are complex, multifaceted, and plenty. For the purposes of accounting for infrastructure parameters that change between public, public charter, and private institutions, the participants were all selected secondary urban public schools. Teachers at these sites, and their leaders, have similar bureaucratic structures to other schools and districts in the region. This provided a certain level of generalizability that could not be achieved otherwise (Creswell & Poth, 2018). Additionally, within the scope of social network studies on teachers, there was an abundance of research focusing on elementary school teachers as a population of interest. Focusing on secondary school teachers expanded on existing literature.

Southern California serves as a hub of diversity. Proximity to the U.S.-Mexico border breeds tensions for the Latinx community. Many additional Asian, Pacific Islander, and African populations come to various communities in Southern California through refugee resettlement or via the large military presence of Camp Pendleton. Several large research universities attract international university students, professionals, and their families, and all of these Communities of Color reside on dozens upon dozens of unceded Indigenous territories. Altogether, Southern California exists as one of the most ethnically and racially diverse areas within the United States and Teachers of Color in the area must support the wellbeing of many Students of Color. Grounding the study in this context allowed for an opportunity to offer findings that may support a large swath of teachers and schools.

Participants and Sampling

Purposeful sampling was used to identify five participants for the study (Creswell, 2015). Given the intent to describe the experiences of Teacher of Color, as a subgroup, selection will occur according to these characteristics:

- Teachers who identify as either Black, Latinx/e, Asian/Pacific Islander, or Indigenous
- Who work at urban secondary public schools
- Who are geographically located in Southern California
- Who are within the first five years of their teaching careers.

Special attention was given to teachers within the first five years of their careers since over 44% of new teachers leave teaching within five years of entry (Ingersoll et al., 2018). Additionally, since there were two phases of data collection with each participant, and a focus on ToCs specifically (as opposed to teachers in general), five ToCs is large and varied enough to ascertain data on their ego networks (Malterud et al., 2016).

Phase 1: Interview Data Collection and Analysis

An initial semi structured, in depth interview included questions focusing on participants perceptions of and experiences within the school context, as it pertained to issues of culture, climate and relationship building (Merriam & Tisdell, 2016). In alignment with Critical Race Theory, interviews allowed for the construction of narratives about the school culture and climate from the perspective of Teachers of Color. Specifically, the questions in the initial interview addressed the following: 1) experiences in the school context as a Teacher of Color and 2) opportunities for connection and relationship building. Following the interview, one round of member checking occurred (Maxwell, 2012).

All interviews were recorded, with permission, and transcribed verbatim using Rev.com. Following interviews and during two rounds of coding, reflective and analytic memos were written throughout to engage in purposeful sense making, while also recording assumptions and reactions to the research process (Lareau, 2021; Miles et al., 2014). The use of memo writing during the data collection process aided with the eventual identification of emergent codes. Consequently, analysis was conducted concurrently with data collection (Lareau, 2021).

Transcripts were coded with maxQDA using a combination of inductive and deductive coding, searching for ways power mediates and manifests in social networks, while additionally identifying emergent themes (Creswell & Poth, 2018). The first round of coding used In Vivo and Descriptive Coding. In Vivo coding in particular, was relevant to stay grounded in and honor the teachers' voices throughout the study (Saldana, 2021). The second cycle of coding used Pattern coding, which was appropriate for examining relationships (Miles et al., 2014). The unit of analysis for coding were fragments from the interview transcripts.

Table 1

Research Questions Aligned to Data Collection

Research Question	Instrument	Data	Analysis
How do Teachers of Color describe their social networks at their school site? (SQ #1) What do Teachers of Color believe about school context factors that enable or constrain the formation of social networks at their school site, when viewed from a critical perspective? (SQ #2)	Teacher Semi Structured Interviews	Interview Transcripts	Thematic Coding (In Vivo and Pattern Coding)
How do Teachers of Color describe their social networks at their school site? (SQ #1)	Name Generator and Name Interpreter Surveys	Ego Network Maps, Interview Transcripts	Descriptive statistics, Network Measures (tie central tendency, tie dispersion), Thematic Coding

Phase 2: Ego Network Data Collection and Analysis

Ego networks, or personal networks, center descriptions of social networks from the point of view of an individual or ego (Carolan, 2014). Whereas describing whole networks allows for discussion of an organization as an entity, the emphasis of this study was the networks of the individual teacher participants and their orientations around and perceptions of the relationships they had with their alters (Hollstein, 2011). Thus, ego network mapping was appropriate. Within ego network design, name generators are the primary tool used to elicit a list of individuals (alters) within the participant's network. Single or multiple name generators result in a list of alters that can be used to build a personal network map for the participant. Following the use of name generators, name interpreters ask about the alters. Name interpreters are commonly sorted into three categories: demographic attributes (e.g. race or age), properties of ego-alter ties (e.g. duration or nature of the relationship), and alter-alter ties (Carolan, 2014; Marsden, 2011).

Following the first interview and member checking, a secondary semi structured, in depth interview asked participants to create two ego network maps noting the relationships with others at their school site used to access various sources of capital (one map for advice/instrumental support and one map for emotional support). During mapping, name generators in the interview protocol allowed participants to identify individuals in their network that support them with advice and/or emotional support (Carolan, 2014; Crossley et al., 2015). Name interpreter questions consequently asked for demographic attributes and characteristics of ego-alter ties. To assist with data collection, a visual instrument was used in conjunction with name generating and interpreting questions, consisting of concentric circles upon which participants can place Post-Its with the alters (Crossley et al., 2015; Hogan et al., 2007; Van Waes et al., 2016). The use of concentric circles to visualize and note degrees of closeness was intuitive (see Figure 2). Pairing

name generators and the visual instrument with open ended questions allowed for a more in-depth investigation of the facets of the networks described by participants (Hollstein, 2011). Additionally, data gathered from the first interview served as a basis for further prompting in the second interview. As with the first round of interviews, all interviews were recorded and transcribed, reflective and analytic memos were written, and transcripts were coded using In-Vivo and Pattern coding (Creswell & Poth, 2018; Lareau, 2021; Miles et al, 2014; Saldana, 2021).

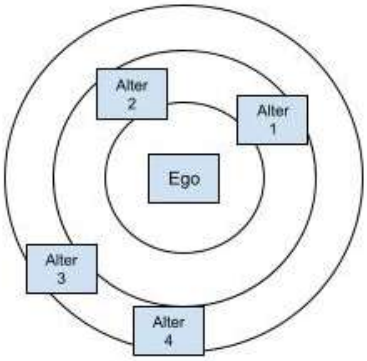


Figure 2

Visual Instrument to Pair with Name Generator Questions

Afterwards, visualizations, originally created on large swaths of paper, were digitally produced and participants were contacted to engage in member checking of their, now digital, network maps, ensuring accurate representation of their relationships (Maxwell, 2012).

The personal networks of the teachers were characterized through a series of network measures: tie central tendency and tie dispersion (Borgatti et al., 2018). Tie central tendency and tie dispersion provided understanding of the ego network via a quantitative determination of various participants' access to resources within a school. Tie central tendency refers to a statistical summary of the size of the network and the average tie strength for each ego. Tie

dispersion, or a determination of the spread of the network, was used to characterize the distribution of relationships by the type of support received – a comparison of the amount of advice bearing/work related (instrumental) or emotional support (expressive) relationships that the participants have (Borgatti et al., 2018).

The visually aided mapping technique streamlined collection of valued data (the psychological or emotional closeness of the alters to the ego via concentric circles), which is necessary for determining strong and weak ego-alter ties. Within social capital theory, strong ties are considered important for exchange of expressive support, while weak ties are important for instrumental support and serving as bridges to different social circles (Granovetter, 1973; Lin, 2001). Accordingly, determining averages of the strength of the ego-alter ties for each participant and the distribution of the instrumental and expressive ties allowed for a quantitative summary of scope of their personal network as it pertains to potential for social capital exchange. Altogether, each of these measures allowed for characterization and comparison of the ego networks of the participant, and provided necessary insight into the forms of social capital accessed through teacher networks.

Mixing Methods

Throughout the study, there were two sites of integration or mixing (Plano Clark & Ivankova, 2016). During Phase 2 of data collection, qualitative and quantitative methods were connected when the results of the semi structured interviews were used to inform further prompting during the social network survey (see Figure 3). After data collection was completed, findings were combined and points of convergence identified. Overlaying measures of tie central tendency and tie dispersion with themes from the coded interviews allowed for a nuanced examination of the formation of those networks, enhanced by the inclusion of multiple forms of

data. Additionally, combining results assisted in drawing connections between organizational conditions that impact access to capital and sustaining relationships and facilitate comparison of ToCs.

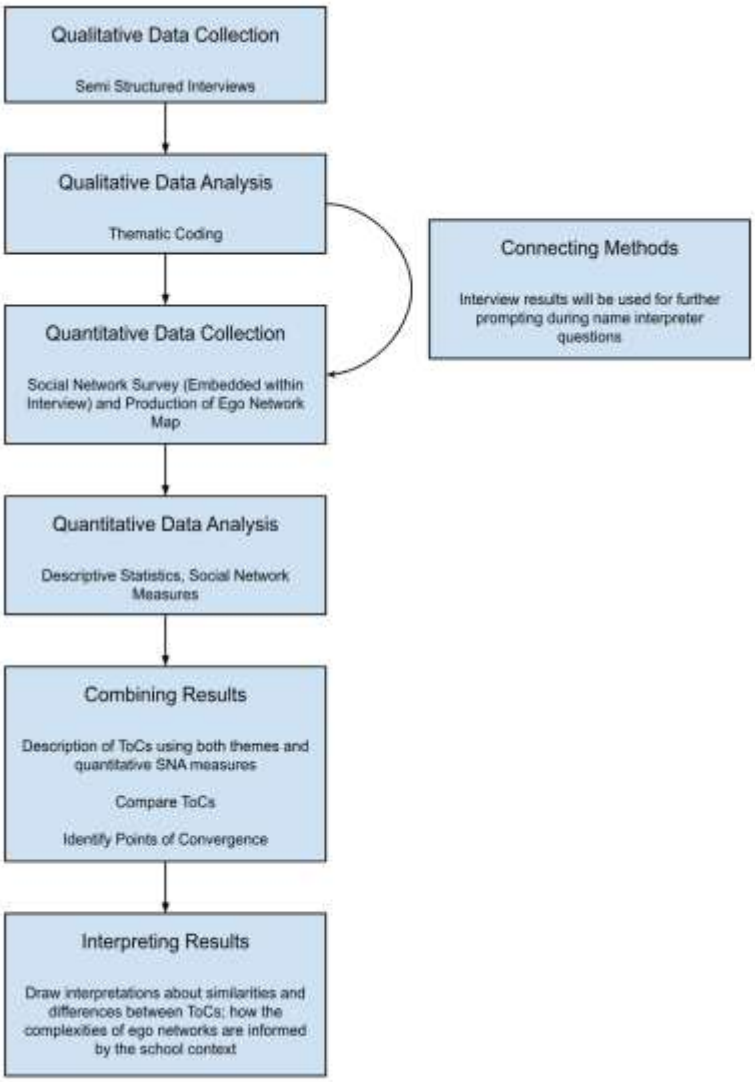


Figure 3

Research Design

Reliability and Validity

Name generators are particularly susceptible to reliability and validity issues (Borgatti et al, 2018; Marin & Hampton, 2007). Constructs like “friendship” or “closeness” (“who do you

consider a friend?" "who do you feel close to?") are open to subjective interpretation. An exchange approach – focusing on exchange of instrumental or emotional support– mitigates ambiguity around language and does not rely on memories around certain time frames (Borgatti et al, 2018; Marin & Hampton, 2007). Participants additionally feel these questions are easier to answer (Borgatti et al., 2018). Consequently, the name generators in this survey utilized an exchange approach (see Appendix A). Additionally, for both interviews and the visual aid, member checking was used to ensure accurate representation of data (Maxwell, 2012).

Limitations

This study used an ego network design because of the interest in the network of a specific population. While an ego network design was appropriate, by not using a whole network approach, there was a missed opportunity to compare the networks of Teachers of Color with White teachers at the same school, or contextualize the personal network within the larger boundaries of the networks at the school. Nevertheless, this was a necessary trade off to center the perspectives of the participants.

Within ego network methods, name interpreters are particularly susceptible to respondent burden, especially with the use of multiple name generators as opposed to a single name generator (Hogan et al., 2007). The use of a concentric circles map, as a visually aided data collection tool, countered some of the respondent burden from name interpreters.

Lastly, the sample size presented a limitation as well. The design relied on multiple rounds of interviews with each participant. Consequently, a smaller sample size was logistically appropriate and ensured the ability to provide an in-depth portrait of each participant and their network (Creswell, 2015). However, given the smaller sample size, the makeup of the final sample was impacted by the specific region or district of the participants. ToCs from multiple

districts across Southern California resulted in broader findings, where the cross-district make up impacted emergent themes.

Positionality

I am a former Teacher of Color who hoped to study the experiences of other Teachers of Color. Yet, my experiences and subjectivity, like with all of us, were extremely unique on multiple fronts. My teaching experience was limited to a small public charter that almost exclusively served Students of Color and holds – by my count– a diverse staff, although I remained the only South Asian teacher for a majority of my time. Educators came to this school with shared values and beliefs about the mission of our school. Lastly, as a charter school, we retained a certain level of flexibility that was not always possible in a traditional public school. My intention is that that the sum of these experiences would not prevent me from excluding those who have a myriad of different experiences at their school sites, such as increased or decreased isolation or increased or decreased levels of assimilation (Peshkin, 1988). Additionally, while my position as a former Teacher of Color gave me increased and easier access to spaces with my population, and contributed to minimizing power relationships, it did mean I needed to caution myself in not making assumptions about my observations, and continually center the teacher's voice.

Chapter 4: Results

Overview

As presented in chapter one, the purpose of this study was to examine the networks of secondary Teachers of Color – to both characterize the nature of these networks and examine the factors that impacted the production and maintenance of relationships within networks.

The research aimed to answer two sub questions under the following overarching research question: In what ways, if at all, do social networks, when viewed from a critical perspective, support or constrain the retention of Teachers of Color at their school site?

SQ #1: How do Teachers of Color describe their social networks at their school site?

SQ #2: What do Teachers of Color believe about school context factors that enable or constrain the formation of social networks at their school site, when viewed from a critical perspective?

This study used a mixed methods design, drawing on ego network methods. An initial round of semi structured interviews asked participants to share their perceptions of culture and relationship building on their school campus, allowing for the construction of counternarratives from the perspective of Teachers of Color. Embedded within the second round of interviews was name generating and name interpreting questions, allowing each participant to create ego network maps to further expand upon their personal networks (both instrumental and expressive), the resources shared, and the formation and maintenance of those networks.

In Vivo and Pattern Coding was the primary tool used to analyze interview transcripts. The ego network maps added a quantitative description of participant networks through a series of network measures: tie central tendency and tie dispersion.

Participants

Interview participants included five Teachers of Color in Southern California working in public secondary schools. All participants were within their first five years of their teaching career and all were provided a pseudonym. Table 2 provides participant demographics. To provide context for the teachers interviewed, their personal histories are quickly summarized. In the following section, emergent themes from semi structured interviews are presented, as it relates to factors that impact network formation.

Table 2

Participant Demographics

Participant	Gender	Race	Years as Teacher of Record	Department
Misty	Female	Black	2	Special Education
Jane	Female	Singaporean/ Chinese American	1	Special Education
Meena	Female	South Asian	2	English
Anya	Female	Mexican/White	3	English
America	Female	Mexican	1	Physical Education

Anya

In Anya's world, school was always an escape. Her childhood was fraught with abuse, drugs, and alcohol, and a distinct feeling of unease from grappling with her racial identity as a biracial (half Mexican and half White) child in Southern California. The sum of her experiences growing up, however, led to a distinct voice and point of view – the resulting effect of which was a push from her community college professors to pursue a teaching career. After completing her Master's degree and acquiring a teaching credential, Anya taught middle school English for the

past two and half years at largely socioeconomically disadvantaged school with a high proportion of Students of Color.

At her school, Anya felt at home, even as she struggled navigating her identity as a bicultural, biracial educator. She felt that her fellow educators had diverse identities around their cultural or religious heritage, gender or sexual orientation, or racial identity, leading to a more accepting community. At the time of the interview, Anya had a rich emotional support network thanks to a fellow teacher who brought her into their network. Without a dedicated classroom, Anya had a large work-related network as she shared spaces with many teachers, staff, and student teachers, and communicated frequently with administrators about her ideas for future directions of the school.

Misty

Misty started college with an interest in nursing, but very quickly realized that the content and work environment was not for her. Through some contacts on social media, she started to explore child development and ultimately fell upon becoming an instructional aide. She moved through several placements as an instructional aide before settling on her current school. There, she was encouraged by an administrator to pursue her teaching credential and become an education specialist. This academic year was her first year as an education specialist with her own case load; she served at a largely socioeconomically disadvantaged school with a high proportion of Students of Color, and a diverse teaching staff.

Misty had never worked at such a diverse school in terms of student body, and none with multiple Black educators on staff, including Black administrators. This was both something to be celebrated and provided a broader sense of purpose. After learning to step outside her comfort

zone, Misty felt she had a strong circle of support, and worked informally to bring others into her network.

America

In community college, America's foray into career exploration began when she asked her soccer coach about coaching careers. On her coach's advice, America explored a variety of options, physical therapy, personal training, kinesiology, and ultimately, upon recommendation, shadowed her physical education teacher from high school. America instantly clicked with the role, drawing on her own recollections of her classmates in PE who did not have positive experiences, and wondering if she could provide a positive space to foster physical fitness and health. America transferred from community college, received her bachelor's degree and then set to work on pursuing her credential, starting remotely, during the COVID-19 pandemic. She completed her first year at a largely socioeconomically disadvantaged school with a high proportion of Latinx students, like her.

Working at a school with a more diverse staff and a large Latinx student population allowed America to build personal connections via shared cultural histories, an experience vastly different from her time as a student teacher, where she had limited shared histories with students and staff.

Meena

Meena fell into teaching by accident. While her mother was a teacher, she never planned on becoming one until she spent some time with AmeriCorps and was placed in a school. After renewing her fellowship with AmeriCorps, Meena began to see teaching as an option and found deeply collaborative schools, with strong lines of communication, effective leadership, and a commitment to restorative practices. With these experiences in the background, Meena pursued

graduate school to get her credential and moved to Southern California. She was in her first year after graduation, in a socioeconomically diverse, largely White school. She is South Asian.

Meena experienced a strong sense of community with her immediate 7th grade team, but had no desire to cultivate further relationships with the broader school community, one she described as hostile to difference and culturally repressive. Unlike other participants, Meena intended to leave her school site at the end of the year.

Jane

Jane initially graduated college with a degree in accounting. Quickly realizing that she was not playing to her strengths, she reflected on cherished moments volunteering with children, at the library or in other informal education spaces and decided to pursue a credential and graduate degree for special education. While having expertise in math and music as well, Jane sought opportunities to provide one-on-one support, and thus started her first year as a special education case manager at a largely affluent middle school, with predominantly White and Asian students. She identifies as Singaporean and Chinese American. Jane was delighted to be able to speak Mandarin with students and parents, a process that she feels builds confidence in her Mandarin speaking students and garners appreciation from the Mandarin speaking parents she interacts with.

Emergent Themes

In sharing their own personal histories, most teachers felt a personal connection to their current school sites, whether to the student body or staff. While for many of the teachers, their identity as a Teacher of Color was tied to their sense of purpose and connection to the profession, their role as a new teacher took precedence as an identity marker over their role as a ToC. They understood how their backgrounds informed their ability to build strong relationships with their

students, but their immediate concerns stemmed from a desire to just learn from and connect with more teachers and more veteran teachers. In reflecting on their community, these teachers:

- Identified school features that contribute to or mitigate feelings of isolation
- Articulated a growing sense of relational awareness and the value in connection
- Acknowledged the role individual agency plays in network formation
- Identified how network formation can serve as a mechanism of survival.

Feelings of Isolation

Four of the five participants followed a similar pathway on their journey for connection with their colleagues – framed initially by the immediate isolation that comes from being a new face in an established community. For each, a mix of their own personal characteristics and the school features they stepped into fueled a different outcome for their respective first months at their school site.

Moving between three to five classrooms in each of the first two years, Anya had the opportunity to interact with a variety of teachers, gleaning important feedback during that time they shared space. Outside of the classroom, though, she felt disjointed from her department and mostly kept to herself. Similarly, in the past two and half years her grade level team had never systematically met, leading to further separation from that group. In professional development meetings, Anya was desperate for opportunities to collaborate, but felt that time was not built in for the types of conversations and collaboration she was hoping for. In the end, she acknowledged the role that the lack of productive teaming and collaboration played in her early isolation as it pertains to growing as an educator, but also her own choice to stay separate from potential friends. She noted, “I really didn't put any effort into building friendships at work. So I was like, why do I need friends at work? What's the point?”

Unlike Anya, Misty very much wanted to find her community, right from the start. After spending time as an aide at several schools, Misty was excited by the number of Teachers of Color on staff at her current school, especially Black teachers. She had never worked at a school with multiple Black staff members. As much as this was to be celebrated, it also brought about microaggressions. She spent the better part of a year being called the names of other Black staff members, not just by students, but by staff as well. Already a new teacher, this contributed to a sense of isolation early on. Reflecting on her first year at her school and the experiences of new teachers this year, she observed similar patterns:

> I've talked to a couple people who've been here for a year or two and they were feeling that way too. It was just lonely. And it sucks because again, you're teachers who are teaching all the time…I don't want to go into the lunchroom and have conversation. I don't know you guys, no one invited me, no one said anything…there was not that opportunity to all spend time together to get to know these people.

Misty felt that the scope of the work of a teacher lends itself naturally to isolation and without intentionally designed opportunities for connection, it was hard to break out.

Now in her second year as a teacher of record, America was in her first year at her current school teaching middle school physical education. She leaned the most on her fellow female PE teacher (whom she shares a locker room office with and has lunch with) for support, asking questions and problem solving as the need arises. Outside of her department, however, America recognized that she does not have too many connections on her school campus – something she has thought about before. “I think that's what I've kind of wondered sometimes too. Why is it that I don't talk to these teachers as often? And I think a lot of it just has to do with the space, the physical space.” In the locker rooms, she is sequestered. When on the fields or basketball courts, she mostly interacted with teachers in the classrooms closest to these spaces. She admitted that there are entire floors and wings of the campus she never visits and teachers

she never sees save for school wide professional development sessions or staff meetings. Physical layout of the campus aside, American also noticed the general exhaustion of her colleagues (which she experienced as well) made it hard to connect:

> When the day is done…I personally feel done. I feel I'm good on the socialization, I'm good on the interactions with others, and I simply want to go home. [And] those drinks after with colleagues, you're kind of on empty already, where it's like I really have to try to make it a point to be there or to make those events and stuff. And sometimes it does seem that…teachers run away, they're done. They just run away and go home and they're done.

America wished she could connect more with her colleagues and break out of the small network she had, but felt it took a lot of extra effort on her part and the part of others to make happen.

One year out of her credentialing program, Meena was teaching at a school she ultimately hoped to leave. She described the school culture as "hostile," stating the board was against any sort of mention of cultural or racial diversity in the classroom. Meena recalled that her first staff meeting was an especially traumatic experience; a video was played by the superintendent reminding staff that safe space stickers and rainbow flags were not allowed. As a gender non-conforming lesbian, Meena came to realize that the "culturally repressive" tone set by this experience was indicative of the year to come. Even with the solace she found in her 7th grade team, Meena bore witness to many microaggressions, and beyond her grade level team, found many staff members at the school actively resisted collaboration. At the time of the interview, Meena was focused on getting through the year and was applying prolifically at other districts. While her 7th grade team was helpful, she leaned the most on her personal network outside of her school site, and ultimately did not feel any ties to the district, even if there was a chance for the culture to get better.

Compared to the other participants, Jane was connected to her school site right of the bat. Jane felt cared for at her school; between the administrators, her special education department,

and her induction mentor she felt that colleagues and supervisors actively supported her and validated the work she is doing. She reflected:

> I would say that there is a culture of collaboration. I'd say that collaboration is really, really big at my school. I feel like people just know each other really well. Although I'm a first-year staff, I feel like people really do care about me. They really look out for me. I have a mentor from the induction program and she's awesome, and she's helped me so much from day one. So I really feel like this school and this district really wants its staff to succeed and they'll place all the proper supports around you to feel like that. The SPED department at my school is awesome, and they're always supporting me.

Supported by her colleagues and supervisors, Jane was comfortable and happy with her site. On reflecting on one facet that could be different, she noted that she did desire to meet more people outside of those she's met through classroom sharing, department teams, and induction. While clique might be "too strong a word," she believed that it was easy to stay only within your department groups, even in large group settings, and there was little impetus for cross department connection.

Relational Awareness

Fueled by feelings of isolation or a sense of belonging, all participants were cognizant of their interactions with others and their sense of place within their school community. For Jane, America, and Misty, that came with a growing awareness of the relationships they had and the relationships they want.

America, for example, narrowed her hopes for future connections into two distinct strands. Firstly, she wished she could learn from her fellow teachers' skills that are not content specific, such as classroom management, a need not being met during existing structured school meetings (departments, grade levels, professional, etc). Secondly, America also admitted that while learning her colleagues teaching philosophies and skill sets is powerful, so was connecting on non-school matters, something she wished there was more opportunity for:

> I think when it comes to being social with each other in a way that's not teaching, I think is super important. It's nice to see, get to know everyone's teaching philosophies and that kind of part of it. But I think in general, just when it comes to people connecting, they kind of need to connect on other things than just what their job is… And I'll say sometimes it seems like those things are kind of not encouraged.

On the last point in particular, America noted that the culture of the school staff and the culture of the students are interrelated. She found students at her school site were not often given space to connect on non-academic matters and wondered if that impacted the way the staff relate to each other as well.

Similarly, Misty hoped for connection on non-academic matters – she enjoyed the few spaces where teachers were able to come together for baby showers, happy hours, etc, and wished for more of those. She found those events to be particularly productive for breaking out of department and grade level teams and really getting to know her colleagues. Within the school day, Misty also found that there was a specific dearth of what she considered to be a baseline expectation – checking in with your colleagues:

> There's not enough checking in. And I feel like checking in could be really helpful. And if you know someone who's having a hard time being like, Hey, how are you doing now? Because not everyone is going to go seek that. They might not even know they need it.

Like America, Misty began articulating specific features of what meaningful relationships looked like in the work space – check ins, connection outside the confines of work, both physically and in conversation.

The idea of a relationships at work was a novel idea for Anya. Her progress in building a network over the years called her to action –she began to push for further change in shared spaces to specifically promote increased community building. Over the course of her two and half years at her school site, Anya started to change her own thinking about her needs at her

school. Previously, a self described “lone wolf”, only after another teacher brought Anya into her circle did she begin to assign value to workplace friendships. “I realized the value in venting, in crying, in hugging, in talking about just [things] at home.” As Anya’s personal network grew, so did her professional one. She was invited to join veteran educators at conferences, and felt more confident in tackling the gaps she perceives in professional development. An added bonus for Anya, she found herself redefining her own schema of what relationships look like – “I've had to really come out of my shell and learn how to communicate better with women and trust women and get over all those stereotypes of women can't be friends…I feel incredibly supported by the women here.” As Anya strengthened these bonds, and observed how interactions pan out in different meetings and shared spaces, she understood why other new teachers like her may have had a difficult time in their early years – in her eyes, there was no safety net, and many folks were expected to function on their own. Looking back at her early experience, Anya claimed “…Being very independent, I was okay with that. Now that I'm two and a half years in, I am like, that's bullshit. There should be fun. There should be time to vent and play games.” Like America and Misty, Anya also identified a desire for opportunities to connect in joy, wanting not just work-related support but broader opportunities to bond with colleagues.

Alternatively, for Meena, as a method of self-preservation she limited her interactions until she could find a school community that shares her values and is one she wants to be a part of. She found the climate so severely off putting, she had new appreciation for the function of systems of support and welcoming communities for educators. In reflecting on her current school, she noted:

> It's such a systemic issue…there just needs to be a total revamp and rehaul of what does it mean to belong to a community and why can't we celebrate our differences and understand that our differences are important and worthwhile.

Reflecting on the comradery, support, and open communication of her AmeriCorps schools, Meena had a strong baseline for comparison. Whereas America and Misty discussed interpersonal connections on a smaller scale, and Anya reflected on her individual journey, Meena put forth how a school's climate and culture frames the relationships that an individual teacher walks into. She recognized the crucial necessity of systems of support in a school, and at times, a complete revisioning of what it means to exist in community.

Individual Agency (Reciprocal)

In building their own sense of relational awareness, participants also recognize individual agency and the crucial role that it plays in their network formation. On one end, all participants admit that they can take a more active role in creating their own networks for themselves. On the other hand, participants also recognize that there were key players who went out of their way to welcome them.

Misty and Jane both had vivid recollections of the actions of other educators and how those actions impacted their journey at their school. Misty recalled when a Black colleague reached out to her to chat outside about how she was doing and how the school year was going. She described "I thought it was just conversation, but it was really like, Hey, how are you doing? Hey, are you okay? That lifeline, yeah, that lifeline of like, oh, this is somebody that I can talk to, this is someone that's genuinely trying to connect with me." In the end, this colleague served as a broker, suggesting Misty connect with two other educators, who became essential for broadening her network. This became a game changer for Misty, as these two educators invited her to social events, brought her into other school committees, and ultimately significantly broadened her network. Misty attributed the actions of this individual as the initial entry point into network formation. Afterwards, she gained more confidence to begin seeking out more connections

herself. Reflecting on her multiyear journey at her school site, Misty surmised "I myself have sought out circles and will not be in a silo…[but] I can see how that can happen for somebody else, that they feel like they are in a silo, that they're not able to build community."

On a broader scale than Misty, Jane felt the wrap around support from a variety of individuals who have done more than expected. While she knew there are a series of school and district features that helped her via induction and administrative support, she recognized that her mentor "really does go above and beyond" in the level of support provided with setting up observations, helping with IEPs, co-teaching classes, etc. Beyond her induction mentor, Jane was grateful for her colleagues and next-door classroom neighbors who would turn her one question here and there into whole meetings, to ensure she is supported with resources and knew how to use them. Now, she realized it is time for her reverse roles; while there were many staff who reached out to her frequently in the beginning and invited her to eat with them, she needed to reach out more herself to build stronger relationships.

While America and Meena similarly identified their own agency in growing their network, it is Anya who captured the pressing need to recognize the duality of this agency:

> I would just say to a new teacher, you're not alone. It will feel like you're alone and you're going to maybe have to figure out who you vibe with. You're going to have to learn who you can trust. But at the end of the day, people are here. Whether or not they're checking in on you, if you go find them, they will be there for you until you've created that support system for yourself.

In short, Anya suggested the combination of a new teacher's actions and that of their surrounding educators shapes the new teacher's relational experience. The challenge, as seen in the other participants' stories, was the extent to which each of these two factors seemed possible (given their own personalities, inherent school features, and the school culture).

Educator Networks – A Mechanism for Survival

For several teachers, the development of a personal network served an important protective role against their school culture. On one end, when the school culture was more neutral, a positive space, but not one actively involved with network formation, personal networks assisted with identifying resources and answers for the day to day work related challenges. This was especially true for Misty, for whom being connected with a few key educators allowed her to build a circle of support, crucial for dealing with microaggressions on campus and the passing of her father. She stated "finding my circles has really helped me continue and deal with the uncomfortable feelings that I was feeling a lot." While there are aspects of her school culture that she loves and aspects she struggles with, once Misty started to identify people she could connect with, she felt she could manage her negative feelings a lot better. She reflects how important it was to "finally [say] something to someone like this is making me feel like icky. Is it just me? And knowing that it wasn't just me and that there were good people who were also really trying to help and didn't see it the same way as everyone else. The voices that I was hearing was actually the minority, not the majority. That was really helpful for me." Both Jane and Misty described cliquish behavior at their schools, and for Misty, the development of a personal network dispelled the anxiety that came with knowing one was on the outside of that clique.

Similarly, even though America does not yet have as big of a network as she would like, and she defined herself as a more introverted personality, she learned to reach out for what she needed and be comfortable asking questions. She was grateful that "when it comes to the challenges, I think I just try to get the support from other people...And especially with [fellow female PE teacher], she doesn't get annoyed that I ask so many questions or she's always open to

having those conversations." This has allowed America to thrive in ensuring she get can get the supports she needs even when her broader school context doesn't facilitate large scale network formation. While she still expressed a strong desire to want to know more teachers at her school, she felt supported by her department and the small network she has created for herself.

At the other extreme, however, personal networks were vital as a mechanism of survival during times of personal emotional distress or while working in a hostile environment. This was the case for Meena. Amongst the participants, only Meena articulated the pressing need to leave. As a member of the LGBTQ+ community and a Teacher of Color, Meena's school site feels unsafe. Within the first few weeks of starting at her school, Meena realized that the politics of the school board and the district culture had fostered antagonism towards any appreciation of cultural and racial diversity, including overt hostility towards validation of LGBTQ+ identities. Additionally, Meena was taken aback by the lack of desire to connect visible in day to day interactions. She recalls that "a lot of people are very resistant. They actively do not want to meet you. They actively don't want to talk to you. They don't want to collaborate and they don't want to try anything new." At the same time, Meena expressed how lucky she was to have her small team of three 7th grade teachers. Meena ate lunch every day with these teachers, and they had been extremely welcoming from the beginning – communicative, willing to adapt, improvise, and change curriculum as a team. Ultimately, she reflected "I would say I'm part of the community of my team. But am I part of the school community? I don't think so. But I also, I don't want to be…it's a very negative place." Consequently, while Meena was looking for positions elsewhere for next academic year, she recognized that had it not been for the 7th grade team and a few additional folks (a restorative counselor and a few front office personnel), she may not even have lasted the year.

Social Network Analysis

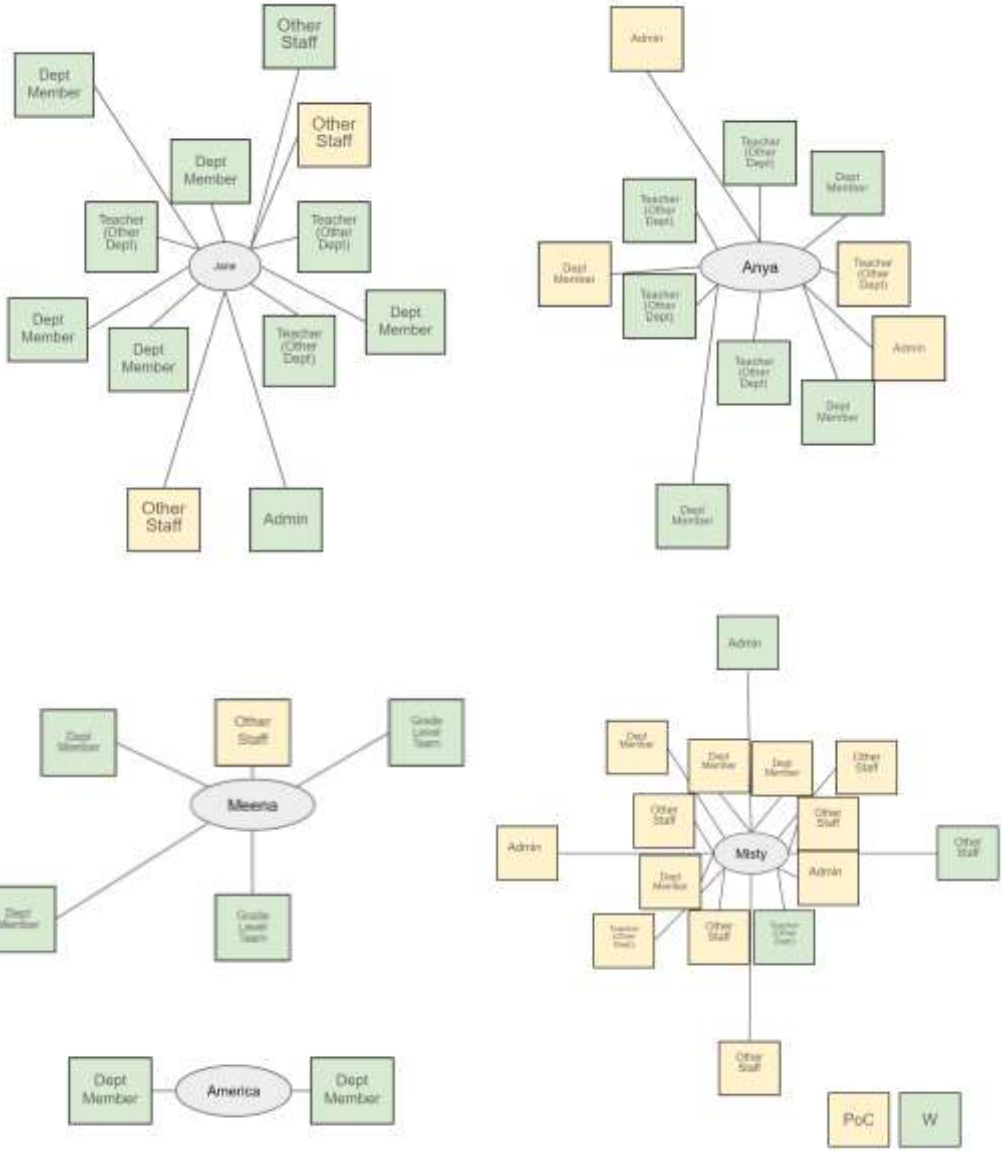
In addition to semi structured interviews, each participant answered a series of name generator and name interpreter questions and constructed two ego network maps – one focused on who they sought out for work related or instrumental support, and one focused on who they sought out for emotional or expressive support. Expressive or emotional support maps for each participant are displayed in Table 3. Each map distinguishes between the role of the alter: Department Member, Teacher in Different Department, Administrator, or Other Staff (Counselor, Custodian, Resource Officer, Front Office Personnel, etc). Each map additionally notes the race of the alter – distinguishing between the members of the ego network who are Staff of Color versus White.

Participants additionally used concentric circles to ascribe value to the strength of the connection with their alters. The closer a participant placed an alter to the center of their concentric map, the higher the perception of "closeness" they felt with that alter. The further away an alter was placed, the weaker the relationship. The valuing of this data created an opportunity to determine average tie strength. Tie central tendency measures (network size and average tie strength) for each participant map is summarized in Table 4.

The process of ego network construction revealed information about the members of participant networks, building and adding nuance to details provided in the initial qualitative round of data collection. Misty, Meena, and Jane, for example, all had alters who were not other teachers, department members or administrators on their expressive maps. Instead, their networks expanded to include front office administrative assistants, counselors, custodians, and campus supervisors as well.

Table 3

Participant Expressive Ego Networks

Emotional Support/Expressive Ego Network


For Misty, connections with other staff came via another alter and finding affinity with other Black women in these roles. Meena found shared values with a restorative counselor on site, one she only met via an ad hoc work group and soon turned to for vent sessions. Jane found that her daily schedule had her frequently crossing paths with the same classified personnel, slowly morphing from runs ins to check ins. Consequently, due to a variety of different reasons, some participants found their networks spanning hierarchical and organizational structures of school staffing, broadening their access to resources and support.

Looking further at the specifics of the maps themselves, Anya, Misty, and America all placed a formal mentor (induction mentor, assigned administrator, department chair) further away on their concentric circle network map, instead having identified an informal mentor or mentors that they turned to more frequently. They found their connections to informal mentors stronger and more productive for regular support around curriculum, navigating the school, emotional support, and connecting them to other staff. For America and Anya, the formal mentor only existed on the instrumental ego network map, while the informal mentor emerged on both maps. On the other hand, Jane kept her formal mentors as closely valued ties when it came to both work related and emotional support. Altogether, participants placed differing values on the role of formal and informal mentors within their network maps, correlating with differing perceptions of the strengths of their school and district level supports and individual actions.

Moving on, as demonstrated in table 4, for four of the five participants, the average tie strength of their expressive network was stronger than that of their instrumental network. For the most part, participants felt closer to the individuals they leaned on for emotional support. Only Jane had the opposite – she had strong connections to her instrumental network. Meena, with the

weakest ties to both her instrumental and expressive networks was the only participant not planning to return to her school site.

Table 4

Participant Tie Central Tendency Measures

Participant	Size of Network-Instrumental	Average Tie Strength (1 is valued as strong tie, 3 as a weak tie)	Size of Network-Expressive	Average Tie Strength (1 is valued as strong tie, 3 as a weak tie)
Meena	8	2.13	5	2.00
Misty	11	2	15	1.73
Jane	8	1.50	12	1.92
Anya	21	1.90	11	1.64
America	6	1.70	2	1.00

Interestingly, amongst the four participants who intended to stay at their school site (Jane, Misty, America, and Anya), additional trends emerged. Misty and Anya not only had larger network sizes, but also more racially diverse ones (though it is relevant to note that they also have been teaching for an additional year). Both teachers had brokers and weaker ties that connected them with several additional folks over the course of a single year. Alternatively, Jane had a larger network, but weaker connections with her less racially diverse network, albeit she is a newer teacher. America had a much smaller network, but like Jane's, it was also less diverse.

At the same time, when focusing on average tie strength, it was not necessary to always have large networks. America described an extremely small emotional support network, with only two alters. Yet she shared an office with one of her alters (a department member), allowing for rich, productive daily conversations on curriculum design and opportunities to debrief and vent. Compared to other participants, she held the strongest valued connections with her alters.

In contrast, Meena had the weakest ties amongst the five participants. As described during interviews, the political climate that hung over Meena's school and district played a significant role in her sense of belonging on campus. Alternatively, while Jane also had larger expressive networks, like Anya and Misty, she reported weaker ties with those networks. She had fewer interactions pertaining to seeking emotional support – she sought out work related advice more. Consequently, while larger network sizes did not consistently correlate with stronger valued ties or a more diverse network, there was an overall trend of more value placed on expressive networks.

Table 5

Participant Tie Dispersion Measures

Participant	Instrumental Mean # of Interactions/Week	Expressive Mean # of Interactions/Week
Meena	1.16	2.35
Misty	4.48	7.6
Jane	2.13	1.52
Anya	3.49	5.55
America	4.58	10.5

Lastly, tie dispersion was also calculated for all participants. Tie dispersion, or a determination of the spread of the network was used to characterize the distribution of relationships by the type of support received. This was operationalized by averaging the number of interactions per week a participant had with their alters per network map. Tie dispersion measures for each participant is summarized in Table 5. With the exception of Jane, all participants had more interactions per week with the alters on their expressive or emotional support maps than those on their instrumental or work support maps. This reinforced the data from tie central tendency measures – not only is there more value placed on the ties in expressive

networks, but the number of interactions seeking emotional support are also higher than that of instrumental networks.

Table 6

Content of Resource Exchange by Participant

Participant	Content of Work Related/Instrumental Resource Exchange	Content of Expressive, Emotional Support Resource Exchange
Meena	Classroom Management, Office Procedures, Curriculum, Collaboration on Students w/ IEPs, Physical Materials and Resources, Strategies for Helping Students Develop Voice, Teaching Writing, Institutional Memory on Procedures	Venting and Sharing, Talking About Personal Lives
Misty	Mentorship, How to Prepare for IEPs, Feedback on Progress as Case Manager, Share and Brainstorm Ideas, Discuss Content Ideas for Supporting Students in Different Courses	Support during Bereavement, Processing Microaggressions, Providing Belief and Support in Her Ability to Advance Career, Processing Emotions During Tumultuous Experiences w/ Larger Groups of Staff
Jane	Discussing Student Progress, Subject Matter Expertise, Mentorship, Assistance with Setting Up Meetings, Technical/Logistical Assistance, Institutional Memory on Procedures, Opportunities to Pitch Ideas Back and Forth	Check – Ins, Opportunities for "Down to Earth" Conversations, Empathizing and Providing Validation, Support with Building Confidence, Sharing of Common Hobbies
Anya	Institutional Knowledge, Mentorship, Expertise with Curriculum, Learning Teaching Styles, Behavior and Management Questions, MTSS Thought Partner, Perspective Taking	Listening, Advice About Personal Life, Venting, Discussing Frustrations, Bonding, Pushing Outside Comfort Zone, Check -Ins
America	Curricular Support with Specific PE Curriculum, Perspectives on Teaching Fitness/Health, Advice on Taking on a Coaching Role, Context About Students, Varied Perspectives on Role of a Teacher, Feedback on Teaching Practice and Observations	Venting, Opportunity to "Get Things off [Their] Chest," Debrief the Day

Points of Convergence

Both tie central tendency measures and tie dispersion measures suggested an increased focus on emotional support interactions for participants, over work related support. Name interpretation questions revealed that these emotional support interactions specifically included venting, discussing personal lives and interests, support during difficult times (bereavement, microaggressions), empathizing, debriefing, providing validation, and confidence building (Table 6). This aligned closely with interview responses highlighting a desire for more opportunities for connection outside of work-related collaboration. Participants called for the cultivation of opportunities for teaming outside of natural groups (departments and grade level teams), desired more opportunities to connect with colleagues with the hope of dispelling the tendency for in group behavior, and desired to bond with colleagues in various ways, celebrating baby showers, having happy hours, or finding colleagues with shared hobbies. Altogether, all participants were sensitive to the explicit and implicit ways in which the site showed that it valued (or did not value) community building and collaboration. Thus, both qualitative and quantitative data suggested an increased value placed on emotional connection within personal school networks.

Alter placement on network maps when it came to formal and informal mentors provided insight onto how participants valued mentorship at their school sites. At times, individuals described as educators who went “above and beyond” held stronger valued ties over a formal mentor. At other times, these individuals were one and the same. This difference also resulted in some formal mentors only appearing on instrumental maps and not on expressive maps. Interviews demonstrated that participants turned to these individuals because they had established themselves as well-resourced and well connected, were able to provide emotional

support, and established a history of setting aside time and energy to connect with the participant when needed or desired. In short, both data sets revealed the important role mentors in various forms held for teacher participants when it came to navigating a new school.

Chapter 5: Discussion

Overview of the Study

This study sought out to examine the networks of secondary Teachers of Color at their school site, with the purpose of identifying factors that impact the retention of ToCs. Much of the current body of literature leverages a critical race theory approach to the narratives of ToCs in the field, but there existed space to apply a social capital lens to study the population. Thus, a mixed methods study was used to meld counternarratives from a critical race theory lens with social network analysis from a social capital lens.

The study aimed to answer two sub questions under a broader research question: In what ways, if at all, do social networks, when viewed from a critical perspective, support or constrain the retention of Teachers of Color at their school site?

SQ #1: How do Teachers of Color describe their social networks at their school site?

SQ #2: What do Teachers of Color believe about school context factors that enable or constrain the formation of social networks at their school site, when viewed from a critical perspective?

Findings demonstrated that the ways that participants described their networks varied based on where they were in a reflective process surrounding their own relational awareness. Specifically, participants contextualized their networks through their burgeoning and ever-changing understanding of their needs, what they valued in relationships, and a broader understanding of a function of a network in the workspace. When it came to school context factors that enabled and constrained the formation of social networks, participants looked to the explicit and implicit signs of what the school placed value in. Where the school culture valued emotional connection, collaboration, mentorship, and support, participants experienced the school in one way. Where

they perceived a lack of these features or were met with overt hostility, participants experienced the school differently, especially if the actions of individual educators or networks did not exist to offset negative frames of thinking. This chapter further outlines these points, and identifies implications for policy and practice. Afterwards, limitations and future directions for research are considered.

Interpretation of the Findings

Network Formation as a Journey

Participant counternarratives on networks were defined by their journey of schema building around relational awareness; their stories were rooted in metacognition. Consequently, while all participants were able to identify the individuals they went to for practical assistance related to their job tasks, there was more variation in how participants described leveraging the relationships with their alters to navigate the culture of the schools, stressors, and their own desire for connection. In this process, they interrogated the responsibility schools and districts have as racialized institutions to foster connection amongst their students and staff. Certainly, by examining findings from a critical race theory lens, it is evident that at times network formation was mediated by the exclusion of participants from the dominant ideological structures, a fact that they could clearly identify and articulate.

Similarly, as participants built their networks and placed increasing value in them, they organically identified the various roles individuals and systems played in promoting or hindering social capital exchange. In fact, as they highlighted sources of solidarity, individuals who brokered new contacts and opportunities, and systems that prevented new connection, these participants began to emerge as future teacher leaders, full of ideas and wonderings on ways to foster social capital exchange. In a marriage of critical race and social capital theories, these

participants began to leverage their own counternarratives on network formation as rationale for specific ways their schools could better provide access to resources and community.

School Culture and the Value Placed on Emotional Connection

When discussing the power of networks and community for an educator, participant counternarratives and social network analysis indicate a desire for connection beyond seeking work related advice. In general, participants had stronger connections to colleagues who provide spaces for venting, empathizing, and sharing wins and challenges of the day. This is supported by the body of literature in teacher social capital which demonstrates that expressive networks and relationships that provide social connectedness, foster trust, and provide emotional support boosts morale, leads to an increased ability to cope, and mitigates emotional exhaustion (Gu & Day, 2013; LeCornu, 2013; Struyve et al., 2016).

Peer relationships are also shown to support Teachers of Color (Achinstein et al., 2010; Dingus, 2008; Flores, 2011; Kohli, 2019; Pour-Khorshid, 2018; Ritchie, 2012). Advice sharing, mentorship, and racial affinity groups serve as a key sustaining role when ToCs struggle to work in an education system where they feel they do not belong (Dingus, 2008; Pour-Khorshid, 2018). At the same time, other research suggests that Teachers of Color feel that their community orientation towards relationship building within school communities (including with students and families) are devalued by mainstream education systems and perceived as biased or unprofessional (Burciaga & Kohli, 2018; Dingus, 2008; Endo, 2015; Flores, 2011; Hernandez-Johnson et al., 2021). Consequently, ToCs are left with their philosophies around relationship building seen as a strength in certain spaces, and a deficit in others.

In this study, however, both counternarratives and social network analysis highlight that emotional connection is an asset for productive network formation and resiliency, and that there

is value in fostering it. Indeed, participants noted that when faced with educational philosophies or political overtones that conflicted with their personal values, or even daily struggles as an educator it was difficult to parse through their emotional distress or frustration. Having even a small expressive support network served as a balm when faced with these internal dialogues, allowing for shared processing.

Mentors, Brokers, and Folks Who Go "Above and Beyond"

Outside of school context factors, participants noted that individual agency played a role in their network formation. Either they determined that they would have to take a larger role in seeking out their community, or they were welcomed by a few individuals who went out of their way to create a support system for them. Similarly, looking at leadership in conjunction with teacher social networks, it is evident in current literature that formal hierarchies of school systems do not always align with social ties on campus, and informal leaders can be influential in this regard (Spillane et al., 2010). Nevertheless, school conditions can influence tie formation and both formal and informal interactions play a role in how teachers perceive their sense of belonging, and experience organizational culture (Baker-Doyle & Yoon, 2011; Bridwell-Mitchell & Cooc, 2016; Coburn & Russell, 2008; Coburn et al., 2010; Minkler, 2014; Penuel et al., 2009; Spillane et al., 2010; Spillane et al., 2015).When it comes to the long-term sustainability of supportive models for new teachers, though, it is perhaps best not to rely solely on the goodwill of individuals, especially as it risks furthering burnout of those individual educators.

Looking beyond the role of individuals then, one must consider mentorship or institutionally led support models. Many of the participants were enrolled in induction programs but their experiences were inconsistent depending on the strength of the relationship with their

mentor and the participant's perception of the district level support and training of the mentor. Existing research, however, contends that Teachers of Color are relegated, at times, to finding support through racial affinity groups outside the school or district, through community-based mentorships, and external (not school or district based) professional development (Dingus, 2008; Kohli, 2019; Pour-Khorshid, 2018). If the desire is to move away towards taxing individual educators, and to create more spaces within schools and districts to support the retention of ToCs, special attention must be paid towards developing and supporting the growth of in-house mentorship models.

Implications for School and District Educational Leaders

Given the benefits employing Teachers of Color hold for students, the retention of ToCs remains a priority for schools and districts (Albert Shanker Institute, 2015; Buddin & Zamarro, 2009a, 2009b, 2009c; Dee, 2004; Dee 2005; Egalite et al., 2015; Fraga et al., 1986; Hess & Leal, 2007; Villegas & Irvine, 2010). Some of the school and district features enabling or constraining network formation were well beyond the control of the participants, yet the impacts of those factors varied tremendously depending on the school site and the systems in place. This aligns with existing research which suggest for ToCs, once they enter the workforce, differences in leadership, organizational structure, school culture and climate, and the presence or absence of other ToCs at a school site results in a wide range of outcomes (Achinstein et al., 2010; Achinstein & Ogawa, 2011; Amos, 2016; Choi, 2018; Endo, 2015; Farinade et al, 2016; Flores, 2011; Jay, 2009; Madsen et al, 2018). The following section proposes several recommendations for policy and practice.

School Recommendations: Interviews as Interventions

What was evident during this research process was that the interviews themselves served as an important tool and intervention for individual teachers reconciling their own thinking around their school, the culture, and their practice as a new member of a community. Every participant had moments of reflection on the growth and change of their networks and their relationship with their networks.

Notably, one participant, Misty, reached out after interviews to communicate a wondering she had– reflecting on the study and her responses, she realized that there was so much potential for increased onboarding at her school. She described a need for tours, lunches with the department, and seemingly informal (but highly systematized) opportunities to feel more comfortable asking for assistance, finishing her message with the thought, "I truly believe building a network is key."

From a leadership standpoint, it would be extremely productive (and mutually beneficial) for school administrators or district level personnel to interview teachers on their networks and their perceptions of community building and support at their school site. If used as a regular opportunity for action research, not only would leaders glean a nuanced understanding of the experiences of new staff at their school or district, but it could mobilize a new wave of educators to build more productive infrastructure.

School Recommendations: Community as a Place of Joy Not Isolation

Schools should take care to encourage celebration, sharing, and validation of the day to day experiences of being an educator. This can be embedded into regular staff and professional development meetings – especially when it comes to check-ins, celebrating successes, and building novel connections between educators – but also outside of the work-related sphere. In secondary schools, in particular, as state and college preparatory testing increases, school sizes

increase, and the likelihood of teaching multiple classes and grade levels increase, there is more opportunity for educators to exist in silos. Consequently, purposeful attention to community building and celebration becomes a higher need. Whereas a top down systematized approach may make more sense for building mentorship models and new teacher support, a ground up approach may be more productive for celebrating intentional joy within the workspace (such a school based social committee). Teacher leaders on school campuses are likely to be more attuned to the ebb and flow of the climate on campus, and putting time, energy, and fiscal resources into creating a network of teacher leaders who can create space for celebration, inclusion, and bonding may serve a dual purpose. Not only could it boost morale, but open up more lines of communication for school leadership on the causes of low morale.

School and District Recommendations: Mentorship and Check Ins

District leadership should look inward into their own district and school site level programming such that ToCs are not relegated to seek their own mechanisms of survival elsewhere. At a granular level, school leadership should systematize check ins for new staff and consider what it looks like for a school to have a new staff committee or opportunities for mentorship outside of induction. Depending on the school and/or district, limiting such a model to only the school infrastructure, however, may be taxing on individual or school level resources. Schools may benefit from district level investment (both personnel and financially) in training and support for teacher mentors to create a consistently strong service across districts that does not drain the capacity of individual mentors as well. As a district driven approach will increase access to more resources for all network members (whether mentors or mentees), districts may also want to create district wide affinity support groups to serve as a safe processing spaces for Staff of Color.

Implications for Social Justice

Critical race theory refutes the claim that public education systems are color blind and race neutral (Solórzano & Yosso, 2001). Applying critical social network analysis to participant experiences reinforces this claim as it pertains to network formation – participant counternarratives and social networks demonstrate that school and district context shape the quality of the relationships that ToCs form at school sites and the extent to which an individual needs a network to serve as a mechanism of survival (Gonzalez-Canche & Rios Aguilar, 2015; Hopkins et al., 2022).

While current literature demonstrates the benefits of professional peer relationships for ToCs, participant experiences call into question the systems that reproduce inequities for students and staff such that these networks are considered so crucial, and has implications for how districts are held accountable for creating safe spaces for diverse bodies of students and staff (Albert Shanker Institute, 2015; Amos, 2010; Amos, 2016; Egalite et al., 2015; Ingersoll & May, 2011; Jay 2009; Kohli, 2012; Kohli, 2019; Pizarro & Kohli, 2020).

If at the local level, individual educators and schools are to be tasked with creating systems for retention and network formation so ToCs can better persist and serve their students, then it follows that broad policies protecting and promoting bias free and culturally responsive schools must also exist; if not, any local retention efforts have very little ground to stand on. Whereas White educators are not asked to unpack race, culture, and the power dynamics that exist within the mainstream education system, ToCs are asked to mold themselves into a system that was not built for them (DiAngelo, 2006). Consequently, it would be fruitful to devote more personnel and fiscal resources to developing and monitoring state policy driven accountability

systems and checks to ensure that public education institutions are functioning as culturally responsive and bias free units for the benefit of all students and staff.

Considerations for Future Research

This study sought out to examine the school-based networks of Teachers of Color and the factors that impact them. While the study focused on the experiences of early career secondary Teachers of Color, and approached the population with a new lens (the intersection of critical race and social capital theories), there remains many areas of future research.

Given that for several participants, their role as a new teacher seemed to supersede their identity as ToCs, it is necessary to replicate the study with mid-career teachers. This could allow for a deeper look at participant journeys in network formation and a closer look at how power dynamics play a role in educator experiences once they have their bearings at their school site. Looking further at differing populations, it would also be useful to replicate the study only with ToCs who are planning to leave or have recently left their school sites. Studying this population in particular may result in more nuanced recommendations for education leaders in how to dismantle problematic systems within their institutions.

Additionally, the extension of this ego network study to a whole network study within a singular school, would allow researchers to better capture school patterns around mentors, brokers, and informal teacher leaders who play a role in network formation for ToCs and capture the ways that it may or may not different from White educators at the same school.

Thinking broadly about potential recommendations for teacher preparation programs, future iterations of this study might additionally include gleaning insight on the skills that new educators felt they needed from their credential programs to assist them with navigating a new school and becoming comfortable with building a support system.

Limitations

The sample size was a significant limitation of the study – five participants provided a survey of the variety of experiences of Teachers of Color within Southern California, however it also led to more questions. Given the different systems in place district to district, the interviews resulted in broader findings, where the multi district make up impacted emergent themes. More research is needed to determine trends in the ways district influence impacted a school, and consequently an individual. Additionally, it appeared the difference between the networks of a teacher in their first year versus their second and third year could be quite different simply because they may have met more individuals as time goes on. Again, having five participants made it difficult to account for this difference.

By not using a whole network approach, there was no opportunity to compare the networks of Teachers of Color with White teachers at the same school, or describe the personal network within the larger boundaries of the networks at the school. Still, this was a necessary trade off to center the perspectives of the participants.

Conclusion

As the proportions of Students of Color in schools outpace the proportions of Teachers of Color in the workforce, the retention of ToCs continues to be an area of research necessary to study (Carver-Thomas, 2018). By examining the production and maintenance of social networks of ToCs in particular, there lies opportunity to examine specific factors that shape the experiences of ToCs and that may impact their desire to persist at any given school site.

This mixed method study provided an in depth look at the experiences of five Teachers of Color, leveraging both critical race theory and social network analysis to examine how issues of power may mediate network formation. Findings revealed that participants engaged with the

concept of network formation as a journey, were sensitive to how the school culture valued emotional connection, and noted the role key mentors and individual actors held within their networks. While only one teacher planned on leaving their school site, all described how the interplay of the school/district context and their personal network impacted the way they engaged with their school on a daily basis.

This study contributed to the existing research on both Teachers of Color and social network analysis and recommendations were made to incorporate reflective practices, purposeful community building efforts, structured mentorship, and broader policy changes to create supportive and inclusive education work spaces.

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Appendix A

Interview #1 Protocol

Interviewee Pseudonym: _____
Date: _____

Thank you for agreeing to be in my study. I really appreciate you taking time out of your day to speak with me. As a middle and high school science teacher for nine years, and as a Teacher of Color, I have come to see that my relationships with my colleagues and the nature of those relationships impacted how I experienced my work place. Today, I am interested in getting a sense of your experiences as a teacher at your school site and as a Teacher of Color, in addition to an understanding of your relationships at your school.

I am going to record our interviews, so I can transcribe them after and I will provide you with a copy of the transcript to review. All the information that you share will be confidential. Your name will not appear on any documents resulting from this study, only the pseudonym chosen. If at any point you feel uncomfortable, we can stop this interview. If at any time, you do not want to answer any particular questions, please let me know and we can move on to the next question.

Do you have any questions before we begin?

Background:

- Tell me about your path to becoming a teacher.
    - Potential Probes: What were your experiences in getting your credential? How did you decide to become a teacher? What was your credentialing program like? Did you like your program? Why or why not?
- Tell me about your current teaching position.
    - Potential Probes: What do you teach? How long have you taught here? Describe your school setting. How did you come upon this role? What might a typical work day look like for you? Are you planning on teaching here next year? If not, why not?

Culture and Climate

- What is it like to teach here?
    - Potential Probes: What are your working conditions like? How would you describe the culture amongst the staff? What kinds of challenges have you faced? How do you manage the workload? How have you dealt with those challenges? What kind of support have you received?

- What is it like to teach here as a Person of Color?
    - Potential Probes: Any specific challenges? What factors might have contributed to that? Why do you think that is? Who have you leaned on for support? Whose voices do you see represented? Who voices do you not see represented? Why do you think that is? How do you feel about that?

Relationship Building

- Tell me about the relationships you have at this school.
    - Potential Probes: How did you get to know that person/that group? What helped build that relationship? What do you think got in the way of meeting more people? What do you think the school could be doing to help connect staff to each other? What might be getting in the way?

Demographic
Before we wrap up today, I just have a few last demographic questions for you.

- What are your gender pronouns?
- What ethnic and/or racial group do you identify as?

This concludes our first interview—thank you so much for your time! Once I have my transcript finalized, I will send you a copy to verify what I have recorded. If there is anything you think was misconstrued, you can let me know so I can make changes accordingly. Please let me know if you have any questions. Otherwise, I will be in touch soon with your transcript and then we can discuss a date for our second interview.

Interview #2 Protocol

Interviewee Pseudonym: _____
Date: _____

Thank you for meeting with me again! This survey is meant for you to reflect on your relationships. I will be asking you to name some of the people at your school site who provide you with support and then share a bit about these people. I will provide directions for each section that should make it easier to go through each part of the survey.

I am going to record our interviews, so I can transcribe them after and I will provide you with a copy of the transcript to review. I will also provide you with a digital reproduction of the map we build today. All the information that you share will be confidential. Your name will not appear on any documents resulting from this study, only the pseudonym chosen. If at any point you feel uncomfortable, we can stop this interview. If at any time, you do not want to answer any particular questions, please let me know and we can move on to the next question.

Do you have any questions before we begin?

Name Generators:
At one point or another, we all need support or help from people in our lives – I want to know more about the people at your school who provide you with different kinds of support when you need it. This support could be advice about work, for instance about a lesson or teaching strategy, emotional support, support with personal matters or otherwise.

Who are the people at your school who you have turned to for advice about work? *(Please place each name on a post it and place on MAP 1).*

Who are the people at your school who you have turned to for emotional support? *(Please place each name on a post it and place on MAP 2).*

The following questions are meant to capture characteristics of your relationship with the individuals you just listed. These items explore things like the types of support you receive from the people you named, your primary relationship to those people, and how often you interact with them, along with some demographic information. This information gives me important insights into the types of support you receive from people in your network and helps me to get a sense of the relationship you have with those people. If at any point during this next section, you remember a name that you did not include, you can always return to the maps and add a name.

Name Interpreters:

- What type of support do you receive from [Name]?

- How often do you go to [Name] for this type of support?
    - 1-2x/week
    - 3-4x/week

- Using this map, place the post its within the circle based on your closeness to the individual. For example, if you feel you have a closer relationship with this person, place them closer to the center of the circle.

- How would you describe your relationship with [Name]? How did you form a relationship with [Name]?

- What position does [Name] hold at your school?

- To the best of your knowledge, does [Name] identify as
    - Male
    - Female
    - Gender Non-Conforming/Non-Binary
    - Other (please describe): _____
    - Don't know/not sure

- To the best of your knowledge, with what ethno-racial group(s) does [Name] identify with? Select all that apply.
    - Asian (East Asian/South Asian)
    - Black/African American
    - Latina/o/Hispanic
    - Middle Eastern/Arab/North African
    - Native Hawaiian/Pacific Islander
    - Native Alaskan/Native American
    - White
    - Other (Please specify): _____
    - Don't know/not sure

This concludes our last interview—thank you again for your time! Once I have my transcript finalized, I will send you a copy to verify what I have recorded in addition to a copy of this map. If there is anything you think was misconstrued, either in the transcript or the map, you can let me know so I can make changes accordingly. Please let me know if you have any questions. Otherwise, I will be in touch soon with your materials.