The Four-Capital Theory as Framework for Teacher Retention and Attrition

Sheila Rao Vaidya¹ & Casey Hanna¹

Correspondence: Sheila Rao Vaidya, Drexel University, Philadelphia, Pa 19104, USA. Tel: 484-431-8014. E-mail: Vaidyasr@drexel.edu

Received: May 30, 2023 Accepted: September 2, 2023 Online Published: November 19, 2023

Abstract

There has been a strong interest in teacher retention and attrition which has been studied extensively over the past twenty or more years. While some researchers have attributed teacher attrition to low teacher salaries, poor working conditions, lack of administrative support and resources, other research focuses on the "emotional" aspect of the profession where educators continue to stay because of their love for teaching, for their students, and how they imagine possibilities for their students' futures. A more comprehensive theory of retention and attrition is Mason and Matas' (2015) four capital framework which consists of human capital, social capital, structural capital, and positive psychological capital. In our research with teacher residents in a preparation program, we used interviews, survey, and focus group to obtain data, and found strong prevalence of the four capitals as competing and intersecting phenomenon aiding in understanding the varied and complex factors that contribute to teacher retention or attrition. Additionally, we found that one or more of these four capitals may significantly impact teacher retention or attrition more than others, at any given time and one type of capital may help to overcome limitations in another. Therefore, we found this to be a worthwhile framework to incorporate in teacher preparation.

Keywords: retention, attrition, teachers

1. Introduction

Exacerbated during the pandemic, teacher attrition is a significant issue in the education system and has been studied extensively by researchers. According to Mason and Matas (2015) teacher attrition is an international issue as indicated by publications in this area from several countries including Australia, Japan, the United States, and the United Kingdom. According to Ingersoll (2001,2002), who has studied this issue extensively within the United States, poor working conditions, lack of administrative support, relatively low salaries, lack of autonomy, and changing curriculum are some of the factors that contribute to teacher attrition and turnover. Furthermore, high teacher turnover rates in urban and rural schools are associated with low student achievement and substantial financial costs for school districts (Carver-Thomas and Darling-Hammond, 2019)

In this article, we examine the issue of teacher retention and attrition through a broader lens, utilizing the four-capital theory developed by Mason and Matas (2015). Initially, we outline the current research on teacher retention and attrition, and we identify the shortcomings of this existing research on teacher retention in the context of the more comprehensive four capitals framework, which we utilize to comprehend teacher retention and attrition. The four capital framework encompasses various factors that impact a teacher's work and personal life, both within and outside the school. These factors play a crucial role in their decisions to stay or leave.

2. Related Literature and Theoretical Framework

2.1 Teacher Retention and Attrition

Retaining good teachers is imperative to student success. Research conducted by the National Commission on Teaching and America's Future (NCTAF) consistently confirms that the expertise of teachers is the most significant factor in determining student achievement (2003). While small schools and class sizes can have a positive influence on student achievement (Biddle & Berliner, 2002) they are secondary to the critical role of knowledgeable and effective teachers. The best student outcomes occur when teachers can work effectively in environments that enable them to get to know their students well and foster meaningful relationships. In Sonia

¹ School of Education, Drexel University, Philadelphia, USA

Nieto's book, What Keeps Teachers Going? (2003) Nieto's research suggests that good teachers stay in teaching—even in the most difficult of circumstances and with the most marginalized students—for reasons that have more to do with "teaching's heart" (Cochran Smith, 2004). Nieto discusses the aspect of teaching that inspires human connections, engagement and long-term bonds between students and teachers through learning situations, where teachers imagine possibilities for their students through the work, they do with them. These strong bonds are "life sustaining and hold long-term meaning" (Nieto, 2003). For these reasons, training and retaining effective, caring teachers is essential; however, teacher shortages and retention is a persistent problem in the United States.

This study is designed to gain deeper insight into the lived experiences of teacher residents and the motivating factors that influence teacher resident retention and attrition in high-needs schools. As a result, it is essential to define teacher retention and attrition. Simply put, teacher retention refers to the decision made by a teacher to remain in the profession and teacher attrition refers to their decision to leave (Boylan & McSwan, 1998). Drawing on Richard Ingersoll's (2001, 2002) analyses of retention and attrition patterns in K-12 schools and other analyses of large-scale state and national data sets, the NCTAF (2003) report concluded that the teacher shortage was caused primarily by early attrition of those in the teaching pool rather than by insufficient numbers of people preparing to teach. This phenomenon occurs more frequently in high-needs schools and STEM teachers leave high-needs schools at even higher rates than teachers of other disciplines (Podolsky et al., 2017; Carver-Thomas & Darling-Hammond, 2019; Marshall et al., 2022). As a result, school districts experiencing high teacher turnover rates typically struggle with low student achievement (Ronfeldt et al., 2013; Watlington et al., 2010). In addition, high teacher turnover rates often lead to substantial and unnecessary financial costs for school districts (Azar & Grossman, 2021). For these academic and financial reasons, successful STEM teacher recruitment, preparation, and retention should be one of the most important goals in education (Hill, 2022). Teacher preparation and development can affect teacher attrition. According to Ingersoll (2001, 2002) teachers who receive mentoring and induction are known to stay in teaching longer than those who have not received these supports, indicating that supports provided to teachers in their preparation programs and within the school is beneficial to their work and relationships, which leads to better outcomes in retention and student academic achievement.

2.2 Teacher Residency Programs

Teaching in a high-needs district is complex and difficult and many districts struggle to retain good teachers over time (Mascarenhas et al., 2010). As a result, many teacher education programs have adopted the teacher residency model. Teacher residency programs have the potential to address teacher shortages and deliver highly qualified teachers to the classrooms where they are needed the most (Washburn-Moses, 2017). Thus, teacher residency programs are designed to harness and boost the human capital of teacher residents. Most teacher residency programs are developed to resemble medical residency programs; therefore, they possess the potential to "professionalize" teaching in the same way medical residencies did for the medical profession (Thorpe, 2014). However, many education leaders have stated that teacher residency programs need further study to best support teacher residents in high-needs schools to elevate their odds of retention over time (Marshall et al., 2021; Mourlam et al., 2019; Pike & Carli, 2020). This qualitative methods study of the University's Noyce teacher residents aims to identify the strengths and weaknesses of the program as well as the motivating factors influencing teacher resident persistence and retention in high-needs schools.

2.3 Theoretical Framework

This study adopts a framework that allows us to recognize the many factors that positively and negatively affect teacher resident persistence and, therefore, teacher resident longevity and retention. In informal conversations and formal interviews with teachers, we found teacher retention and attrition to be influenced by more than one aspect of the job. We found that Mason and Matas' (2015) work captures the complexity entailed in teacher retention not addressed before, indicating that teacher retention is complicated and is influenced by more than a single factor that is embedded in the teacher's work. Based on an extensive thematic review of the literature reporting factors attributed to teacher attrition, Mason and Matas (2015) propose the Four-Capital Framework for Teacher Retention. This provides a comprehensive theoretical framework for understanding teacher resident retention since it addresses more than one aspect of a teacher's lived experience. The four intersecting components within this framework—human capital, social capital, structural capital, and positive psychological capital—aid in understanding "the varied and complex factors that contribute to teacher attrition or retention" (p. 54). One or more of these four capitals may significantly impact teacher retention or attrition more than others at any given time. Also, one type of capital may help to overcome limitations in another, thus making retention and attrition a complex issue based on competing factors.

Thus far, the Four-Capital Framework for Teacher Retention and Attrition has not been used to understand the experiences and retention of teacher residents or teachers. Through this lens, the researchers can conceptualize a program's potential to maximize human and social capital for teacher residents. Also, the researchers can comprehend the school district's role in providing structural capital for teacher residents. Finally, the researchers can conceivably link persistence to positive psychological capital and suggest strategies for maintaining the positive psychological capital of teacher residents and early career teachers. The compensating capacity of each capital, for example, high psychological capital to compensate for low structural capital has not been studied and should likely be a focus of a future study.

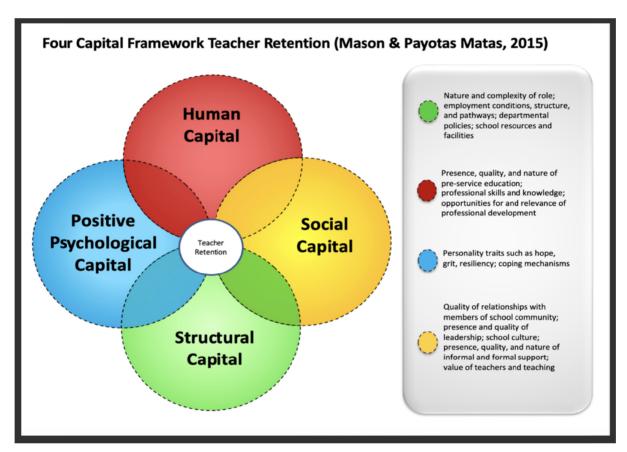


Figure 1. Four-Capital Framework for Teacher Retention (Recreated from Mason & Matas, 2015)

2.4 Human Capital

Human Capital is "the collective skills, knowledge, or other intangible assets of individuals that can be used to create economic value for the individuals, their employers, or their communities" (Caverley et al., 2013, p. 574). In the context of schools, human capital is defined as "an individual's cumulative abilities, knowledge, and skills developed through formal and informal experiences" (Pil & Leana, 2009, p. 1103).

2.5 Social Capital

Social Capital refers to the connection among individuals, social networks, and the norms of reciprocity and trustworthiness that arise from them (Putnam, 2000). The underlying principle of social capital is that human relationships are valuable. Studies show that schools with elevated social capital through strong relationships and support experience better outcomes related to student academic achievement and teacher retention (Leana, 2011).

2.6 Structural Capital

Structural capital in a school consists of the physical infrastructure, including buildings, and teaching and technological resources. It also includes school-specific practices, such as teacher compensation, promotion, curriculum framework, administrative procedures, and financial incentives for teaching in a high-needs school (Mason & Matas, 2015).

2.7 Positive Psychological Capital

Positive Psychological Capital is defined as personality features that psychologists believe contribute to an individual's productivity (Goldsmith et al., 1997). Some notable personality features include grit (Duckworth, 2014), commitment (Day, Elliott & Kingdon, 2005), and resilience (Pearce & Morrison, 2011). These factors may be developed, but it has been shown that they do have a positive impact on teacher retention.

3. Research Questions

The research questions of this study align with the goals of the Robert Noyce Teacher Scholarship program (RNTSP) and the Teacher Residence Program (TRP) and aim to explore the following questions:

- 1) What are the motivating factors influencing teacher retention and teacher persistence in high-needs schools?
- 2) How can capital theory be utilized to explain the persistence of teacher residents in high-needs schools?
- 3) Which of the four capitals is most influential in teacher retention?
- 4) Which of the four capitals is most influential in teacher attrition?

4. Methodology

This study of teacher residents in a Teacher Residency Program is a three-phase co-constructivist, exploratory qualitative study. Below, we describe the sources of our data and the methods of data collection to obtain data in three phases, each phase providing us with information used to focus in-depth during surveys and focus groups and providing corroboration through triangulation.

4.1 Study Context

The eight participants (Patricia, Janice, Michelle, Nisha, Kimberly, Alissa, Skylar, Jim, and Tara—all pseudonyms for protection) in this study are members of the Teacher Residency Program (TRP) that was established through a partnership between our major urban university and a local school district. The main goal of the TRP is to recruit post-baccalaureate STEM professionals to obtain certification in Mathematics or Science. Teacher candidates in the TRP co-enroll in a teacher certification program and are supervised by a mentor teacher for one academic year while receiving a salary, benefits, and tuition reimbursement. They can also earn up to \$20,000 in scholarships from their respective higher education institutions. In exchange, scholarship recipients must commit to serving as a STEM teacher in a high-needs school in the district with mentorship for at least two additional years. The partner University provides coursework for teacher residents in the program, many of whom are funded by the Robert Noyce Teacher Scholarship Program (RNTSP), which is supported by the National Science Foundation. The RNTSP offers funding to institutions of higher education to provide scholarships, stipends, and programmatic support to recruit and prepare STEM majors and professionals to become K-12 teachers. Overall, the TRP and the RNTSP help support the district and the university's mission to increase the district's STEM teacher candidate pool.

4.2 Participants, Data Sources, and Phases of Study

Phase one of this study began in the fall of 2022. The sample population of the first phase of this study was selected using volunteer sampling (Cohen et al., 2007). This phase was the semi-structured pilot interview phase, designed to broadly understand the experiences of Noyce scholars in the TRP. This provided a window to teachers' work and the issues they encounter daily. The pilot interviews were modeled after Steinar Kvale's (2007) research on semi-structured interviews. The interview questions were developed to mine for "nuggets of essential meaning" and create a new experience for both the interviewer and interviewee (p. 3). Interview questions were jointly created by the research team and focused on critical aspects of teacher residency programs, student experience, the program's strengths and weaknesses, and the importance of teaching in high-needs schools (Table 1). For this phase, the research team sent out an email to the Noyce scholars in our university's TRP and asked if they were interested in participating in a 60-minute interview. The first three teacher residents that responded were selected. Each respondent was a Caucasian female between 22-25 years of age. Once the interviews were scheduled, the research team met with each participant via Zoom and engaged in the semi-structured interviews. The researcher engaged in these online interviews from the university's School of Education, while the three teacher residents engaged in the interviews from their classrooms in their respective schools, at the end of their school day. The researchers ensured that each participant consented to be interviewed and recorded, with the knowledge that the findings may be published. Each interview was recorded and transcribed. The data that emerged from the interviews showed that the experiences of the teacher residents could be explained through Mason and Matas' four capital framework (2015), which will be explained in the following section.

Phase two of this study consisted of the creation and electronic dissemination of a Qualtrics survey sent to all the

Noyce scholars in the university's TRP via email. The statements and questions in the survey emerged from the pilot interview data analysis and were influenced by Mason and Matas' four capital framework (2015). These prompts tapped into features consisting of teachers' credentials and academic preparation (human capital), the school administration and teaching environment (structural capital) opportunities for forming relationships with colleagues and others (social capital) and determining the developmental state of an individual as characterized by high self-efficacy, optimism, hope, and resilience (Positive Psychological capital). It consisted of questions in a statement form like "I am proud of my teaching credentials" to which response had to be given on a five-point Likert scale indicating degree of agreement or disagreement. Other items were "My teaching colleagues are available to me if I run into a problem".

The sample consisted of 23 females and 12 males. Regarding race, there are 27 Caucasian participants, 6 African American participants, and 1 Asian participant. The age range of the participants is 22-48.

In the third phase, a focus group was conducted with six teachers. The interviews and the survey data helped determine areas that needed further study. The focus group process emphasized these areas for further understanding. Four of the focus group teachers were in the first year of their residency program, while two of these teachers had just completed their residency program and were in their regular teaching positions. After analyzing the survey responses and identifying themes, the research team created a set of 15 questions for the focus group. Data from the three interviews, the survey and the focus-group indicated areas that were important for tapping into the four capitals delineated in the theory.

4.3 Data Analysis of Phase One

The pilot interviews of the three teacher residents were initially designed to broadly understand the experiences of Janice, Patricia, and Michelle. However, the data that emerged from the interviews showed that the experiences of these teacher residents could be explained through Mason and Matas (2015) Four-Capital Framework for Teacher Retention. Information from these interviews are categorized by "capital type" and described below:

4.3.1 Structural Capital

The working conditions present in a school can determine whether a teacher remains there for his or her career. High-needs schools typically have difficult working conditions, such as a lack of resources and large class sizes. The working conditions present at their schools have resulted in low levels of structural capital for Patricia, Janice, and Michelle. However, despite these challenges, Patricia and Janice showed high levels of persistence. In the interviews, the teachers reflected on their most significant teaching challenges. For example, Patricia did not feel like she could meet the needs of her students when her class sizes are so large. She speculated that this is a result of low teacher recruitment and retention within the district. Unfortunately, according to Patricia, the teacher turnover the district experiences may be due to the lack of resources and inadequate staff support. As a result, teacher turnover negatively affects the teachers who choose to stay. Patricia often must use an outside funding source called "Donors Choose" to get supplies and shared that the district does not allocate her enough resources to teach science adequately. Janice reflected on how difficult it is for teachers to support students in high-needs schools from low-income areas. She wished she and the district could do more to support her students' needs, like well-funded districts outside of the city. The large class sizes and lack of resources within the school result in low structural capital for its staff, causing teacher turnover. Based on Janice, Patricia, and Michelle's responses, it is apparent that the working conditions of the school district are taxing for them, which can threaten their likelihood to persist in the profession.

4.3.2 Human Capital

The more human capital a teacher possesses, the more likely the teacher will remain in the profession. The professionalized and immersive nature of the teacher residency model cultivates the human capital of teacher residents by combining their previous professional experiences with content and pedagogical-based coursework and practice. The pilot interviews revealed that Patricia, Janice, and Michelle consistently used their STEM knowledge in the classroom. However, the interviews also showed that while Drexel and the PTRP successfully shared essential pedagogical and content knowledge with teacher residents, more should be done to connect the theory learned in their coursework to their practice in the classroom.

Patricia shared that she wanted to create middle school science lessons based on her understanding of climate change and climate justice. Patricia studied environmental science as an undergraduate, so it is likely that she has a deeper understanding of the concept than a novice science teacher that went through a traditional teacher preparation program. Patricia noticed that working hands-on with science made it more exciting for her, which she hopes to share with her students. Janice also explained that her love of doing math was a reason why she studied it,

ies.ccsenet.org International Education Studies Vol. 16, No. 6; 2023

and she hoped she could impart that love of math to her students. While Michelle did not necessarily think her biology degree was particularly usual in her role as a teacher, she did explain that she translates skills she acquired in her previous career to help her with documentation and communication as a teacher. The teacher residents' professional skills and their appreciation and knowledge of STEM inform their practices in the classroom. They have a strong understanding of STEM subjects; they take pride in their ability to address student needs and develop curriculum.

4.3.3 Social Capital

The more relationships a person has, the more social capital one possesses. The teacher residency model harnesses the power of social capital to support teacher residents by providing teacher residents with a multitude of mentors and supports. In the case the teacher residents who participated in the pilot interviews, each felt supported by their TRP coordinator, their cohort, the Noyce program, university faculty, and their mentor teacher.

Patricia shared that she was able to be successful at the start of her second year through the support of her family, school, and university community. Patricia also shared that she loved her cohort. Janice also mentioned that she often spoke with others in her cohort to discuss their experiences and lean on each other. Janice also enjoyed working with her mentor teacher; however, she also shared that her professors at her university will look over her lesson plans, and her PTRP coordinator has observed her in the classroom to give her feedback. Michelle shared that collaborating with her "teaching team" is a major motivator for her to continue working at her school. Janice, Patricia, and Michelle receive positive encouragement and constructive feedback from their support systems, thus providing them with the social capital to succeed in the classroom, even when facing difficulties. This boost in social capital can help teachers remain in high-needs schools.

4.3.4 Positive Psychological Capital

Although teacher residency programs cannot impart personality traits like grit, resilience, and commitment to their residents, the model has the potential to provide the support needed to protect and enhance the psychological capital needed for retention. The pilot interviews revealed that the teacher residents had high amounts of psychological capital that helped them persist through challenges. However, there was also evidence that challenges strain their psychological capital.

For example, at the start of her interview Patricia discusses the difficult week she experienced with student fights at her school. While her tone sounded exhausted, it was encouraging to see that she could move past the fight and see that the following day was a "better" day, displaying her resilience. Despite this, she discussed throughout the interview how she psychologically struggled with teaching during COVID-19 and teaching in a high-needs district. She discussed starting at her new school in North Philadelphia, and lamented that teaching in high-needs schools is challenging, however, Patricia's positive psychological capital has helped her stay in the TRP.

Janice's positive psychological capital has helped her find success in her planning; however, her psychological capital is strained by troubles with classroom management. When she was asked how she was doing at the beginning of the interview, she shared that she had been staying up late to lesson plan, and while she felt she was a slow planner, she felt like she was getting better at the task each day. While her tone expressed exhaustion, she displayed grit and optimism by communicating that she was getting "better" at it. However, she appeared exasperated when discussing classroom management strategies. While behavior issues in her classroom appear to strain her psychological capital, Janice expressed that she was working on finding different ways to overcome those issues, which displays grit. Finally, Janice shared that her students help her maintain her resiliency.

Michelle displayed varying levels of psychological capital. While physically pulling her hair out from stress throughout the interview, she admitted that she has considered quitting. Despite this, she consistently tells herself to go in and see what tomorrow brings, thus displaying great resiliency. She also shared that seeing a student smile or receiving a hug from a student reminds her of why she decided to apply to the TRP and become a teacher.

Most teachers state that their love for their students helps them persist and maintain longevity in their careers. These findings support the findings of Sonia Nieto (2003) and Cochran-Smith (2004). Patricia shared that she loved her students, too. While it is evident that Janice and Patricia display high levels of positive psychological capital, it is apparent that there are many aspects of their jobs, such as the working conditions of their district, that threaten their psychological capital. This should help teacher residents like Patricia and Janice maintain persistence and remain in the field longer.

4.4 Data Analysis of Phase Two

The survey results showed a clear pattern of low structural and social capital emerging from teacher experiences consisting of large class size, difficulties in classroom management, lack of administrative support and the lack of

ies.ccsenet.org International Education Studies Vol. 16, No. 6; 2023

resources to address any of the described problems. On the other hand, high human and positive psychological capital were indicated through a high sense of self-efficacy and confidence in peer support as well as confidence in teaching challenging concepts and pride in one's preparation as a teacher.

The scale range was from 5 (highest score) and 1 (lowest). Average scores were computed for each statement referring to the four capitals. The average scores ranged from 4.77 for areas of Psychological capital on survey items like "I believe that all students are capable of learning" and 4.54 for a survey item addressing human capital "I can teach a concept in multiple ways to address learning differences" and 4.69 on social capital items such as "My teaching colleagues are available to me if I run into a problem"; the lower scores were 2.85, 3.15 and 3.50 on structural capital survey items "The school district provides me with the resources I need for my teaching." The school policies are supportive of student learning and staff progress".

The interview data and the survey results provided an understanding of the significant issues to be tapped further in focus groups. Thus, further evidence of the presence of the four capitals through the survey data further suggested the importance of four capitals. This data led us to find deeper-level data through focus groups.

4.5 Data Analysis of Phase 3

Based on the survey and interview results, a follow-up focus group protocol was developed consisting of the questions that helped probe further into issues such as low structural and social capital versus high human and positive psychological capital. Focus group questions such as, "What helps you stay motivated?"; "Does the School District provide you with professional development opportunities to learn how to manage and cope with difficult situations?"; "What are the challenges faced by teachers and how do they overcome these challenges?". The focus groups consisted of a mix of teacher residents and first year teachers who completed their first year of the residency program. The first focus group consisted of Kimberly and Alissa. The second focus group consisted of Nisha, Skylar, Jim, and Tara.

The research team completed a thematic analysis of the focus-group responses using Taguette to analyze repeated patterns (Braun & Clarke, 2006). The goal was to identify common or shared meanings (Kiger & Varipo, 2020) relating to the capital theories, persistence, and retention. Two cycles of coding were applied to the data set. In Cycle one, we identified emerging codes. Cycle two consisted of pattern coding to organize the codes into themes and subthemes.

The themes that emerged were significant and recurring and allowed us to view the themes and patterns in terms of the four capitals. The analysis of the focus groups will be discussed below and are sectioned by "capital type:"

4.5.1 Structural Capital

The most salient of the capitals for school functioning is the structural capital defining teachers' adjustment and happiness in the job. We found most teachers to be demoralized by the poor classroom physical space lacking functioning conditions and equipment, lack of inadequate teaching resources, shortage of basic supplies like paper and unsupportive administration. In some instances, low structural capital can be offset to some degree by experiences construing high structural capital which overlaps with social capital, such as support from a grade partner, administrator, or curriculum specialist or the availability of good teaching resources such as chrome books which enhance instruction or the availability of supplies for equipment.

The working conditions present in a school can determine whether a teacher remains there for his or her career. High-needs schools typically have difficult working conditions, such as a lack of resources and large class sizes. Working conditions in some schools are unsafe, which is demoralizing. There is a disconnect between the teachers and the principals. Inadequate teaching resources including significant shortage of the simplest materials like paper. Furthermore, the curriculum does not account for the missing resources. There is persistent lack of communication as indicated by one teacher, "If the district addressed what we need instead of what they think we need, it would be great".

According to Kimberly, "the teacher turnover the school district experiences may be due to the lack of structural capital and poor support experienced by the staff. As a result, teacher turnover negatively affects the teachers who choose to stay." The large class sizes and lack of resources within the school district result in low structural capital for its staff, causing teacher turnover. If teacher residency programs are to address teacher turnover successfully, they must work in conjunction with their partner districts to ensure that low structural capital does not threaten longevity in the workplace.

4.5.2 Human Capital

To be empowered as teachers with a strong sense of self and self-efficacy, teachers must feel a sense of pride about

their preparation and credentials. As Alissa emphasized, "our preparation in the Residency program is much better because we have a full year of student teaching in the regular classroom". However, lack of appreciation or acknowledgement from administrators in high-needs schools where teaching is the hardest, wears away at the human capital that a teacher may have earned through sincere effort and hard work. The teachers in our focus group expressed "poor communication" as a hurtful feature of their experience in the school system. They further elaborated that there was "dissonance in expectations", there was no consideration given to time needed to work on prerequisite skills which would be needed with the assigned curriculum. Teachers with content knowledge credentials in the subjects they teach expressed the desire to create unique projects that would engage students. They shared concerns about English language learners and IEP students who do not receive enough support.

Teacher candidates typically struggle with understanding the connection between the theories they learn in their coursework to their practice in the K-12 classroom (Labaree, 2006). Although the teacher residency model is more immersive than traditional models, teacher educators should be mindful of displaying the purpose and application of coursework and assignments. While the TRP appears to experience success in preparing and cultivating human capital in the teacher residents, more can be done to help them internalize the objectives of their courses. However, the sense of high human capital stemming from the love of one's subject is well indicated in a Kimberly's comment:

At the end of the day, I try to remind myself why I wanted to be a teacher and that was because I wanted to share my enjoyment of math with other people to be a positive person in their life. At the end of the day if one or two kids leave this class and feel like they learned something- they grew and learned, they feel I cared about them- that is enough.

4.5.3 Social Capital

A sense of high social capital is of huge advantage to a teacher's well-being and is found to compensate for areas of teacher's work life that are lacking. Positive relationships and work collaborations are job highlights that bring out the shared joy of working with young children. Teachers think of students as their own. Despite the job difficulties, Nisha shared that "she experiences joy in the job," the greatest joy being her work with her kids. Having some social capital compensates for other low areas of capital such as a sense of loneliness expressed by one teacher: "I am the only adult in their lives that the kids rely on for certain things".

Relationships with colleagues are also incredibly important. Kimberly shared that she loved her cohort. She also mentioned that she often spoke with others in her cohort to discuss their experiences and lean on each other. She also enjoys working with her mentor teacher: "I feel like it's a really good relationship. And I feel very comfortable asking her questions. We were supposed to have a designated time for me ask questions, but I just asked her questions, like, whenever, and she'll just tell me whatever I want to know, or whatever question I have."

Their relationships with school leadership is also important: when their school principals ask for their opinions on how to build intrinsic motivation among students, they share that such situations leave them with a sense of appreciation and a sense of importance. However, overly critical administrators can have a negative impact. Skyler shares that when the administration is imparts her with negativity when they visit her class, resulting in low social capital: "I feel a sense of loneliness."

4.5.4 Positive Psychological Capital

Personal initiative and personal strength help develop high psychological capital, which may positively influence other capitals. Nisha described her own initiative and capital as consisting of engaging in yoga, pilates and meditation to build mental and physical strength for her teaching job. She described her philosophy as "learning to accept reality" and making it work in the best way possible. She adds "I have been intentional about practicing goal setting and working on transcending a difficult job situation by practices of building inner strength, self-awareness, mental focus, and concentration" adding I have kind of just like, thrown my hands up in the air a little bit, and said, "if I'm in a situation that is so difficult, like this, I'm just gonna make it work with what I can do and I'm not going to worry about the rest."

A sense of low psychological capital is experienced by Alissa since two other teacher residents have left. One of them left because a student brought a gun to the class, which Alissa found disturbing. The students in her class have food security issues and Alissa also expressed a feeling of demoralization and low morale about the students in her class who are at the third-grade level but must be taught eighth grade curriculum.

Both Alissa and Nisha indicate that a sense of hopelessness is experienced, but also hope, wishing the kids would overcome some of what they are experiencing – a hope that some of them will. Frustration is experienced because of a sense of "complacency" that exists in their district. But at the same time, "we have high expectation of where

we need to be."

5. Findings

Based on our analyses, we summarize our findings below:

- 1) Teacher retention and attrition are influenced by complex phenomena that go beyond the working conditions and salaries.
- Teachers have a strong sense of mission and believe that good teaching and learning impact student lives and make a difference.
- 3) Teacher retention is influenced by how positively they feel about their preparation and knowledge (human capital)
- 4) Teachers thrive when there is opportunity to participate in a school community and when there is support from peers and others in the school (social capital)
- 5) Low salaries, poor working conditions, lack of administrative recognition and support, lack of the simplest teaching resources affect a teacher's well-being and job performance (structural capital)
- 6) Hope, efficacy, resilience, and optimism are essential characteristics in teachers and likely threatened when the teaching environment is negative.
- (Psychological capital).
- 8) Positive psychological capital is an essential component in managing challenging situations in the work environment. Most of the teachers in our study brought positive psychological capital to the job situation.
- 9) Teachers compensate for difficult situations by using personal techniques such as exercise, meditation and reaching out to colleagues, thus increasing social capital to some extent, and strengthening psychological capital. As one teacher shared, "I like being a teacher- but what makes me come back every day is that I have made a commitment to the school and to the students."

6. Practice and Policy Considerations

The findings of this study show that the working conditions of high-needs school districts negatively impact the structural capital of their faculty and teacher residents. These high stress working conditions should be addressed through the reconceptualization of public-school funding. While recruiting high quality teacher candidates is important, finding methods to help them remain in the classroom is even more important; as teachers continue to develop over time, they make a greater impact in their work with students and the curriculum. It appears that education leaders should begin conceptualizing solutions to attrition relating to structural capital. While the interviews demonstrate that some of the teachers in our study have enough social and human capital to overcome the challenges associated with low structural capital, it does appear that the pressures associated with teaching in high-needs schools seriously threaten their positive psychological capital. Some of the teachers display persistence, but this persistence could wane over time without proper support and quality education. The teachers in our study could be better equipped to cope with the stresses of teaching in a high-needs school if their coursework preparation refocuses on building more human and positive psychological capital. Therefore, university faculty should continue to discuss best practices for demonstrating the purpose and application of teacher residency coursework.

Finally, the teacher residency model was conceived to address high teacher turnover levels by recruiting high-quality teacher candidates. Therefore, more empirical studies should be done to more adequately understand how the model can be operationalized to increase levels of teacher retention. Based on the findings of this study, teacher turnover in high-needs schools is likely higher because of the tension teachers face when their capital is diminished. However, when delivered correctly, teacher residency programs are poised to increase their teacher residents' human, social, and positive psychological capital compared to teacher education programs that follow more traditional preparation models. Thus, teacher residency programs may help boost teacher longevity, resulting in positive financial, climate, and student outcomes and traditional teacher education programs should begin to embrace and implement the teacher residency model. This model will more adequately help teacher residents connect theory to practice, understand classroom pedagogies, utilize their previously acquired skillsets, create meaningful relationships, cope with stress, and discover a latent love for teaching.

7. Recommendations

We have four recommendations for practice and policy:

1) In a recent court ruling on equitable school funding in Pennsylvania, the presiding judge ruled in favor of the

- plaintiff stating that the school funding based on property taxes was hurting the children who lived in low-income neighborhoods and paid lower taxes (Fitzpatrick, 2023). This inequality in education funding was hurting the children in the low-income neighborhoods, thus advocating a redistribution of the property taxes in a more equitable way. Such policies are necessary to make a difference in the structural capital aspect of high need schools. Equitable distribution of funding would transform high needs schools.
- 2) Teacher preparation programs that focus on pedagogy and content-based pedagogy should also include studies on psychological capital development. Teachers come to teaching with a love of learning and love for a subject that they want to teach. A focus on developing psychological capital and energy is an essential aspect of most jobs, but perhaps more important for teachers who regularly deal with varying issues in addition to the classroom work with students.
- 3) An important issue concerning human capital is how to build self-efficacy. Bandura (1977, 2008) argues that the most effective way to build self-efficacy is through mastery. There is no better way to believe in one's ability to succeed than to set a goal, persist through challenges and experience the outcomes. Teacher Preparation programs would do well to emphasize mastery for teacher candidates.
- 4) Open discourse between the Teacher residency program, the university and the school district on how to best support teachers, address teacher shortage and financially support teacher residency programs.

References

- Azar, T., & Grossman, T. (2021). *The Teacher Residency Return on Investment: A Pathway that Prepares Effective and Diverse Teachers Who Stay*. National Center for Teacher Residencies. Retrieved from https://nctresidencies.org/wp-content/uploads/2021/10/NCTR-ROI-Report-October-26-2021-FINAL-3.pdf
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review, 84*(2), 191-215. https://doi.org/10.1037/0033-295X.84.2.191
- Bandura, A. (2008). Toward an Agentic Theory of the Self. In H. W. Marsh, R. G. Craven, & D. M. McInerey (Eds.), *Self-Processes, Learning, and Enabling Human Potential* (pp. 15-49). Advances in Self-Research, Greenwich, CT: Information Age Publishing.
- Biddle, B. J., & Berliner, D. C. (2002). Small Class size and its Effects. Educational Leadership, 59, 12-23.
- Boylan, C., & McSwan, D. (1998). Long-staying rural teachers: Who are they? *Australian Journal of Education*, 42(1), 49-65. https://doi.org/10.1177/000494419804200104
- Carver-Thomas, D., & Darling-Hammond, L. (2019). The trouble with teacher turnover: How teacher attrition affects students and schools. *Education Policy Analysis Archives*, 27(36). https://doi.org/10.14507/epaa.27.3699
- Caverley, N., Quresette, B. C., Shepard, B. C., & Mani, P. S. (2013). Emerging trends: Canadian perspectives on career development practice in the 21st century. In B. C. Shepard, & P. S. Mani (Eds.), *Career Development Practice in Canada: Perspectives, Principles, and Professionalism* (pp. 555-578). Toronto: Canadian Education and Research Institute for Counselling.
- Clotfelter, C. T., Ladd, H. F., & Vigdor, J. L. (2007). How and Why do Teacher Credentials Matter for Student Achievement? National Bureau of Economic Research. https://doi.org/10.3386/w12828
- Cochran Smith, M. (2004). Stayers, Leavers, Lovers, and Dreamers: Insights about Teacher Retention. *Journal of Teacher Education*, 55(5), 387-392. https://doi.org/10.1177/0022487104270188
- Cohen, L., Manion, L., & Morrison, K. (2007). *Research Methods in Education* (6th ed.). Routledge/Taylor & Francis Group. https://doi.org/10.4324/9780203029053
- Day, C., Elliot, B., & Kington, A. (2005). Reform, Standards and Teacher Identity: Challenges of Sustaining Commitment. *Teaching and Teacher Education*, 21, 563-577. https://doi.org/10.1016/j.tate.2005.03.001
- Duckworth, A., & Gross, J. J. (2014). Self-Control and Grit: Related but Separable Determinants of Success. *Current directions in psychological science*, 23(5), 319-325. https://doi.org/10.1177/0963721414541462
- Fitzpatrick, A. (2023). Pa. schools say landmark funding trial decision is final: that means the legislature needs to increase funding. WHYY. Retrieved from https://whyy.org/articles/pennsylvania-school-funding-lawsuit-final-appeal/#:~:text=The%20case%20began%20in%202014,Pennsylvania%20school%20funding%20syste m%20unconstitutional
- Goldsmith, A. H., Veum, J. R., & Darity, W. J. (1997). The impact of psychological and human capital on wages.

Economic Inquiry, 35(4), 815. https://doi.org/10.1111/j.1465-7295.1997.tb01966.x

ies.ccsenet.org

- Hill, C. (2022, August 24). *Philly School District outlines recruitment and retention plan*. WHYY. Retrieved from https://whyy.org/articles/philly-school-district-outlines-recruitment-and-retention-plan/
- Ingersoll, R. M. (2001). Teacher Turnover and Teacher Shortages: An Organizational Analysis. *American Educational Research Journal*, 38(3), 499-534. https://doi.org/10.3102/00028312038003499
- Ingersoll, R. M. (2002). The Teacher Shortage: A Case of Wrong Diagnosis and Wrong Prescription. *NASSP Bulletin*, 86(631), 16-31. https://doi.org/10.1177/019263650208663103
- Kvale, S. (2007). Doing interviews. Sage Publications Ltd. https://doi.org/10.4135/9781849208963
- Leana, C. R. (2011). The Missing Link in School Reform. *Stanford Social Innovation Review*, 9(4), 30-35. https://doi.org/10.48558/T2GN-2980
- Marshall, D. T., Pressley, T., Neugebauer, N. M., & Shannon, D. M. (2022). Why teachers are leaving and what we can do about it. *Phi Delta Kappan*, 104(1), 6-11. https://doi.org/10.1177/00317217221123642
- Marshall, D. T., Scott, M. R., & Guofang, W. (2021). Through Failure and Reflection: Conceptualizations of a Successful Teacher Residency Experience. *Action in Teacher Education*, 43(2), 160-175. https://doi.org/10.1080/01626620.2020.1765897
- Mascarenhas, A., Parsons, S., & Burrowbridge, S. C. (2010). Preparing Teachers for High-Need Schools: A Focus on Thoughtfully Adaptive Teaching. *Occasional Paper Series*, 2011(25). https://doi.org/10.58295/2375-3668.1082
- Mason, S., & Matas, C. P. (2015). Teacher Attrition and Retention Research in Australia: Towards a New Theoretical Framework. *Australian Journal of Teacher Education*, 40(11). https://doi.org/10.14221/ajte.2015v40n11.3
- Mourlam, D. J., De Jong, D., Shudak, N. J., & Baron, M. (2019). A phenomenological case study of teacher candidate experiences during a yearlong teacher residency program. *The Teacher Educator*, *54*(4), 397-419. https://doi.org/10.1080/08878730.2019.1590750
- National Commission on Teaching and America's Future (NCTAF). (2003). No dream denied: A pledge to America's children. New York: Author.
- Nieto, S. (2003). What keeps teachers going? Teachers College Press.
- Pearce, J., & Morrison, C. (2011). Teacher Identity and Early Career Resilience: Exploring the Links. *Australian Journal of Teacher Education*, 36(1), Article 4. https://doi.org/10.14221/ajte.2011v36n1.4
- Pierce, J. C., Shaw Amoah, A., & Lapp, D. (2020). Shortages and Inequities in the Philadelphia Public School Teacher Workforce. Research for Action & The Philadelphia Research Consortium. Retrieved from https://files.eric.ed.gov/fulltext/ED608077.pdf
- Pike, L., & Carli, M. (2020). Leveraging Best Practice in Teacher Residency to Enhance Teacher Preparation. SRATE Journal, 29(2). Retrieved from https://eric.ed.gov/?id=EJ1268558
- Pil, F. K., & Leana, C. (2009). Applying organizational research to public school reform: The effects of teacher human and social capital on student performance. *Academy of Management Journal*, *52*(6), 1101-1124. https://doi.org/10.5465/amj.2009.47084647
- Podolsky, A., Kini, T., Bishop, J., & Darling-Hammond, L. (2017). Sticky schools: How to find and keep teachers in the classroom. *Phi Delta Kappan*, 98(8), 19-25. https://doi.org/10.1177/0031721717708290
- Putnam, R. D. (2000). *Bowling alone: The collapse and revival of American community*. Simon & Schuster. https://doi.org/10.1145/358916.361990
- Ronfeldt, M., Loeb, S., & Wyckoff, J. (2013). How Teacher Turnover Harms Student Achievement. *American Educational Research Journal*, 50(1), 4-36. https://doi.org/10.3102/0002831212463813
- Thorpe, R. (2014). Residency: Can it transform teaching the way it did medicine? *Phi Delta Kappan*, 96(1), 36-40. https://doi.org/10.1177/0031721714547860
- Washburn-Moses, L. (2017). A national descriptive survey of teacher residency programs. *School-University Partnerships*, 10(2), 33-41. Retrieved from https://files.eric.ed.gov/fulltext/EJ1169298.pdf

Watlington, E., Shockley, R., Guglielmino, P., & Felsher, R. (2010). The High Cost of Leaving: An Analysis of Cost of Teacher Turnover. Journal ofEducation Finance. *36*(1), https://doi.org/10.1353/jef.0.0028

Acknowledgments

We thank the Drexel University Noyce Teacher Residents for their participation in this study.

Authors contributions

Dr. Sheila Vaidya is a Professor of Educational Psychology in the School of Education at Drexel University. She initiated and designed the study. Casey Hanna is a former teacher and doctoral student in the Ph.D program at Drexel University's School of Education. She worked on the study as a Graduate Assistant.

Funding

This work was supported by National Science Foundation (NSF) Grant # 1758345 awarded to Dr. Sheila R. Vaidya, Principal Investigator, Professor of Educational Psychology in the School of Education at Drexel University and by the Adelman Fund also awarded to Dr. Vaidya.

Competing interests

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Canadian Center of Science and Education.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

Open access

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).

Copyrights

Copyright for this article is retained by the author(s), with first publication rights granted to the journal.