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EXAMINING TEACHER ATTRITION AND THE CONTEMPORARY EDUCATOR
SHORTAGE IN THE UNITED STATES: A QUANTITATIVE STUDY USING HERZBERG'S
TWO-FACTOR THEORY

by

Joycelyn M. Wesley

A Dissertation

Submitted in Partial Fulfillment

of the Requirements for

Doctor of Education

Educational Leadership and Policy Studies

The University of Memphis

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DEDICATION

To my beloved parents, Eddie (Sr.) and Joyce Wesley, I dedicate this work to you. Your unwavering support and wise words have been my guiding light. Your belief in me has been a constant source of strength, propelling me forward. Your guidance, values, and sacrifices have shaped me into the person I am today. Without your love and encouragement, none of this would be possible. To my dear brother, Eddie (Jr.), you've been my rock, my best friend, and my greatest supporter. Thank you for always standing by me and reminding me of my inner strength.

To my late grandmother, Mary Wesley, your spirit is always with me, and I cherish the lessons you imparted. I know you would be proud. To my grandmother, Lennie Oliver, I thank you for always reminding me how proud you are; your faith in me lifts me up and makes me feel unstoppable.

My sisters from the heart, Shawntae Royal, Astridjasia Mathis, and Iman Kamal, your encouragement, kind words, and unwavering support have been my lifeline. Shawntae, you have gone above and beyond to make sure I made it to the finish line, and I can't thank you enough. Your dedication to seeing me succeed knows no bounds. Astrid, you are always in my corner and have been since I was a young girl at Bruce Elementary. You remind me that we may bend, but we never break. Iman, your belief in me never fluctuates, no matter the distance. You are always a phone call or text away. Thank you all for everything.

To my entire family, your support, encouragement, and everlasting belief in me have been invaluable. I am blessed to have such an amazing village to enfold me. To my aunts, uncles, and cousins, your presence has been a constant source of joy and comfort.

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ABSTRACT

In many educational systems across the world, teacher attrition has become a major problem. As the student population in America continues to grow, one problem plaguing policymakers and school districts is staffing schools with quality educators. This national shortage of educators has been plaguing the United States for almost a decade. It brings one to question why there is such a shortage of qualified educators available to effectively instruct and academically prepare America's youth.

The main goal of this quantitative study is to investigate the reasons for teacher attrition in a large urban school district in the southeastern region of the United States. Herzberg's two-factor theory was used as a framework to analyze the data collected in this study, highlighting the complex nature of teacher attrition. The study employed inferential statistics and regression analysis. The key predictors of group membership in schools with low and high attrition rates were found to be the percentage below the poverty line, the percentage receiving SNAP benefits, and the percentage with less than a high school diploma. Charter schools were found to be overrepresented in lower attrition schools. Moreover, secondary and high-mobility schools have larger faculty sizes. However, the differences in student body sizes were not as distinct. The findings also indicate that school climate varies by school level, but the connection between teacher attrition and school climate remains uncertain. The study's final chapter provided recommendations for further research to understand the reasons for teacher attrition post-pandemic and how to enhance job satisfaction and retention using Herzberg's theory.

Keywords: Attrition, Herzberg, motivation, hygiene, job satisfaction

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CHAPTER ONE: INTRODUCTION

Introduction

Long gone are the days when there was a surplus of teachers, the days of the economic crisis of 2008 that saw astronomical numbers of teachers being laid off and frantically searching for other employment options (Sutcher et al., 2016). While teachers and former teachers continue to search for other careers, this is due to teacher attrition; teachers voluntarily leave their careers at alarming rates. These deficiencies represent a significant departure from the era of teacher layoffs witnessed during the economic downturn of 2008 and subsequent years (Sutcher et al., 2016). While the student population in the United States steadily grows, a persistent challenge confronting policymakers and school districts is the task of staffing schools with quality and qualified educators. This national shortage of educators has been a lingering issue for nearly a decade, prompting inquiry into the underlying factors leading to the dearth of qualified professionals available to educate America's youth. In this study, we examine how social constraints, such as administrative support, student behavior, and school type, affect teacher attrition, mobility, and retention.

Scholarship has concluded that the United States' educational system is plagued by a dire shortage of quality educators (Craig et al., 2023; Ingersoll & Smith, 2003; Lamboy, 2023; Podolsky et al., 2016). While the educator shortage has been spotlighted frequently within the last decade, studies show it has been an ongoing concern for many years, dating back to the 1970s and early 1980s (Croasmun et al., 1997). Education policy experts have warned about the potential for significant shortages of elementary and secondary school teachers since the early 1980s (e.g., National Commission on Excellence in Education, 1983; Ingersoll, 2002). This attrition is of supreme importance as there continues to be a lack of teachers to educate the ever-

growing youth population. According to the U.S. Department of Education, due to the pandemic, from February to May 2020, the U.S. workforce lost an estimated 730,000 local public education jobs (U.S. Department of Education, 2023). According to the National Commission on Teaching and America's Future, a growing concern for American schools is teacher attrition, which is costing the country more than \$7 billion annually. It is depleting resources, lowering the standard of instruction, and making it more difficult to close the achievement gap amongst minority students and their counterparts (Carroll, 2007). High teacher turnover has especially negative effects on high-poverty, low-performing schools. Because these schools are always replacing their staff, many of these schools find it difficult to close the achievement gap between students because they never close the teaching quality gap as they are constantly rebuilding their staff (Carroll, 2007). This continuous cycle of teacher turnover is referred to as teacher attrition; attrition is defined as, "leaving teaching altogether, either to take another job outside of teaching, for personal reasons as child rearing, health problems, family moves, and retirement" (Cooper & Alvarado, 2006, p. 18).

Statement of the Problem

The United States' educational system is plagued by a severe and dire shortage of educators. Additionally, there is a shortage of minority educators, which has been an ongoing area of concern for decades (Ingersoll, May, & Collins, 2019). According to Barbara McKenna of the Learning Policy Institute, the issue of teacher shortages has escalated since the Great Recession, during which many jurisdictions downsized their teacher workforces to address budgetary constraints. Subsequently, factors such as comparatively low teacher salaries, insufficient teacher preparation, limited administrative support, and demanding working conditions—particularly prevalent in schools catering to large populations of low-income

families—have contributed to the exodus of teachers from the profession and deterred prospective entrants (McKenna, 2018). At present, attrition rates among teachers are at an all-time high; one source estimates that school systems are short 100,000 instructors, and by 2025, that shortfall is likely to balloon (Torgerson, 2022). With this prediction of more educators leaving, it is imperative to safeguard public education and retain educators in the classrooms. In the US, teacher attrition is the main factor influencing the need for additional teachers. (National Center for Education Statistics & Smith, 1995).

Purpose of the Study

The aim of this study is to investigate the reasons and circumstances leading to the high turnover rate of teachers in a large urban school district in the southeastern region of the United States. The study used quantitative methods to delve into the underlying causes of the shortage and identify potential solutions based on the findings. The research results are anticipated to be valuable for policymakers, educators, and other stakeholders in the education sector, as they can use the insights to develop targeted programs to improve teacher recruitment, retention, and support.

Research Questions

This study aims to answer the following research questions:

1. What neighborhood characteristics are socioeconomically linked to schools with high and low levels of teacher attrition?
2. Of these socioeconomic characteristics, which are most predictive of a school's status in a group having either high or low levels of teacher attrition?
3. Are charter and magnet schools disproportionately represented among schools with high and low levels of teacher attrition?

4. Do elementary and secondary schools with high and low levels of teacher attrition differ in terms of faculty size and number of attending students?
5. Do elementary and secondary schools with high and low levels of teacher attrition exhibit differences in institutional climate over time?

Research Design

The research involves analyzing a secondary data set. Data on resignation is obtained through open records requests within a large urban school district in the southeastern region of the United States. The teacher exit survey data, containing the 2022-2023 school year, consists of the reasons teachers gave as their reason for leaving the job. Teacher separation responses are grouped according to separation codes.

This dataset contains a master list of 355 teachers who intend to resign or retire, which helps identify schools with high turnover rates. By adding a list of all district schools (including charter schools), it is possible to categorize schools based on their levels of teacher attrition. Additionally, federal, state, and local data can be added to this file to further enhance the analysis. Data on teacher withdrawals has been expanded to include a report on all schools in one large urban school district in the Southeastern region of the U. S. United States Census data provides information on neighborhood population by race/ethnicity, income, education, workforce participation, owner-occupied housing, and female-headed households. The Tennessee Educator Survey offers measures of school climate, but many districts use locally administered measures. The district under study provided scores on the Insight Survey, which measures school culture across eleven domains.

The study suggested using inferential statistics and regression analysis. For example, a Multivariate Analysis of Variance (MANOVA) was conducted to examine the relationship between school size (elementary or secondary) and teacher attrition. Multiple logistic regression

was employed to investigate the connections between socioeconomic characteristics and high or low teacher attrition rates. Additionally, a mixed Analysis of Variance (ANOVA) was performed to determine if there were differences in how schools rated their organizational climate over time, based on the grade levels taught and the degree of teacher attrition. These statistical methods helped in understanding the strength and direction of the relationships between the variables, providing valuable insights into the analyzed data.

Significance of the Study

This research is a critical step in addressing the teacher shortage crisis caused by high attrition rates, and in making advances that will allow America's school leaders to staff and retain high-quality educators. By exploring the fundamental factors and the effects of attrition, this research aims to add to the existing knowledge base and assist with evidence-based policy formulation and practice. The results of this research would provide policymakers, educators, and stakeholders with some idea of what direction to take in the future regarding introducing targeted interventions and systemic reforms supporting teacher recruitment, training, and retention.

Another important aspect of this work is identifying the root of the problems that serve as the impetus of the teacher shortage crisis. This research will focus on evident demographic changes, teaching personnel attrition, and teaching recruitment and retention difficulties to highlight this issue's complexity and all aspects. Recognizing the intricacies of these factors is the key to building successful strategies to tackle teacher attrition and keep qualified teachers, who are being adequately supported in America's classrooms.

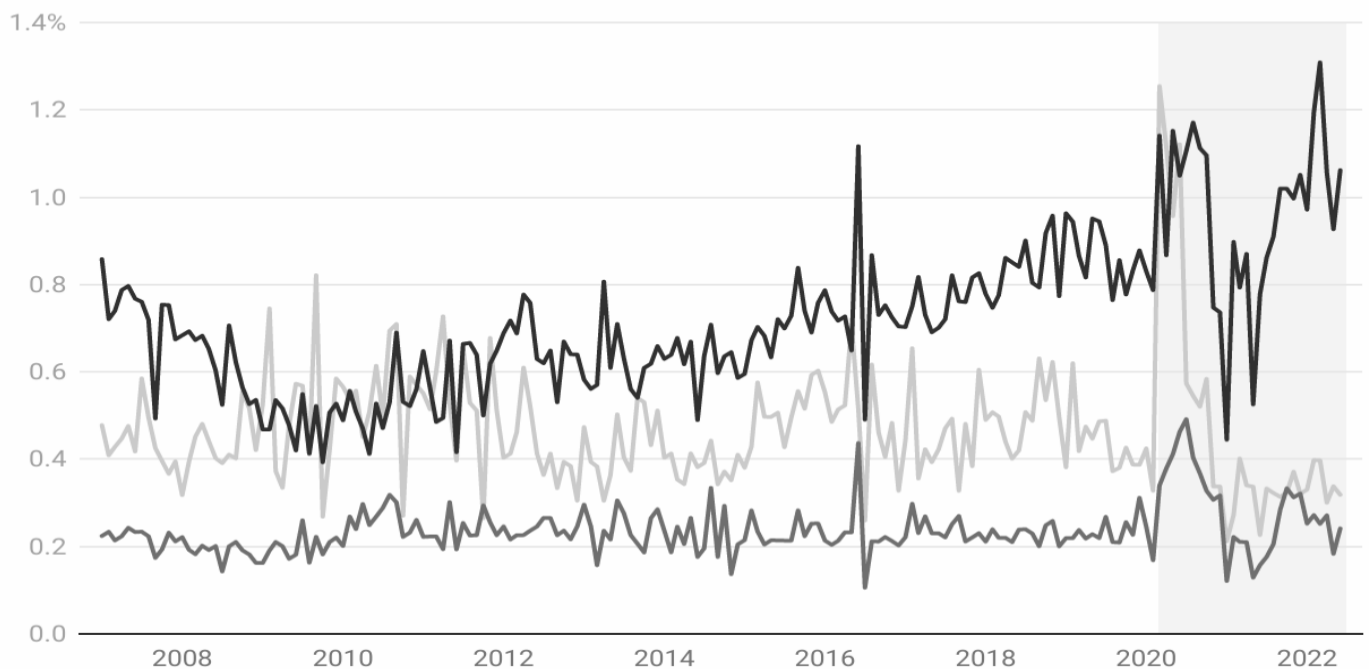
Using a quantitative approach draws on statistical research surrounding teacher attrition. Furthermore, in today's climate of *The Great Resignation*, with a mass exodus of employees leaving the workforce and post-pandemic consequences, this research highlights causal factors

that have led to such high teacher attrition rates. Evidence shows that in the post-pandemic era, teachers have experienced more burnout, stress, and dissatisfaction with their careers (Kaufman & Diliberti, 2021; Ozamiz-Etxebarria et al., 2023). With just a few exceptions, attrition accounts for the most significant number of teachers leaving the public school sector over the last decade or more.

Figure 1

Teacher Quits, other Separations, and Layoffs and Discharges

Quits have accounted for more departures from public education than **other separations** and **layoffs and discharges** for over a decade, with only a few exceptions.



Note. Chart taken National Education Association (NEA). Data represent the percent of all public education employees who leave for a specific reason during a given month. Source: NEA analysis of U. S. Bureau of Labor Statistics, Job Openings and Labor

Finally, this study aims to provide evidence-based research surrounding the alarming attrition rate and evidence-based suggestions for the future that could help retain high-quality educators. By creating insightful actions and recommendations that would be beneficial to policymakers, educators, and stakeholders, the findings of this research could help ensure more qualified teachers enter and remain in the profession; retaining high-quality educators is essential to the success of America's students.

Theoretical Framework

For the purpose of his study, the researcher employs Herzberg's two-factor theory, also referred to as Herzberg's theory of motivation or Herzberg's hygiene-motivation theory. He examines to what extent teacher attrition is a larger social context. These contexts include school characteristics and student behavior, such as chronic absenteeism. The use of this framework allowed the researcher to further advance research and theory surrounding the shortage, recruitment, and retention of high-quality educators.

In 1959, Frederick Herzberg, a psychologist and professor at the University of Utah published, *The Motivation to Work*. In this book, Professor Herzberg presented a *two-factor theory* for assessing employee satisfaction. He developed the theory in order to better understand an employee's motivation for their work and attitude. According to the Herzberg theory, some aspects of a workplace contribute to job satisfaction (motivators) while others do the opposite (hygiene). He conducted interviews with workers to learn about their positive and negative job experiences. He postulated that two categories of factors—motivators and hygienic factors, also referred to as KITA (an acronym for kick in the ass) factors—affect a person's level of job satisfaction (Herzberg, 1959, 1987).

The fundamental or essential elements of a job, such as salary, title, perks, job security, working environment, and corporate rules, are known as hygiene factors (Herzberg, 1959). Research by Professor Herzberg and colleagues demonstrates that the degree of job unhappiness among employees is correlated with their assessments of the hygienic aspects of their jobs. Employees are likely to be dissatisfied with their jobs, for instance, if they feel they are not getting paid what they deserve or if they are required to work in an environment where inappropriate behaviors occur frequently.

Work that presents challenges, acknowledgment, accountability, and personal development are all motivating factors (Herzberg, 1959). These elements are often inherent to the work; they indicate how much workers enjoy what they do and feel like they have real influence over their jobs and careers. Work satisfaction among employees is correlated with motivational variables. Table 1 indicates the classification of motivation and hygiene factors.

Table 1

Herzberg's Motivation and Hygiene Factors

Motivation Factors	Hygiene Factors
Advancement	Interpersonal relationships
Work itself	Salary
Personal growth	Working Conditions
Responsibility	Policies and rules
Recognition	Supervisor quality
Achievement	

Table adapted from Herzberg, 1959

The differentiation between motivating factors and hygienic factors is crucial as they pertain to diverse aspects of employee satisfaction. Professor Herzberg states, “The opposite of job satisfaction is not job dissatisfaction but, rather, *no* job satisfaction; and similarly, the opposite of job dissatisfaction is not job satisfaction, but *no* job dissatisfaction” (Herzberg, 1987,

p. 112). That is to say, workers will not be happy in their positions if they are happy with their salary and benefits but lack control over their work or opportunities for growth. They will not be satisfied, only *not dissatisfied*.

Much of the research on teacher job satisfaction is entrenched in the legwork postulated by Herzberg in his *Two-factor Theory* identifying satisfying and dissatisfying qualities of teaching positions (Mausner & Snyderman, 1959). Herzberg's theory correlates satisfying factors, acknowledged as *motivators*, with higher order needs, whereas dissatisfying factors or *hygiene* factors are associated with lower order needs (Dinham & Scott, 1998). According to Dinham and Scott (1998), Herzberg further explains that, intrinsically, job satisfaction is derived from the work itself, achievements and recognition, personal responsibility, and advancement opportunities-the higher order and motivating needs. The lower-order needs that are dissatisfying are affected extrinsically by aspects of work such as policies, working conditions, supervision, salary, and interpersonal relationships.

Frederick Herzberg's two-factor theory is a widely used framework to explain decision-making and behavior in the workplace, making it appropriate for this study on teacher attrition. Herzberg's motivation-hygiene theory is relevant to the current study of teacher attrition because it aims to identify factors that contribute to satisfaction as well as hygiene factors that may contribute to dissatisfaction in work environments. It is prudent to apply Herzberg's theory to study satisfiers (motivators) in order to decrease dissatisfiers (hygiene issues) for teachers, thus increasing retention and thereby decreasing attrition. This knowledge is necessary for stakeholders, including school administrators, local educational agencies, and education policymakers, to understand factors within school organizations that contribute to teacher attrition.

While there is support for Herzberg's Theory and its applicability to the workforce, there are criticisms. According to Bethel (2020), instead of recognizing and analyzing each construct of the theory independently, critics of Herzberg's motivation-hygiene have concentrated on satisfaction and dissatisfaction as interconnected elements. The result of a study conducted by Lindsay, Marks, and Gorlow (1967) revealed that, in contrast with Herzberg's findings, satisfaction—which is thought of as a bipolar variable—is correlated with both hygiene and motivators. The study's findings also imply that employees who have a strong sense of accomplishment at work will continue to be content even in the face of unsatisfactory external factors, such as poor workplace organization.

Mottaz (1985) studied the impact of extrinsic organizational rewards and intrinsic rewards (social) on the job satisfaction of 1,385 workers in a variety of industries, including a plastics factory, hospital, university, order processing company, and law enforcement agency. The study found that extrinsic rewards, such as support from coworkers and supervisors, autonomy, and important and demanding tasks, were the most powerful predictors of job satisfaction across all occupational groups. However, it was discovered that extrinsic organizational rewards—like fair compensation, favorable working conditions, perks, and opportunities for advancement—were only significant predictors of job satisfaction in lower-level occupations, defying Herzberg's theory that hygienic factors have no bearing on job satisfaction (Malik & Naeem, 2013). Herzberg's two-factor theory is criticized for ignoring individual differences (Malik & Naeem, 2013). It is stated that the model is relevant to all demographics, including age, gender, and vocational level. Pay and job stability were identified as the two most essential motivators by 460 respondents (326 full-time and 133 part-time)

working in services, insurance, manufacturing, utilities, government agencies, retail, and health care (Wiley, 1997; Malilk & Naeem, 2013).

Limitations and Delimitations

While this study's results can serve as a baseline for future researchers, policymakers, and school and district administrators, they are not generalizable as they only come from one large urban district in the southeastern United States. The causes and conditions leading to teacher attrition may not be the same in suburban and rural areas as they are elsewhere. The timeline covered in this study only spans a specific time-period, with no follow-up data to support trends from year to year. The variables pertinent to the attrition of teachers in this study, although universally established by Herzberg, cannot be conclusively applied to teachers in districts of comparable characteristics.

Important Terms

Achievement Gap- the disparity in academic performance between groups of students. It is when one group of students (e.g., students grouped by race/ethnicity, gender) outperforms another group and the difference in average scores for the two groups is statistically significant (i.e., larger than the margin of error)

Attrition- teachers leaving the profession, or those moving between schools

Elementary school A school that offers more of kindergarten through grade 4 than grades 5 through 8 and no grades 9 through 12.

Experienced teachers-those having five or more years of experience.

Food Stamps/SNAP benefits-The Supplemental Nutrition Assistance Program is a federal program that provides nutrition benefits to low-income individuals and families that are used at

stores to purchase food. The program is administered by the USDA Food and Nutrition Service (FNS) through its nationwide network of FNS field offices. Local FNS field offices are responsible for the licensing and monitoring of retail food stores participating in SNAP.

Low socioeconomic/economically disadvantaged- people who usually have less access to financial, educational, social, and health resources than those with a higher socioeconomic status.

Mobility- transferring from one school to another or leaving the profession entirely; when a teacher does not return to the same school the following year.

New/Novice teachers-those having less than three years of experience; those having 0 to 3 years of experience.

Opportunity gap-the way that uncontrollable life factors like race, language, economic, and family situations can contribute to lower rates of success in educational achievement, career prospects, and other life aspirations.

Secondary/High school A school that offers more of grades 9 through 12 than grades 5 through 8 and no kindergarten through grade 4.

Subject area-The subject area in which a teacher has a primary assignment.

Teacher shortage-the inability to fill vacancies at current wages with individuals qualified to teach in the fields needed.

Teacher supply- teachers available to work under the current wage and working conditions.

CHAPTER TWO: LITERATURE REVIEW

The Importance of Teachers and the Impact of Teacher Attrition on Students

Research has shown that teachers are the most important factor in student achievement and outcomes (Coleman et al., 1966; Hanushek & Rivken, 2006). In the US, at least 500,000 teachers depart the profession or move between districts and schools every year (Goldring et al., 2014). Students, other teachers, school administrators, and school communities may find this movement disruptive. Findings revealed that student achievement is more likely to be severely impacted by substantial teacher attrition (Nieto, 2003; Watlington et al., 2010). High teacher attrition rates have been linked to decreased efficacy and unstable learning environments, both of which can reduce student achievement (Ronfeldt et al., 2013; Sorensen & Ladd, 2020). Reduced student achievement is linked to teacher shortages, which are primarily caused by teacher attrition because they can restrict students' access to high-quality educators. Lack of resources may force school leaders to fill open positions with less qualified candidates, which can be problematic as these teachers may lack the expertise needed to instruct students in more complex subjects (Reichardt et al., 2020). Hanushek (1992) found that in a single school year, students can gain a full grade level more when they receive instruction from a highly capable instructor than from one who is less capable. Regardless of whether they raise student achievement or cause students to fall behind, teachers can have long-lasting and cumulative effects, according to research by Sanders and Rivers (1996). Sanders and Rivers (1996) showed that even after two years, a third-grade teacher's quality continued to have an impact on fifth-grade students' performance. The classic Coleman report (Coleman et al., 1966) found that teacher qualities tended to explain more variance in student success than any other school resource. This finding provides proof of the powerful effects of teachers on student accomplishment.

In addition to being essential in fostering student learning, teachers' salaries account for a sizeable amount of the federal money spent on public education. At least half of the expenses in a normal school district are paid to teachers (Guthrie & Rothstein, 1999; Speakman et al., 1996). The cost of hiring teachers and the substantial body of research demonstrating the relationship between higher academic accomplishments and teacher quality make it imperative to concentrate on teacher-related policies as crucial levers for increasing productivity, equality, and efficiency in public education (Borman & Dowling, 2008).

The Costs of Teacher Attrition

School systems in the United States lose approximately 7.3 billion dollars annually as a result of teacher attrition (Carver-Thomas & Darling-Hammond, 2017; Carroll, 2007). This attrition places an additional burden on schools that must spend more money as well as resources, such as support from veteran teachers, on training and supporting new teachers (Carroll, 2007; Sass et al., 2011). Teacher attrition rates have a significant impact on, not only teacher to student ratio, school effectiveness, and academic performance, but financial costs and budget constraints as well (Carver-Thomas & Darling-Hammond, 2019). Urban schools incur a disproportionately high replacement cost of teachers, with expenditures as high as \$20,000 for each departing teacher (Carver-Thomas & Darling-Hammond, 2019). In addition to the obvious expenses, Sorensen and Ladd (2020) point out that there are hidden expenses related to teacher turnover; these include hiring new teachers, training them, and providing professional development. These *hidden* costs make it more difficult for schools to provide a high-quality education to their students. Additionally, the composition of the teaching pool—which includes both competent and unqualified teachers—is impacted by these hidden expenses, which has an impact on student learning. Core subject instruction is adversely impacted by this combination

(Sorensen & Ladd, 2020). While greater attrition rates likely have a negative impact on student achievement, Watlington et al. (2010) contend that further study is necessary to quantify the cost of lower academic achievement among students as a result of high teacher attrition rates.

Teacher Attrition and the COVID-19 Pandemic

Teacher shortages are not a novel phenomenon, having been observed intermittently in the American educational system for much of the past century. However, concerns about a teacher shortage have escalated significantly following the onset of the COVID-19 pandemic in early 2020. There is widespread reporting and anticipation that the stress induced by the pandemic has led to a decline in the influx of new educators into the profession and an uptick in the departure of existing teachers (Ingersoll & Tran, 2023). The COVID-19 pandemic caused unparalleled turmoil for educational institutions, faculty members, and the students to whom they provided instruction. The start of a protracted sequence of interruptions caused by the pandemic, spanning three school years, was signaled by the nationwide school closures in March 2020. Teachers had to deal with a variety of extra demands during this time, such as adjusting to sudden changes in the educational environment, learning new technology, and handling personal health issues (Bacher-Hicks, et al., 2023). Rosenberg and Anderson (2021) stated, “before COVID, the shortage of qualified, skilled teachers — especially in our lowest-income communities and hardest-to-staff roles — was among the top challenges facing education leaders. And with the stress of the pandemic, survey data showed that almost half of the public-school teachers who left the profession since March 2022 cite COVID-19 as the main reason” (p. 1). Schmitt and deCourcy (2022) argue that the work environment for teachers has become increasingly more stressful and the COVID-19 pandemic significantly exacerbated the issue. Compared to figures from 2019, turnover rates in 2021 saw an increase across different

experience brackets: there was a 16% rise (from 24.5% to 28.4%) for teachers with 0 to 4 years of prior experience, a 19% increase (from 12.7% to 15.1%) for those with 5 to 9 years of experience, a 33% uptick (from 8.7% to 11.6%) for individuals with 10 to 14 years of experience, and a 22% climb (from 8.2% to 10.0%) for those with 15 to 19 years of experience (Bacher-Hicks, et al., 2023). The Rand Corporation's (Steiner & Woo, 2021) poll of teachers nationwide produced several concerning findings:

- By the end of the 2020–2021 academic year, nearly one in four teachers said they would be leaving the field; the figure is greater for Black teachers, at 50%. Compared to the pre-pandemic rate of one in six instructors, this represents a significant increase of 60% in the expected leaver rate.
- Approximately 50% more instructors than the overall working population (78%), expressed substantial job-related stress (due to hybrid learning, lack of technical support, personal childcare, etc.).
- In addition to the several other stressors that educators reported experiencing during the pandemic, a key contributing factor to the challenging working conditions that led to heightened levels of stress, depression, and burnout was the absence of administrator support.
- In 2021, the percentage of teachers who reported having depression was 2.5 times higher than that of the general population.

Even prior to the pandemic, teaching was a difficult profession and because of this, teacher turnover was constantly high, particularly among early career teachers and in schools with higher levels of poverty (Rosenberg & Anderson, 2021; Steiner & Woo, 2021). Rosenberg and Anderson (2021) found that post pandemic:

- Neither the working environment nor job satisfaction has improved. The state of the economy probably encouraged more teachers to continue working in 2020. Summer 2020 unemployment rates in the communities they surveyed were two to three times greater than they had been a few months earlier. Additionally, teachers are typically less likely to quit their jobs when unemployment rates rise than those in other occupations. However, they predicted that teacher attrition may begin to climb again as the economy strengthens and unemployment rates fall.
- There was a plethora of signs that suggest an issue. Teaching became increasingly difficult in 2020 due to a number of factors, including teachers being overburdened with technology issues and different instructional modalities, falling student engagement, fear of COVID, and juggling their own caregiving duties. A third of teachers said working during the epidemic increased their likelihood of leaving teaching or retiring early, and 84 percent of administrators and teachers feel that teacher morale was lower than it was before COVID. These indicators lead to rising workloads and deteriorating job satisfaction, which can result in an increase in attrition rates.

In the 2021-2022 academic school year, Texas boasted the largest teacher workforce among all states in the United States, with over 370,000 educators employed. The Lone Star State faces specialized systemic challenges due to a substantial annual demand for new teachers, a demand further compounded by higher teacher attrition rates compared to the national average. This need for new teachers has been exacerbated by a pre-existing workforce deficit, which was intensified by the teaching conditions brought about by the COVID-19 pandemic (Bland et al., 2023). In 2021 alone, more than one in nine Texas teachers chose not to return for the

subsequent academic year of 2021–2022, marking a significant departure from their roles. Consequently, in response to the heightened demand for educators, the majority of newly certified teachers in Texas either lack certification entirely or entered the profession through alternative certification pathways that often entail minimal to no student teaching experience (Bland et al., 2023). These alarming statistics are particularly worrisome because research indicates that novice teachers and those with less training are more susceptible to attrition.

Virginia's public school system experienced notable fluctuations in teacher turnover following the onset of the pandemic. Collaborating with the Virginia Department of Education, a research team examined data from 132 public school divisions across the state. In the autumn of 2020, 82.6% of Virginia public school teachers returned to their previous school, marking the highest rate of retention recorded between 2012 and 2022. In contrast, only 78.9% of teachers returned to their original school in the fall of 2021. The study also examined departure rates, which refer to the number of teachers exiting the profession. Statewide, the increase in departure rates accounted for nearly half of the overall rise in teacher turnover, according to the findings by Luke Miller, a research associate professor in University of Virginia's School of Education and Human Development (Breen, 2023).

Michael A. DiNapoli, Jr. (2022) argues that underfunding of the teacher pipeline has also been a major factor in the ongoing teacher shortages that the COVID-19 pandemic intensified. He further posits that, in contrast to high-achieving nations, which have made the infrastructure, personnel, and policy investments necessary to guarantee that pupils have access to qualified instructors, federal policy in the United States has been dispersed and government investments have been meager. However, he argues that the COVID-19 staffing crisis offers a chance to disrupt established routines. What may be the beginning of more substantial investment in the

teacher pipeline is included in federal financing and social safety net proposals that are currently before Congress. (DiNapoli, 2022).

Determinants of Teacher Attrition

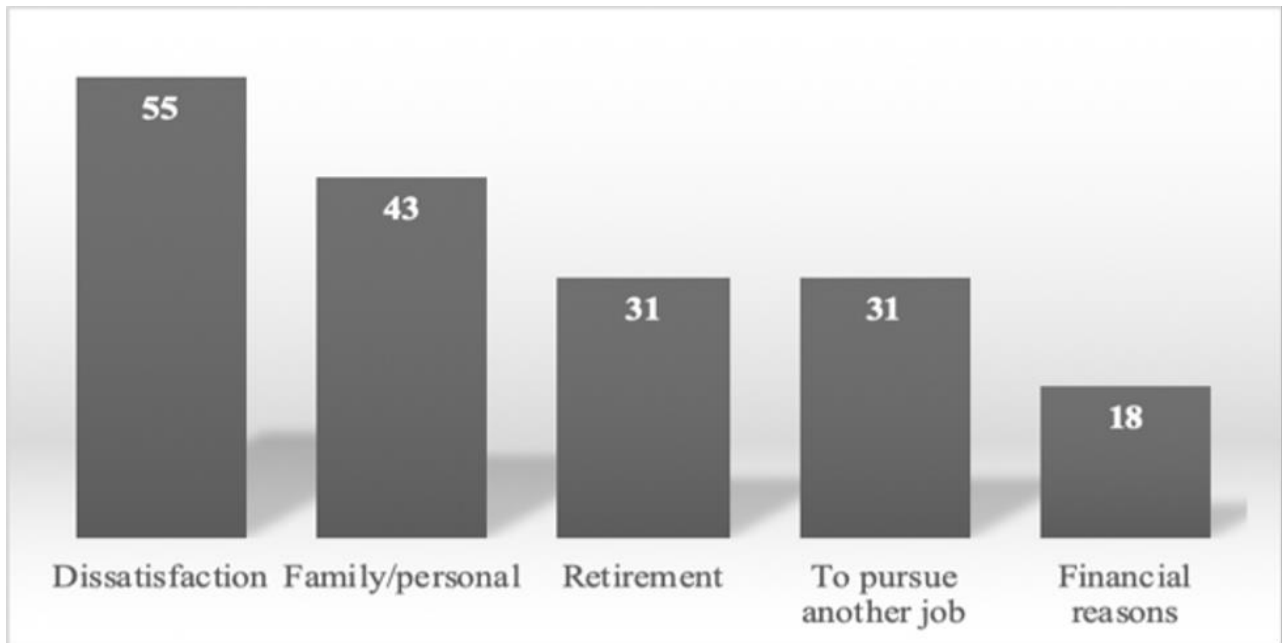
According to Borman and Dowling (2008) and Malkus, Hoyer, and Sparks (2015), officials in schools, districts, state education agencies, and the federal government have consistently expressed concern about addressing the teacher shortage, particularly in specific subject areas, grade levels, and geographic locations. When there is less teacher supply—that is, fewer teachers available to work under the current wage and working conditions—than there are teaching posts that are open—that is, a shortage occurs (Boe & Gilford, 1992; Ingersoll, 2001). One of the main causes, if not the main cause of the nationwide teacher shortage, is teacher attrition (Carver-Thomas & Darling-Hammond, 2017, 2019).

The most frequently cited reasons of attrition in 2012–13 were: dissatisfaction with testing and accountability pressures (listed by 25% of those who left the profession); lack of administrative support; dissatisfactions with the teaching career, including lack of opportunities for advancement; and dissatisfaction with working conditions. These kinds of dissatisfactions were noted by 55% of those who left the profession and 66% of those who left their school to go to another school. Personal and financial reasons were also cited, along with the desire to take another type of job or to retire (Carver-Thomas & Darling-Hammond, 2017). In addition to the aforementioned factors, studies have found that there is a shortage of Black teachers due to underrepresentation in teacher credentialing programs, as well as workplace discrimination, racial microaggressions, and testing biases. These factors also contribute to Black educators abandoning the profession altogether. Other factors include salary, inadequate work and/or office space, inadequate equipment or materials, excessive caseloads, limited staff development,

and isolation from colleagues (Gonzalez, 1995). Desiree Carver-Thomas and Linda Darling-Hammond (2017) cited pay, support and preparation for teachers, and school administration as important variables linked to teacher attrition. In a study done in upstate New York, Ondrich, Pas, and Yinger (2008), found that depending on the situation, various wage comparisons have an impact on teacher attrition. Furthermore, in certain situations, teachers' decisions to quit and transfer were influenced by additional characteristics, such as certification, subject taught, grade level, and education level (Ondrich et al., 2008).

Figure 2

Factors Driving Teacher Attrition



Note. Figure taken from Donley, et al. (2019, adapted from Carver-Thomas & Darling-Hammond (2017). Figure displays percentages of teachers reporting each factor as important; teachers were able to select more than one reason.

School Types, Levels, and Location

Across America, there are multiple school types that serve America's youth. They include public schools, private schools, charter schools, and magnet schools. Public schools are

educational establishments that receive funding from the federal, state, and/or municipal governments. These schools provide general education options, and many include extracurricular activities, from kindergarten to grade 12.

The primary distinction between private and public schools is in the various forms of support they receive. While private schools are often funded by tuition and occasionally by revenue from other nonpublic sources like grants, religious organizations, endowments, and charitable gifts, public schools mostly rely on funding from local, state, and federal governments. Some states provide public subsidies to private schools for specific services (like transportation). Students choose to attend private schools. Parents who are disgruntled with public schools or displeased for various other reasons want their children to attend a private school; private schools offer an alternative. Parents who are able to pay the tuition or obtain financial aid or vouchers can select from a variety of nonsectarian and religiously linked schools in the private sector (Choy, 1997; Smith et al., 1997).

According to the National Charter School Resource Center (NCSRC), “a charter school is a public school that operates as a school of choice.” The Arizona Charter Schools Association echoes that sentiment and defines a charter school as an “independently operated public school that contracts with the state to improve student achievement and provide parents a choice.” The NCSRC states that “charter schools commit to obtaining specific educational objectives in return for a charter to operate a school. Charter schools are exempt from significant state or local regulations related to operation and management but otherwise adhere to regulations of public schools — for example, charter schools cannot charge tuition or be affiliated with a religious institution.” Furthermore, charter schools are subject to public accountability; their enrollment is dependent upon families choosing to enroll their children there, and they are required to have a

formal performance agreement in place with the official public chartering organization. In addition to being more autonomous than traditional public schools, charter schools also have greater operational and managerial freedom (National Charter School Resource Center).

Magnet schools are a subset of public schools that usually focus on particular subject areas or pedagogical approaches. Magnet schools draw students from many districts by offering specialized curricula. Unlike charter schools, which operate under charters that grant them greater autonomy, they are governed by the public school system that runs them. Due to a high demand for a limited number of seats/vacancies, entrance to both magnet schools and charter schools is frequently decided by a lottery system. Nonetheless, certain magnet schools select their candidates through a demanding admissions process that considers students' grades, test results, portfolios, or auditions, etc.

Attrition rates vary based on the types of schools. During the 1990-1991 school year, in public schools where half or more of the enrolled students received free or reduced-price lunches, teacher attrition rates were higher (National Center for Education Statistics & Smith, 1995; Ingersoll & Rossi, 1995). Currently, Title I schools, which serve a higher percentage of low-income students, have teacher turnover rates that are 50% higher than non-Title I schools (Carver-Thomas & Darling-Hammond, 2019). Teacher turnover in mathematics and science is around 70% higher in Title I schools than in non-Title I schools, and it is over 80% higher for instructors with alternative certification. In schools that serve the highest numbers of children of color, teacher turnover is 70% higher. These schools employ teachers with much less training and fewer years of experience in the classroom. For math and science teachers, teacher turnover is 90% greater in the top quartile of schools serving students of color than in the bottom quartile; for special education teachers, it is 80% higher, and for alternatively certified teachers, it is 150%

higher (Carver-Thomas & Darling-Hammond, 2017). In certain areas (such as high-poverty urban and rural communities), there is a higher teacher shortage due to attrition (Ronfeldt et al., 2013), recruitment difficulties, and the lack of students choosing teaching as a career path in college (Sutcher et al., 2019). Hanushek, Kain, and Rivkin (1999) also found that urban as well as lower performing schools experience more turnover (Ronfeldt et al., 2013).

Regions or areas of the country also experience attrition at varying rates. The South has the highest total turnover rate (16.7%), while the Northeast has the lowest (10.3%), with the Northeastern states generally paying more, supporting smaller class sizes, and investing more in education (Carver-Thomas & Darling-Hammond, 2017).

According to a Sorensen and Ladd (2020) study, across all school types, teacher turnover is higher when there is concentrated student poverty (30.6% for the top quartile compared to 23.8% for the bottom quartile). Several other studies (Elfers et al., 2006; Hanushek et al., 2004; Ingersoll, 2001, 2003; Prince, 2002; Ronfeldt et al., 2013), also indicate that teachers who work in high-poverty schools with a high proportion of non-White students are up to 50% more likely to leave the profession because they voluntarily quit or had contracts that were not renewed (Ingersoll, 2003). Similarly, teacher turnover in urban schools is generally higher than in rural ones (Atteberry et al., 2017; Lankford et al., 2002; Sorensen & Ladd 2020). This pattern illustrates that teachers are more likely to quit their jobs when there is an abundance of other school options in proximity and there are more career opportunities outside of education (Sorensen & Ladd, 2020).

In the 1990–1991 school year, there was more teacher attrition in private schools than in public schools in both elementary and secondary education, as well as in central cities and rural areas. For instance, the primary school turnover rate in private schools was nearly twice that of

public schools. Comparably, in center cities, the rate of teacher turnover in private schools was nearly twice that of public schools. Higher attrition rates for teachers in private schools in the 1990–1991 school year may have been caused by lower salaries and fewer benefits. Generally, public schools paid their teachers more and provided more benefits in 1990–1991 than did private schools (Smith et al., 1995; Ingersoll & Rossi, 1995).

In the 2014 school year, charter schools had higher attrition rates than other classifications of schools (Donley, et al., 2019). These findings also correlated with research from Gross and DeArmond (2010) and Stuit and Smith (2012) that indicated higher attrition rates for charter schools. Attrition and mobility rates, comparatively, are markedly higher for charter school teachers than those of traditional public school teachers (Miron & Applegate, 2007; Podgursky & Ballou, 2001; Smith & Ingersoll, 2004; Stuit & Smith, 2012). Pivovarova and Powers (2022) discovered that, even after adjusting for teacher personal and professional traits as well as school-specific factors, there were still variations in attrition rates between charter and regular public school teachers. The difference in attrition rates between the two kinds of schools perdured distinctively in size and noteworthiness, even after their consideration of a number of variables linked to teacher attrition, with charter schools experiencing the most attrition.

One of the key components of teacher attrition is job satisfaction, which should be inspected through perspectives of the types of schools i.e., elementary, secondary, or integrated. Researchers have noted that contrary findings with job satisfaction and school types. Renzulli, Macpherson, and Beattie (2007) indicated more job satisfaction among high school teachers compared to middle and elementary school teachers, whereas Bogler (2001) and Kearney (2008) found that elementary school teachers were more satisfied than secondary teachers.

Table 2*Percentage Distribution of Public and Private School Teachers- Stayers, Movers, and Leavers*

School type and selected school characteristics in 2020-21	Stayers	Movers	Leavers
All private school teachers	81.9	6.4	11.7
School classification			
Catholic	80.7	8.9	10.4
Other religious	82.0	4.6	13.4
Nonsectarian	82.9	6.4	10.6
Community type			
City	82.6	7.2	10.3
Suburban	81.0	6.2	12.8
Town	79.9	5.0	15.1
Rural	83.3	5.8	10.9
School level^a			
Elementary/middle	81.6	7.8	10.6
Secondary/high	77.0	6.6	16.4
Combined/other	84.4	5.0	10.6
Student enrollment			
Less than 100	77.5	6.5	16.1
100-199	80.3	6.9	12.8
200-499	82.8	7.2	10.0
500-749	84.1	5.3	10.5
750 or more	88.0	4.1	7.9
Region			
Northeast	85.0	5.6	9.4
Midwest	84.0	7.1	8.9
South	80.9	5.8	13.3
West	77.7	7.8	14.5

Table Source: U.S. Department of Education, National Center for Education Statistics, National Teacher and Principal Survey (NTPS), Teacher Follow-up Survey (TFS), “Current and Former Teacher Data Files,” 2021–22.

Note: Data are weighted estimates of the population. “Stayers” are teachers who were teachers in the same school in the 2021–22 TFS school year as in the 2020–21 NTPS school year. “Movers” are teachers who were still teachers in the 2021–22 TFS school year but had moved to a different school from their 2020–21 NTPS school. “Leavers” are 2020–21 NTPS teachers who were no longer teachers in the 2021–22 TFS school year. Detail may not sum to totals because of rounding.

School Climate and Culture

Across the United States, approximately half a million teachers leave their schools each year. Only 16% of this teacher attrition at the school level can be attributed to retirement. The remaining 84% of the teacher turnover is due to teachers transferring between schools and teachers leaving the profession entirely (Alliance for Excellent Education, 2005). According to Sutchter et al. (2019), despite popular assumption, fewer than one-third of teacher attrition is attributed to retirements and when it comes to their decision to quit teaching, the majority of teachers who do so willingly cite some form of unhappiness as being very important or extremely important. School climate, notably principal support and teacher cooperation is linked to two potential protective factors that have been proven to significantly increase work satisfaction (Durksen et al., 2017; Grissom, 2011, Olsen & Huang, 2019), which could potentially decrease attrition rates.

In a study by Gonzalez, Brown, and Slate, (2008), seven teachers were interviewed regarding attrition. All respondents agreed that administration was one of the most pressing factors that influenced their decision to leave the profession. Issues with administration ranged from disrespect towards teachers and failure to motivate teachers, to moral turpitude. Respondents also cited student discipline and behavioral problems. Teachers cited students' lack of motivation, poor attitudes, rudeness, laziness, and drug use as influential factors driving them to leave the profession. Lastly, teachers cited salaries as a reason for attrition. Many were dissatisfied with the wages in comparison to the number of hours worked; teachers felt the two were grossly misaligned. They also felt there was a lack of compensation for extra duties required of them.

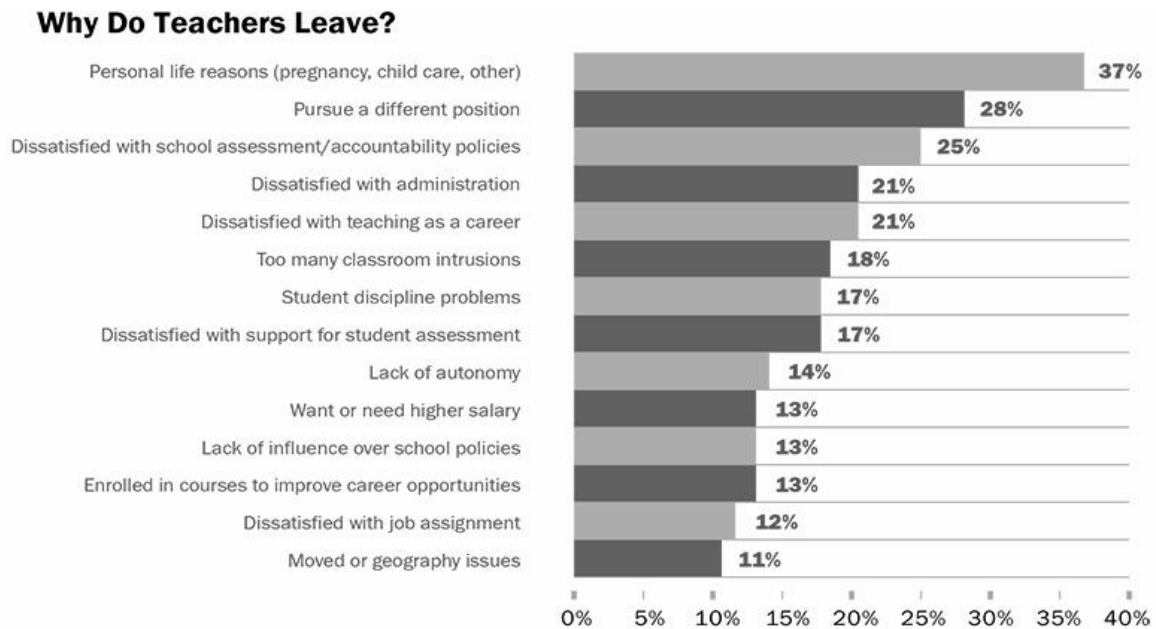
Administration

Teachers get fulfillment in their work through their interactions with parents and coworkers, as well as former and present students with whom they maintain a relationship (Dinham, 1995). According to Dinham (1995), these relationships contribute to teachers' job satisfaction while their discontentment could primarily be attributed to administrative and structural reasons. Boyd et al. (2011) state, "administrative support refers to the extent to which principals and other school leaders make teachers' work easier and help them to improve their teaching" (p. 307). Shen et al. (2012) found that "culture and support can compensate for money and resource" (p. 223). When deciding whether to stay in a school or continue in their teaching careers, principal leadership and administrative support are among the most crucial elements for teachers (Learning Policy Institute, 2017). A study of former teachers in South Carolina conducted Devers, et al. (2024) revealed that inadequate support from administrators was an issue described by former educators both before and during the pandemic.

Numerous national studies have revealed that teachers' turnover rates can be significantly impacted by the caliber of their leadership; teachers frequently cite the level of administrative support as one of the most salient factors influencing their decisions, even more influential than salary or pay (Carver-Thomas & Darling-Hammond, 2019; Ingersoll, & Smith, 2003; Johnson & Birkland, 2003; Nguyen, 2020; Tickle et al., 2020).

Figure 3

Reasons Teachers Cited for Leaving their Jobs



The percentage of voluntary leavers who rated the factor as extremely or very important in their decision to leave. Percentages do not add to 100 because teachers can select multiple factors.

Source: LPI analysis of the Teacher Follow-Up Survey (TFS), 2013, from the Schools and Staffing Surveys, National Center for Education Statistics.

Figure taken from the Learning Policy Institute (2017) and outlines reasons teachers cite as most important factors in their decisions to voluntarily leave the profession.

Student Behavior and Discipline

Included in the scheme of school working conditions that contribute to teacher attrition, besides insufficient administrative support, and lack of teacher decision-making input, is student discipline problems, including threats, and verbal and physical aggression (Zurawiecki, 2013; Ingersoll & Smith, 2003). Likewise, student discipline and their counterincentive behavior were mentioned as contributing factors for teachers choosing to leave a school (Elam, 1989; MacDonald, 1999; Tye & O'Brien, 2002). In her findings, Zurawiecki (2013) noted that a minute percentage of teachers cited student discipline as an important factor for leaving, despite research

showing teachers' work performance is negatively impacted by student aggression or perceived threats to teacher safety.

Notably, factors such as socioeconomic status, ethnicity, and achievement, student behavior and motivation are proven predictors of teacher retention (Boyd et al., 2011). In a study by Wilhelm, Dewhurst-Savellis, and Parker (2000), researchers found that full time teachers who left within the first five years listed student behavior as one of their determinants for leaving. Haberman and Rickards, (1990), in their survey data analysis of Milwaukee teachers for contract calendar year 1988, revealed that teachers preconceived student discipline as a major school issue contributing to resignations, retirements, and terminations; the realism of the issue was validation that failed to waiver opinions even as teachers chose to leave (Boyd et al., 2011). Consistent findings of a correlation of student discipline to teacher job satisfaction proposes that teachers perceive student behavior to be a major and ongoing problem as well as the policies and practices governing disciplinary actions (Boyd et al., 2011).

Compensation

Since the 1990s, teachers' pay has been decreasing, and currently only amounts to roughly 70% of that of other workers with college degrees (Sutcher et al., 2016). In multiple states, teachers with ten years of experience earned less than workers in jobs that do not require a college degree; in the state of Oklahoma, teachers with 15 years of experience and a master's degree earned less than metal sheet workers (Boser & Straus, 2014). Additionally, mid-career teachers who are the heads of households of families of four or more are eligible for three or more federally funded benefit programs in thirty states; these programs include free or reduced-price school meals and subsidized health insurance for children (Boser & Straus, 2014; Sutcher et al., 2016). Astonishingly, a proportionate representation of teachers work second jobs to

subsidize their somewhat meager pay (Boser & Straus, 2014). Patrick and Carver Thomas (2022) found that one particular study indicated that the likelihood of teachers holding multiple jobs is three times higher than that of all American workers. Boser and Straus (2014) discovered that over 20 percent of teachers in 11 states depend on a second job for financial assistance and in some states, that number extends as high as 25 percent.

Salary, which Herzberg listed as a hygiene factor or one that causes dissatisfaction, is one of the most important determinants of teacher attrition (Kelly, 2004; Murnane et al, 1989; Schlechty & Vance, 1983; Shen, 1997) and is correlated with job satisfaction (Olsen & Huang, 2019). Attrition rates and shortage levels are linked to the current substantial variations in pay both between and within states (Sutcher et al., 2016). Teacher salary and pay has often been shown to have a significant impact on teacher retention (Nguyen et al., 2019; Nguyen, 2020). Podgursky, Monroe, and Watson (2004), for example, discovered a negative correlation between attrition and higher pay/wages (Nguyen, 2020). Particularly in high-demand subjects like science and mathematics, novice and veteran educators are more likely to leave their jobs when they work in districts with lower earnings and when their pay is inadequate in comparison to alternative job opportunities (Grissom, et al., 2015; Sutcher et al., 2016). Although this effect is stronger in the early years, higher compensation does, for the most part of the teaching career, lead to lower levels of attrition; nonetheless, teachers who receive higher salaries tend to attrite more quickly (Kelly, 2004). Higher teacher compensation generally seems to be associated with lower attrition rates and increases the likelihood of teachers remaining in the profession (Hough & Loeb, 2013). More liberal district salary schedules do affect teacher retention decisions, even if starting teacher salaries may be more crucial for recruiting than for keeping teachers (Carver-

Thomas & Darling-Hammond, 2019). Lower attrition is correlated with higher pay levels for teachers, regardless of experience level (Imazeki, 2005).

Content Area

Results from the 2017–2018 academic year showed that there was a teacher shortage in almost every state in the union in major subject areas, and at that time, almost half of the teachers claimed they were actively considering leaving their jobs. In certain subject areas (such as science, technology, engineering, and math [STEM] courses), and among certain student groups (such as special education students), there is a shortage of qualified teachers due to issues with teacher attrition, recruitment difficulties, and fewer students choosing to pursue a career in teaching (Sutcher, et al, 2019). Compared to teachers in other subjects, math, science, special education, English language development, and foreign language teachers have higher turnover rates. Podgursky, Monroe, and Watson (2004) also found that mathematics and science teachers have higher attrition rates. In most states, there is a lack of teachers in these subjects (Carver-Thomas & Linda Darling-Hammond 2017). However, several other studies found that teacher that teach these subjects (science, mathematics, and special education) are prone to lower retention rates than teachers of other subjects (Brown & Wynn, 2007; Gulosino et al., 2019; Ingersoll, 2003; Sutcher et al., 2016), while retention rates for elementary school teachers are generally greater than those for teachers of other grade levels (Goldring et al., 2014; Sass et al., 2012).

Teacher Characteristics and Qualifications

Teacher attrition rates, regardless of reasons, contribute to the overall national shortfall in the retention of qualified teachers, Black male teachers, and eager novice teachers. Studies have shown that new teachers leave at disproportionately high rates and that turnover rates for

teachers of color are now higher than those for White teachers (Achinstein, et al., 2010; Ingersoll, 2001). Compared to White teachers, non-White teachers report lower levels of job satisfaction (Fairchild et al., 2012; Olsen & Huang, 2019). Studies also indicate that teachers who have had little training typically depart the profession at rates that are two to three times higher than those who have had extensive preparation (Steinberg, et al., 2018; Sutcher, et al., 2019). Compared to their more experienced peers, teachers with less classroom experience are typically far less effective in improving student results (Ladd & Sorensen, 2017; Papay & Kraft, 2015; Wiswall 2013) and they have high rates of turnover (Sorensen and Ladd, 2020). Within their first several years of teaching, nearly half of all novice teachers exit the profession (Elyashiv, 2019; Fry, 2009; Hanushek, 2007; Pivovarov & Powers, 2022; Smith & Ingersoll, 2004). A study by Johnson, et al. (2005) found first year teachers are 2.5 times more likely to exit the profession than teachers who are more experienced. Furthermore, 15% of novice teachers will leave after their second year in the field, and another 10% more will leave after their third year (McCreight, 2000). These new and novice teachers still remain the most vulnerable to attrition (Ingersoll, 2001; Kersaint et al., 2005).

Teacher turnover rates are typically greater in high-poverty and high-minority schools, as well as among teachers of color, who are disproportionately represented in these institutions (Carver-Thomas, 2017; Sutcher et al. 2019; Simon & Johnson, 2015). Additionally, in most areas, there is more teacher turnover in urban areas than in suburban or rural areas (Sutcher et al., 2019). A study by Johnson, Berg, and Donaldson (2005) found first year teachers are 2.5 times more likely to exit the profession than teachers who are more experienced.

Studies show that younger educators—those under thirty years old and/or those with fewer than five years of experience—are more susceptible to teacher attrition than more

seasoned and experienced educators (Ingersoll, 2001; Carver-Thomas & Darling Hammond (2017). Age is the determining factor for attrition, according to a series of regression models used in Ingersoll's (2001) study to assess the trends in teacher shortage and turnover. The relative probabilities of young teachers leaving are 171% higher than those of middle-aged teachers, according to one data that demonstrates this pattern (p. 518). From a sample of 6,733 educators in the 1991–1992 school year, Ingersoll and his colleagues discovered that 1,962 educators departed the field; also, this data illustrates the difficulties in keeping new instructors in the classroom (p. 508).

Not only are younger educators departing, but so are educators with five years or less of classroom experience. In the United States, Kersaint, Lewis, Potter, and Meisels (2005) looked at a number of variables that affect resignation and retention. Their research also revealed that instructors typically quit their jobs in the first few years of their careers; after five years, the retention rate is only 61 percent (Kersaint et al., 2005). About thirty percent of college graduates who become teachers leave the profession within five years. So, not only are teachers considering leaving the industry, many of the newer teachers are actually doing precisely that.

Teachers of color have greater turnover rates than White teachers overall (approximately 19% versus around 15%), largely because they are more likely to start teaching before completing their training and because they are disproportionately employed in low-income, high-minority institutions. Their turnover rates are comparable to those of all other teachers in schools with high levels of poverty and minority enrollment, despite the fact that they depart at rates higher than those of White teachers in general (Carver-Thomas & Darling-Hammond, 2017).

College graduates with higher proficiency levels are less likely to work as teachers in public schools and, when they do, they are more likely to quit after a short period of time

(Podgursky et al., 2004). Although the reasons for leaving may differ, these tendencies are comparable for men and women. Men's departure patterns are a little more in line with conventional job search models. Men who quit teaching have a far higher chance of finding new employment than do women, and a year later, their earnings outside of the classroom are about equal to those of teachers. However, compared to men, women are substantially less likely to find employment outside of teaching, and their pay in non-teaching positions is significantly less than that of teachers (Podgursky et al., 2004).

Data results suggest that the primary issue facing schools is not a lack of new instructors entering the workforce (Lindqvist, Nordänger, & Carlsson, 2014). The actual issue is that many recently graduated individuals seem to decide either not to enter the teaching profession at all (Luekens, Lyter, & Fox, 2004; Schmitt & deCourcy, 2022) or to depart after only a few years (Cooper & Alvarado, 2006), even in nations where a sufficient number of teachers are adequately trained. This insight has been elaborated in academic literature, most notably in Ingersoll's writings (2003, 2007), and it suggests an alternative approach to address the teacher shortage.

Teacher Attrition and Herzberg's Theory

Herzberg postulated that growth and achievement attained through the course of the work itself had an impact on job satisfaction. These elements are intrinsic motivators for completing the work. However, while motivational requirements must be met in order to affect satisfaction, doing so will probably not result in unhappiness (dissatisfaction) (Herzberg, 1959). Workplace conditions and pay are examples of extrinsic factors that affect how well a job is performed and can lead to dissatisfaction (Tran & Smith, 2020). A fundamental understanding of the concept of

job satisfaction, which is linked to workforce retention, can be obtained from Herzberg's groundbreaking theory of work motivation (Griffeth et al., 2000; Tran & Smith, 2020).

Herzberg (1959) contended that individuals cannot reach their full potential unless specific needs are satisfied, prompting them to seek fulfillment by potentially altering their surroundings. The researchers elucidated that certain workplace factors can cause dissatisfaction, whereas others can foster happiness and facilitate the attainment of self-actualization (Land, 2023). Job dissatisfaction can lead to teacher attrition; Herzberg's Two-Factor Theory is one of the leading theories that explain job dissatisfaction, making it appropriate for this study, which discusses why teachers are dissatisfied and leave the profession. Findings from this study will help determine if the causes of teacher attrition are consistent with Herzberg's Two-Factor Theory. Johnson, Berg, and Donaldson (2005) found that, according to the twelve educators in their study who preferred their current workplace, all twelve of them listed possibilities for collaboration and multitasking, the presence of friends and like-minded peers, and generally helpful administrations as the main beneficial aspects of their educational environments. These factors fall into the motivators and hygiene categories, according to Herzberg's Two-Factor Theory. In his analysis, using Herzberg as a theoretical framework for teacher retention, Burtsfield (2021) determined *new elements*, i.e., community and family atmosphere, supporting teachers' reasons for not leaving their job or career. This leaves one to conclude that adverse perspectives of these *new elements* could contribute to attrition rates for schools.

Using Herzberg's motivation-hygiene theory as a lens, a 2023 study of Alabama teachers compared the experiences of dissatisfaction (hygiene) and satisfaction (motivation) within special education (SE) and general education (GE) teaching domains. Moreover, the study presented a unique sample of former public educators, offering more objective reflections on

working conditions. The findings indicate: (1) SE teachers are not finding satisfaction in their professions; (2) GE teachers experience greater satisfaction but lower motivation; (3) similar experiences lead to disparate outcomes. While the concepts examined have been explored in prior research, Herzberg's Two-Factor Theory yielded a distinctive dataset illustrating how the experiences of SE and GE teachers correlate with their respective attrition rates (Goodrich, 2024).

Göktürk, Tülübas, and Bozoglu (2021) utilized a qualitative comparative case study to explore the motivational aspects of teacher retention in special education. Data collection for this research involved approximately one-hour semi-structured interviews conducted three years after participants had chosen to remain in or depart from the special education sector. The findings of the thematic analysis closely corresponded with Herzberg's Two-Factor Theory of motivation. It was observed that internal factors, categorized as motivation factors, predominantly influenced teachers' decisions to either stay or exit the field, while external factors, termed hygiene factors, provided additional support to these decisions (Göktürk et al., 2021).

According to Gibbons (2023), knowledge workers, such as teachers, are primarily driven by intrinsic rewards, aligning with Maslow's hierarchy of needs, which categorizes them as growth needs, encompassing desires for esteem and self-actualization. However, these intrinsic motivators remain elusive when fundamental extrinsic supports are lacking or have a negative impact (Herzberg, 1959). In the workplace context, Herzberg's motivation-hygiene theory evaluates job satisfaction by scrutinizing the work environment's influence on satisfaction or dissatisfaction. Gibbons's (2023) study of South Carolina school districts found that workplace hygiene factors such as student stressors and workload play pivotal roles in teachers' decisions to leave the profession. Nonetheless, qualitative feedback from the study distinctly indicated that

the impact of COVID-19 and administrative support, another hygiene factor, significantly shaped teachers' perceptions of stress within these domains (Gibbons, 2023).

According to Haimovich (2024), Griffeth, Hom, and Gaertner (2000) emphasized Herzberg's seminal theory of work-based motivation as foundational for understanding job satisfaction, a crucial predictor of workforce retention. Haimovich further stated that Tran and Smith (2020) argued that effective teacher supply strategies should address both hygiene and motivating factors to maintain employee motivation and satisfaction. Solely addressing hygiene factors alleviates dissatisfaction but doesn't spur motivation, while solely focusing on motivators may lead to dissatisfaction. Empirical literature indicates that both motivators and hygiene factors significantly influence teachers' job satisfaction, dissatisfaction, and intention to remain employed within their schools (Haimovich, 2024).

In his own study, Haimovich (2024) argues that Herzberg's Two-Factor Motivator-Hygiene Theory aligns well with the scope of his study, given the myriad intrinsic and extrinsic elements essential for retaining special education teachers in educational institutions. He further argues that educational systems that strike a harmonious balance between motivators (such as job responsibility, meaningful work, accomplishment, and acknowledgment) and hygiene factors (including salary, financial incentives, working conditions, supervision, and school policies) are more likely to retain their teachers compared to those that prioritize only one of these factors.

Herzberg's (1959) motivation-hygiene theory encompasses essential elements for establishing and maintaining a satisfactory workplace. These include requisite factors like physiological extrinsic hygiene factors such as favorable working conditions and intrinsic motivation factors such as opportunities for personal growth (Herzberg, 1959). The absence of these intrinsic and extrinsic factors, as per Herzberg's theory, leads to employee dissatisfaction,

thereby heightening the likelihood of attrition. Moreover, Herzberg observed that simply removing factors causing dissatisfaction did not automatically result in employee satisfaction, as hygiene and motivation factors were distinct and subject to individual variation and change. According to the outcomes of Warmbrodt's (2024) study, participants acknowledged the presence of both intrinsic and extrinsic elements, comprising both support systems and obstacles, which impacted their choices regarding remaining in or exiting the profession.

Herzberg's theory provided the framework for Thomas's (2023) study by pinpointing the factors that impact the recruitment and retention of Black male teachers. Thomas (2023) identified themes in the participants' responses and classified them based on the motivation and hygiene factors outlined by Herzberg (1959). He found that the most frequently cited motivator in discussions concerning the recruitment and retention of Black male teachers is the nature of the work itself, followed by opportunities for growth and a sense of responsibility. Conversely, the least mentioned motivators were recognition, advancement, and achievement. Regarding hygiene factors, relationships emerged as the most frequently mentioned factor in discussions about the recruitment and retention of Black male teachers, followed by salary and job security. Conversely, the least mentioned hygiene factors were working conditions, policies and regulations, and supervision (Thomas, 2023).

Another qualitative study that utilized Herzberg's (1959) two-factor theory was conducted by Gilliam-Flentge (2021). Despite the abundance of literature exploring why teachers leave their positions, there is a dearth of research investigating why teachers choose to stay in low-retention urban schools (Gilliam-Flentge, 2021). Gilliam-Flentge's qualitative inquiry delved into the factors contributing to high teacher retention at an elementary school situated in an urban district with high attrition rates, aiming to elucidate the reasons behind teachers'

decisions to remain. Herzberg's two-factor theory corroborated Gilliam-Flentge's findings regarding teachers' perceptions of motivating factors influencing job satisfaction and their decisions to stay.

Although the study did not focus on teachers, Thant and Chang (2021) utilized Herzberg's Two-Factor theory to explore the factors influencing job satisfaction among public employees in Myanmar. Drawing from qualitative data gathered from employees within the Ministry of Border Affairs (MoBA), the findings indicate that both motivators and hygiene factors play crucial roles in shaping job satisfaction and dissatisfaction.

Herzberg's Theory was developed in 1959 and using a survey that polled individuals of that generation. Individuals' priorities change over time and generations. In light of the current climate, specifically post pandemic, it is important to determine what factors are most important to workers in this era. For educators, the COVID-19 pandemic was difficult to navigate, and teachers were forced to modify their methods of instruction to fit unforeseen circumstances; because of this, teachers experienced significant levels of stress and burnout, which has sparked concerns about a possible rise in teacher attrition and upcoming teacher shortages (Camp et al., 2022). Herzberg's theory is best suited for this study as it allows the researcher to study motivation and hygiene factors that lead to teachers to leave the profession with the hopes of reducing attrition rates among this generation of educators.

CHAPTER THREE: METHODOLOGY

Research Purpose

The overarching purpose of this quantitative study is to examine the causes of the conditions surrounding teacher attrition in a large urban school district in the southeastern region of the United States. As the notion of attrition may be constituted as *a rate*, it represents a quantifiable phenomenon that can, in turn, be correlated with other phenomena that can be similarly quantified. After the analysis is completed, the results are compared, and conclusions are drawn.

This study aims to analyze data on teacher withdrawals from district service. The data is collected in an official personnel file obtained through an open records request. After conducting a thorough review of the academic literature, this study has developed a comprehensive research plan that employs a quantitative approach. In addition, this study has identified several federal, state, and local data sources that have been integrated with the existing datasets. This enabled the study to generate specific research questions for quantitative analysis, as described below.

Research Design Overview

Overall Strategy: Secondary Analysis

In one of the first book-length presentations on the topic, Hakim (1982) defined secondary data analysis as “further analysis of an existing dataset which presents interpretations, conclusions, or knowledge additional to, or different from, those presented in the first report on the data collection and its results” (p. 1). Given this definition, Hakim enumerates the following uses to which such analyses may be put:

- Condensed reports (such as social area analysis based on selected social indicators)
- More detailed reports (offering additional detail on the same topic)

- Reports which focus on a particular sub-topic (such as unemployment) or social group (such as ethnic minority)
- Reports angled toward a particular policy issue or question
- Analyses based on a conceptual framework or theory not applied to the original analysis
- Re-analyses which take advantage of more sophisticated analytical techniques to test hypotheses and answer questions more comprehensively and succinctly than in the original report. (Hakim, 1982, p. 1)

The study referred to in Hakim's secondary analysis primarily involves including additional variables into the original dataset to gain more information on the same topic. This helps to explore and test relationships relevant to the study's overall purpose. Since the base file is only used as a personnel record, it does not require any sophisticated analytical techniques to test hypotheses or answer questions. These techniques will be discussed later once the study's research questions are fully explained.

Research Questions

The primary research questions are as follows:

1. What neighborhood characteristics are socioeconomically linked to schools with high and low levels of teacher attrition?
2. Of these socioeconomic characteristics, which are most predictive of a school's status in a group having either high or low levels of teacher attrition?
3. Are charter and magnet schools disproportionately represented among schools with high and low levels of teacher attrition?
4. Do elementary and secondary schools with high and low levels of teacher attrition differ in terms of faculty size and number of attending students?

5. Do elementary and secondary schools with high and low levels of teacher attrition exhibit differences in institutional climate over time?

Sample

A comprehensive record of 355 resigning and retiring teachers, called the *base* file, is used to identify schools with teachers who intend to leave the district. Combining this list with a record of all district schools makes it possible to categorize schools as having either high or low levels of teacher attrition. Federal, state, and local data supplements are also added to this base file, described in the following paragraphs.

Data Collection

Supplementary Datasets: Federal

The *base* dataset of teacher withdrawals is augmented by a report on all schools in a large urban district in the Southeastern region of the United States obtained through the Common Core of Data (CCD). A federal repository of basic information about all elementary and secondary schools and school districts in the United States, the CCD is updated annually and facilitates the generation of downloadable reports that, in addition to unique federal identification numbers, contain information about the school's grades served; its geographical locale; its charter, magnet, and Title I status; its faculty and student body size; and its student/teacher ratio.

Another source of secondary data that provides useful information about the neighborhood context is U.S. Census data, which can be accessed at <https://www.census.gov>. In addition to a breakdown of the neighborhood population by race/ethnicity, statistics are provided for income and education levels, workforce participation, owner-occupied housing percentage, and female-headed households percentage.

Supplementary Datasets: State

The data and research page on the Tennessee Department of Education (TDOE) website provides timely access to unique school characteristics and organizational variables. These variables encompass the size of the student body in both elementary and secondary schools, faculty size, charter status, and magnet status (also known as optional schools).

Supplementary Datasets: Local

The study utilized both state and federal data, as well as a district-level personnel file, to investigate the factors contributing to teacher attrition in a large urban school district in the southeastern United States. In addition to the departing teachers' file, the district also provided fall and spring total scores from its Insight survey. The Insight survey is a validated tool by the American Institutes of Research, designed to measure school culture across eleven domains. While the district did not provide the actual survey instrument or scores on individual items, it did supply some representative items.

Leadership

- The expectations for effective teaching are clearly defined at my school.

Peer Culture

- Teachers at my school share a common vision of effective teaching.

Professional Development

- My school is committed to improving my instructional practices.

All of the items themselves are scored on a 1 to 10 scale. Although the item scales vary in length, they have been shown to have adequate internal consistency reliability.

These data enabled the creation of two groups of schools—one with low attrition and the other with high attrition—for comparison.

Procedures/Data Analysis

As previously stated, the variable common to all four research questions in the quantitative part of the study concerns schools grouped as having high or low levels of teacher attrition, as given by the *base* file data. When supplemented by data from the federal common core, other metrics for computing attrition were possible, specifically, the number and the percentage of resigning and retiring teachers at the school; however, because the study's concern was with the nature of teachers' job environment as being one that promoted or not promoted turnover, it was reasoned that simply grouping the schools and then directly comparing their demographic and neighborhood characteristics would suffice. Thus, apropos *research question one*, for variables measured at the interval or ratio levels, means and standard deviations for all student demographic and neighborhood characteristics will be compared across the two groups of schools. Effect size estimates will be computed, along with 95% confidence intervals instead of *t-tests*. Given the preexisting literature, the variables to be compared are those most likely to impact attrition. However, in recognition of the homogeneity within the sample—schools all drawn from the same district—finding many statistically significant differences between groups is expected to be unlikely.

Apropos *research question two*, the object is to determine whether or not *special* school environments are disproportionately represented among schools with higher and lower teacher attrition rates. From the base file amended with CCD characteristics, schools regarded as either a) *charter* schools or *not charter* schools and b) *magnet* schools or *not magnet* schools will be cross-tabulated with their status as either a high or low attrition school. The result will be two contingency tables for which *chi-square* statistics can be computed. Bias-corrected Cramer's *V* statistics will be employed as the effect sizes.

Concerning *research question three*, the object is to determine whether elementary and secondary schools with higher and lower rates of teacher attrition differ in terms of faculty size and student population size. As with the previous question, the two size variables are CCD amendments of the *base* file.

In this model, the two categorical variables and their interaction represent the independent variables, while the two size variables represent the dependent ones; if the two dependent variables are tested at the same time, the procedure may be classified as a two-way Multivariate Analysis of Variance (MANOVA). The test statistic to be employed will be Wilks Λ .

Finally, regarding research question four, the design is similar to the statistical model offered for the previous question. However, instead of two dependent variables, there is a single dependent variable with two levels, namely, the fall and spring scores on the climate instrument that were keyed into the base data file.

In the model proposed here, the schools are again grouped as either elementary or secondary schools and exhibit either high or low rates of teacher attrition. These two *between-subjects variables are tested for their effect on the within-subjects* outcome of school climate over time. This *mixed* Analysis of Variance should reveal whether the fall-spring change in climate is different for either of the two pairs of schools or for four kinds of schools, with the two pairs *interacting* as elementary/high attrition, elementary/low attrition, secondary/high attrition, and secondary/low attrition.

Conclusion

In this chapter, the research genre in which this study participates is identified as *secondary analysis*, as the touchstone of the study involves reshaping an existing dataset (in this

case, a personnel file) and orienting it towards purposes other than those for which those data were collected originally. To cast light on the district's actual attrition rate, this *base* file is amended with variables drawn from federal, state, and local sources thought to explain teacher turnover.

‘

CHAPTER FOUR: FINDINGS

Introduction

Supplemented by both state and federal data, this study utilizes a district-level personnel file to investigate the factors contributing to teacher attrition in a large urban school district in the United States's southeastern region. Initially designed solely to monitor and record teacher departures from district employment, this personnel file underwent augmentation with data sourced from the federal Common Core of Data (CCD). However, to gain additional insight into the attrition phenomenon, this file was fortified with information taken from the federal Common Core of Data (CCD). Moreover, specific to each school, this dataset was enriched through the incorporation of demographic information from the U.S. Census, offering insights into the socioeconomic contexts surrounding these educational institutions. Of particular interest were the contextual factors related to wealth and educational attainment, as they were perceived to potentially influence teachers' decisions to relocate between schools or leave the profession altogether. Additionally, supplementary details about the district were included, such as information on schools where no teachers departed, and the prevailing school climate observed during the preceding fall and spring seasons.

Together, all of these data enabled the creation of two groups of schools—one exhibiting *low attrition* and the other exhibiting *high attrition*—by which such schools could be compared and contrasted apropos the following questions:

1. *What neighborhood characteristics are socioeconomically linked to schools with high and low levels of teacher attrition?*
2. *Of these socioeconomic characteristics, which are most predictive of a school's status in a group having either high or low levels of teacher attrition?*

3. *Are charter and magnet schools disproportionately represented among schools with high and low levels of teacher attrition?*
4. *Do elementary and secondary schools with high and low levels of teacher attrition differ in terms of faculty size and number of attending students?*
5. *Do elementary and secondary schools with high and low levels of teacher attrition exhibit differences in institutional climate over time?*

Findings

Responses to these five questions are given in the paragraphs following the statistical procedures referenced previously.

Research Question One- What neighborhood characteristics are socioeconomically linked to schools with high and low levels of teacher attrition?

Table 3 and the accompanying Figure 4 are descriptive statistics expressed as means, standard deviations, and effect size differences for the high and low attrition rate schools being compared in this study. As all the schools being studied were drawn from the same district, there is little variation in the observed statistics across groups. The effect sizes computed for each comparison are rather small—the largest being for the percent below the poverty line ($d = .25$), for median household income ($d = -.25$), and the percentage of persons with less than a high school education ($d = .28$)—and the 95% confidence intervals for these effect sizes systematically contain zero. In sum, this fact implies that the two groups would, on average, be roughly the same from a socio-economic perspective.

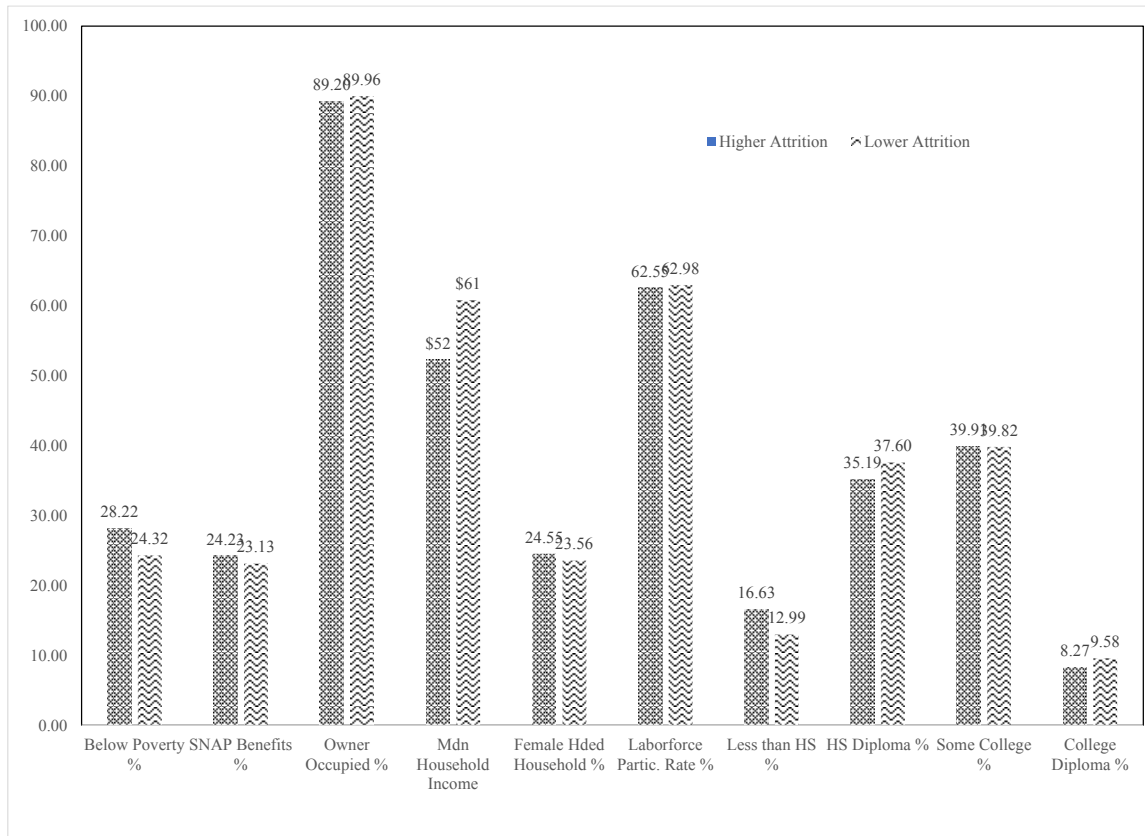
According to the statistics, the district is in economic distress, with 24% and 28% of the local population at or below the poverty line, compared to the roughly 12% reported in 2022.

Table 3*Means, Standard Deviations, and Effect Sizes for Neighborhood Characteristics of Schools**Grouped by Attrition Rate*

Predictor	Higher Attrition Schools (<i>n</i> = 90)		Lower Attrition Schools (<i>n</i> = 117)		ES <i>d</i>	95% C.I. for Effect Size	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		Low	High
Below Poverty %	28.22	15.57	24.32	15.59	0.25	-0.03	0.53
SNAP Benefits %	24.23	13.67	23.13	15.58	0.07	-0.20	0.35
Owner Occupied %	89.20	5.35	89.96	6.77	-0.12	-0.40	0.15
Mdn Household Income	\$52.3	\$31.1	\$60.8	\$35.0	-0.25	-0.53	0.02
Female Hded Household %	24.55	10.87	23.56	11.48	0.09	-0.19	0.36
Laborforce Partic. Rate %	62.55	9.48	62.98	9.47	-0.04	-0.32	0.23
Less than HS %	16.63	13.94	12.99	12.11	0.28	0.00	0.56
HS Diploma %	35.19	16.79	37.60	20.45	-0.13	-0.40	0.15
Some College %	39.91	17.60	39.82	19.90	0.00	-0.27	0.28
College Diploma %	8.27	12.67	9.58	13.44	-0.10	-0.37	0.18

Figure 4

Comparison of Socioeconomic Characteristics by School Attrition Rate.



Research Question Two- Of these socioeconomic characteristics, which are most predictive of a school's status in a group having either high or low levels of teacher attrition?

Multiple logistic regression was conducted using the previous table and graph variables to assess the linkages between these socioeconomic characteristics and a high or low teacher attrition rate. Chosen as the most efficient variable selection procedure, a *backward* approach was adopted in which, as Stevens (2009) describes it, all predictors are entered initially and then removed when their partial *F* values fall short of a preselected significance value.

Table 4

First and Last Blocks of a Backward Entry Multiple Logistic Regression Predicting School Membership in a Low or High Teacher Attrition School from Socioeconomic Characteristics of their Neighborhoods

Predictor	<i>B</i>	<i>SE B</i>	Wald	<i>df</i>	<i>p</i>	<i>Exp(B)</i>
Below Poverty Line %	-0.039	0.020	4.041	1	0.044	0.961
SNAP %	0.050	0.023	4.725	1	0.030	1.051
Owner Occupied %	0.014	0.034	0.185	1	0.667	1.015
Mdn Household Income	0.000	0.000	2.806	1	0.094	1.000
Female Headed Household %	0.005	0.021	0.049	1	0.824	1.005
Laborforce Partic. Rate %	-0.009	0.021	0.202	1	0.653	0.991
Less than HS %	-0.028	0.020	2.011	1	0.156	0.973
HS Diploma %	0.005	0.018	0.096	1	0.756	1.005
Some College %	-0.008	0.016	0.254	1	0.614	0.992
College Diploma %	-0.948	3.512	0.073	1	0.787	0.388
Below Poverty Line %	-0.043	0.018	5.884	1	0.015	0.958
SNAP %	0.036	0.019	3.688	1	0.055	1.037
Less than HS %	-0.023	0.012	3.905	1	0.048	0.977

As can be seen above, only three variables appeared to have survived the backward procedure and qualified as the best predictors of group membership: the percentage below the poverty line (Wald (1) = 5.884, $p = .015$), the percentage receiving SNAP benefits (Wald (1) = 3.688, $p = .055$), and the percentage with less than a high school diploma. (Wald (1) = 3.905, $p =$

.048). In this regression, higher numbers of individuals having less education than a high school diploma and who are below the poverty line are linked to the lower coded group (that is, lower teacher mobility), while higher numbers of those receiving SNAP benefits are associated with the higher coded group (that is, higher teacher mobility).

Research Question Three- Are charter and magnet schools disproportionately represented among schools with high and low levels of teacher attrition?

Two cross-tabulations were assembled to determine whether magnet and charter schools were disproportionately represented among the two attrition groups, and chi-square tests were conducted on each cross-tabulation in turn (see Table 5). Concerning magnet schools, a significantly larger percentage is observed among the higher attrition schools, as denoted by a robust *chi-square* statistic ($\chi^2 = 17.82, p < .001$) and *phi* coefficient ($\phi = .28$). This greater number of magnet schools may be attributed to many *optional* schools in the district, which is the district vernacular for magnet schools and transmitted to the US Department of Education in the Department’s preferred vernacular. On the other hand, charter schools appear disproportionately represented among lower attrition schools, as suggested by a *chi-square* statistic that is highly statistically significant ($\chi^2 = 87.06, p < .001$) in addition to a large *phi* coefficient ($\phi = -0.63$).

Table 5

Cross-tabulations of Magnet and Charter Schools in Low and High Attrition Schools

School Type	Low Attrition				High Attrition				χ^2	<i>p</i>	ϕ
	<u>No</u>		<u>Yes</u>		<u>No</u>		<u>Yes</u>				
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%			
Magnet	93	41.9	7	3.2	86	38.7	36	16.2	17.82	< 0.001	0.28
Charter	46	20.7	54	24.3	122	55	0.0	0.0	87.06	< 0.001	-0.63

Research Question Four- Do elementary and secondary schools with high and low levels of teacher attrition differ in terms of faculty size and number of attending students?

Because of the high correlation between the number of students and teachers at a school ($r = .943, p < .001$), a Multivariate Analysis of Variance (MANOVA) was conducted to determine whether a relationship obtained between the size of the school—as reflected in these two variables—the level of the school as either elementary or secondary, and the incidence of teacher attrition observed. A breakdown of these variables as means and standard deviations is provided in Table 6 below.

Table 6

Means and Standard Deviations for Faculty and Student Body Size by School Level and Attrition Rate

<u>Students</u>	Low Attrition			High Attrition			Totals	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Elementary	45	356.07	211.99	74	524.43	213.15	460.76	227.13
Secondary	40	374.38	240.22	45	745.69	476.91	570.95	425.07

<u>Teachers</u>	Low Attrition			High Attrition			Totals	
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Elementary	45	22.03	10.92	74	34.62	13.72	29.86	14.09
Secondary	40	24.43	13.90	45	43.15	24.60	34.34	22.25

As shown in Table 7, the multivariate outcomes suggest significant effects on the attrition rate, school level, and the interaction of the two. However, inspection of the univariate outcomes indicates that the interaction effect only pertains to students, not teachers. Thus, it can be straightforwardly said that, for teachers, larger faculties are observed at higher-attrition secondary schools, as opposed to low-attrition schools, whether elementary or secondary.

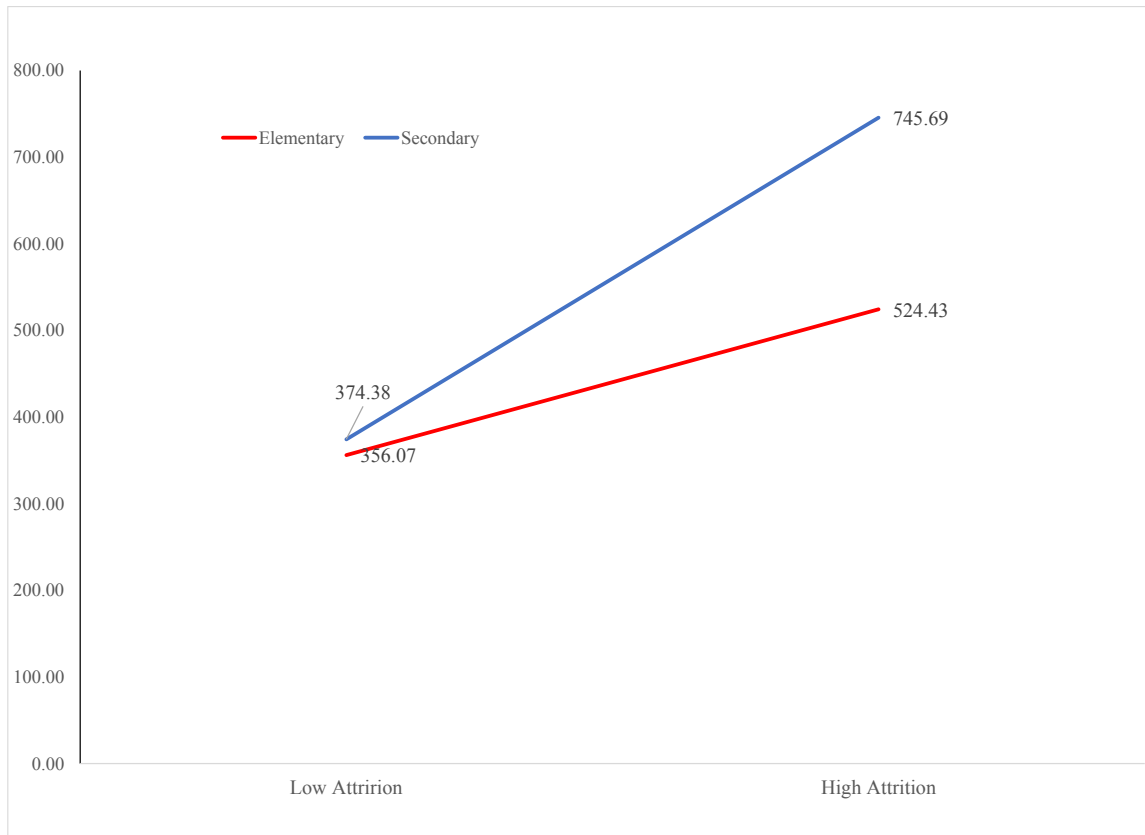
Table 7*Multivariate and Univariate Analysis of Variance for School Size and Attrition Rate*

Source	<u>Multivariate</u>			<u>Univariate</u>					
	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2	<i>F</i>	<i>p</i>	η^2
Attrition	22.152	0.000	0.192	549.727	0.000	0.167	44.449	0.000	0.182
Level	4.258	0.015	0.041	40.005	0.000	0.038	5.416	0.021	0.026
Attrition X Level	6.056	0.003	0.057	5.657	0.018	0.028	1.709	0.193	0.008

When the means for students are graphed by attrition and level, the nature of the interaction of the two variables is made clear. As with all graphed interactions, the lines are not parallel; however, since the lines do not cross, the interaction is called *ordinal*, as one set of means is consistently higher than another. The interaction derives from the fact that for one pair of means (the ones for students at low attrition schools), the values for elementary and secondary schools are very close together; For the other pair of means (the ones for students at high attrition schools), the mean for elementary schools is significantly lower than the mean for secondary schools (see Figure 5).

Figure 5

Graph of the interaction of the size of the student body across elementary and secondary schools having either high or low attrition rates.



Research Question Five- Do elementary and secondary schools with high and low levels of teacher attrition exhibit differences in institutional climate over time?

A mixed Analysis of Variance (ANOVA) was conducted to determine if there was a differential in the way that schools rated their organizational climate over time, given the grade levels taught and the degree of teacher attrition. In this analysis teacher attrition (high or low) and grade-level (elementary or secondary) functioned as two *between-subjects* factors, while the fall and spring administration of the school climate survey functioned as a single *within-subjects* factor. Means and standard deviations for all of these variables are provided in Table 8 below.

Table 8

Means and Standard Deviations for a Measure of School Climate Across Two Semesters by Attrition Level and Grade Level

<u>Elementary</u>				<u>Secondary</u>			
Low Attrition (<i>n</i> = 13)		High Attrition (<i>n</i> = 75)		Low Attrition (<i>n</i> = 5)		High Attrition (<i>n</i> = 21)	
Fall							
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
9.146	0.373	8.865	0.774	8.640	0.727	8.752	1.011
Spring							
<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
8.962	0.601	8.601	0.925	7.240	1.260	8.257	1.307

As demonstrated in Table 9 below, examination of the means and the graphical representation of these means (as shown in Figure 6) indicates that there likely exists a distinction between groups of schools based on school level and climate. However, when considering attrition rate by school climate alone, such differences are less evident. To delve deeper into these associations, the eight groups were regrouped into four cells: elementary schools with high attrition, elementary schools with low attrition, secondary schools with high attrition, and secondary schools with low attrition. These cell means were then compared against an average of the two school climate scores. Upon finding significant differences in these cell means ($F(3, 113) = 4.361, p = 0.008$), a pairwise comparison was conducted using both the Tukey and the Games-Howell procedures. While the Tukey procedure suggested that secondary schools with low attrition had lower climate scores compared to the other groups, the Games-

Howell procedure found no such distinction, attributing the Tukey results to the substantial differences in group sizes. Excluding the interaction result, the only reliable difference observed pertains to climate and grade level, favoring elementary schools.

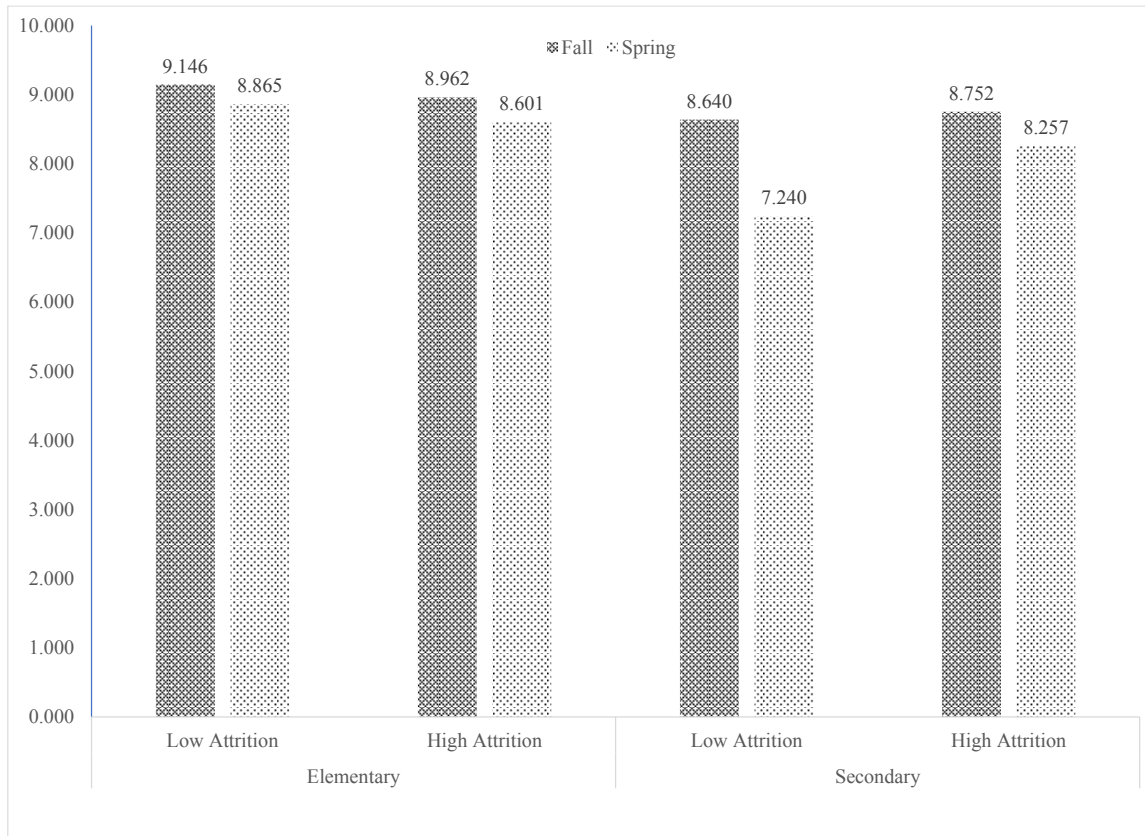
Table 9

Results of Mixed ANOVA for School Climate by Grade Level and Attrition Rate

Source	<i>SS III</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>p</i>
Climate	8.130	1	8.130	29.740	0.000
Climate X Attrition	1.008	1	1.008	3.688	0.057
Climate X Sch Lvl	3.097	1	3.097	11.329	0.001
Climate X Attrition X Sch Lvl	1.433	1	1.433	5.243	0.024
Error	30.070	110			

Figure 6

Graph of the Fall and Spring School Climate Means by Attrition Rate and Grade Level.



Conclusions

The creation of two groups by level of attrition allowed for the comparison of these two groups by the socioeconomic characteristics of their immediate environments. While these neighborhoods proved to be very similar in most respects, the results of a logistic multiple regression suggested that these groups might be distinguished in terms of the percentage of the population below the poverty line, the percentage of the population receiving SNAP benefits, and the percentage of the population having less than a high school diploma. Among the attrition groups, there were disproportionate numbers of charter schools in the lower attrition schools, but more magnet schools in the higher attrition groups.

A MANOVA on school size determined that faculty sizes were larger at secondary and high-mobility schools but suggested that differences in the size of student bodies were less straightforward. These sorts of partially ambiguous findings were also observed concerning school climate, where it was clear that climate differed by school level but unclear as to how teacher attrition and school climate were linked.

CHAPTER FIVE: DISCUSSION

Introduction

Teacher attrition commonly refers to the departure of teachers from the profession or their movement between different schools. It has been a longstanding issue in the U.S. educational system, with various factors such as salary, teacher qualifications, lack of administrative support, student behavior, and discipline, as well as other factors contributing to its prevalence. Teacher attrition has garnered significant attention in the United States due to its impact on educational quality and stability within schools and districts. Research indicates that high teacher attrition rates can harm student achievement, school culture, and overall educational outcomes (Carver-Thomas & Darling-Hammond, 2017). Furthermore, the costs associated with recruiting and training new teachers to replace those who leave can strain school budgets and resources (Sass et al., 2011).

This study investigates the factors contributing to the significant turnover of teachers within a large urban school district in the southeastern region of the United States. Utilizing quantitative methods, the research will delve into the underlying causes of this shortage and propose potential solutions based on the findings. The outcomes of this research will be valuable to policymakers, educators, and other stakeholders in the education sector, offering insights that can inform the development of tailored programs to enhance teacher recruitment, retention, and support. Furthermore, the study aims to answer the following research questions:

1. What neighborhood characteristics are socioeconomically linked to schools with high and low levels of teacher attrition?
2. Of these socioeconomic characteristics, which are most predictive of a school's status in a group having either high or low levels of teacher attrition?

3. Are charter and magnet schools disproportionately represented among schools with high and low levels of teacher attrition?
4. Do elementary and secondary schools with high and low levels of teacher attrition differ in terms of faculty size and number of attending students?
5. Do elementary and secondary schools with high and low levels of teacher attrition exhibit differences in institutional climate over time?

Addressing teacher attrition often involves implementing policies and practices to improve working conditions, offer competitive salaries and benefits, and foster supportive school environments. By addressing the root causes of attrition, education systems can work towards retaining experienced and qualified educators, ultimately benefiting teachers and students.

Summary of Findings

The correlation between poverty, reliance on SNAP benefits, low levels of education, and teacher attrition underscores the multifaceted challenges faced within education systems. Studies consistently reveal that teachers in impoverished schools experience higher attrition rates (Carver-Thomas & Darling-Hammond, 2019; Carver-Thomas & Darling-Hammond, 2017). These socioeconomic factors often contribute to various challenges within these educational environments, including limited access to resources, heightened student needs, and increased job stress for educators. Consequently, teachers working in such contexts may find it more challenging to meet the diverse needs of their students, leading to feelings of burnout and dissatisfaction with their profession. Addressing the root causes of poverty and providing adequate support and resources to educators in these settings are crucial steps in mitigating the detrimental effects of socioeconomic disparities on teacher attrition rates.

The interplay between poverty, reliance on SNAP benefits, low levels of education, and teacher attrition elucidates the intricate challenges pervading educational systems. The findings of this study show that socioeconomic factors, including poverty, participation in SNAP programs, and educational achievement, account for the differences in teacher mobility between schools. In particular, a greater number of individuals with less education than a high school diploma and living below the poverty line are associated with lower teacher mobility. Conversely, higher numbers of those receiving SNAP benefits are linked to higher teacher mobility.

Additionally, these findings coincide with the existing literature that suggests Title I schools, which cater to a larger proportion of economically disadvantaged students, exhibit teacher turnover rates that surpass those of non-Title I schools by 50% (Carver-Thomas & Darling-Hammond, 2019). In impoverished urban and rural communities, a pronounced teacher shortage is attributable to attrition (Ronfeldt et al., 2013). Notably, there is a considerable overlap between SNAP eligibility and the poverty threshold.

In contrast to nationwide patterns, the research from this study indicates that teachers in charter schools within the district demonstrate lower rates of attrition than their counterparts in traditional public schools and magnet schools (commonly referred to as optional schools). Charter school teachers within the district have almost zero mobility/attrition. Optional schools, constituting approximately 20% of the district's schools, tend to experience higher teacher turnover, potentially due to salary discrepancies between charter, traditional public, and magnet schools. Additionally, charter school teachers enjoy greater autonomy than traditional public schools, operating under their governing body's policies rather than local board of education regulations. It is important to note that the specific requirements and procedures for establishing

a charter school in this district/state may vary depending on the authorizing entity and applicable state laws and regulations. The processes involved in establishing charter schools are usually thorough, and aspiring schools are tasked with demonstrating their viability within the community. This aspect may influence the stability of charter schools in terms of their teaching staff. Additionally, charter schools within this district/state are typically granted initial charters for a specified period, after which they must undergo a renewal process to continue operating. Renewal decisions are based on the school's academic performance, organizational effectiveness, and adherence to the terms of the charter agreement.

Based on MANOVA statistics, the study's findings revealed that the faculty sizes are larger at secondary and high-mobility schools. However, the differences in the size of student bodies are not as clear-cut. Similarly, the findings regarding school climate suggest that climate differs by school level, but it is uncertain how teacher attrition and school climate are connected.

The findings align with Herzberg's theory, which suggests that the physical aspects of a job, such as the socioeconomic context, school type (charter status), and faculty sizes, may influence teacher mobility between schools. Herzberg's motivation theory, which focuses on autonomy and working conditions, has been widely used by researchers to assess teacher satisfaction, work environment, and attrition. Understanding the differences in teacher attrition between charter and traditional public schools in various socioeconomic contexts can help school leaders address teacher attrition, mobility, and retention more effectively.

A study by Ingersoll and Smith (2003) found that teachers who perceive themselves as having greater autonomy in their classrooms report higher job satisfaction and are less likely to leave the profession. This underscores more current research demonstrating a clear link between autonomy, school climate, job satisfaction, and teacher retention (Brezicha et al., 2020; Dou et

al., 2016; Solomou & Pashiardis, 2016; Whitt, 2022). Moreover, Herzberg's theory suggests that autonomy can mitigate dissatisfaction with the work environment, contributing to lower attrition rates. Similarly, working conditions, encompassing factors like classroom resources, administrative support, and the overall school environment, play a crucial role in teacher retention. Research by Johnson, Kraft, and Papay (2012) highlights the importance of supportive working conditions in reducing teacher turnover. When teachers perceive their working conditions as conducive to effective teaching and professional growth, they are likelier to remain in their positions. Therefore, addressing autonomy and working conditions can be instrumental in mitigating teacher attrition, aligning with Herzberg's proposition that these factors can enhance job satisfaction and retention rates among educators.

There is still more work needed to understand the reasons behind teacher attrition during the post-pandemic shift and how to improve job satisfaction and retention using Herzberg's theory. Further research on this topic needs to focus on how a teacher's relationship with the workplace influences their attitude and perceptions of work, which in turn may shape their view of the school climate and working conditions. This is especially important as we consider the impact of the Great Resignation of 2021 on teacher attrition during the post-pandemic shift.

The findings have significant implications for future research. There are research studies that indicate higher teacher mobility in schools with disadvantaged socioeconomic contexts and lower teacher mobility in charter school settings, which can exacerbate inequities in educational outcomes. Students in these communities often need experienced and stable teaching staff to effectively address their needs. Research by the Cardichon et al. (2020) found that high-poverty schools have fewer experienced and credentialed teachers, which can hinder student achievement. Teacher attrition negatively affects student achievement, particularly in

disadvantaged communities. A study published in the *Economics of Education Review* found that teacher attrition significantly negatively impacts student test scores, with the effects being more pronounced in schools serving low-income and minority students (Hanushek et al., 2016). Understanding the factors contributing to teacher attrition in impoverished neighborhoods is essential for developing targeted interventions to support and retain teachers. Research by the National Center for Education Statistics suggests that inadequate administrative support, challenging working conditions, and limited opportunities for professional growth contribute to high attrition rates in high-poverty schools. Policymakers can use research findings to inform policy interventions aimed at reducing teacher attrition in disadvantaged communities. For example, investing in comprehensive induction programs, providing targeted professional development opportunities, and offering financial incentives for teachers working in high-poverty schools could help improve retention rates.

Lower teacher attrition rates in charter schools may be attributed to specific organizational practices and policies. Research by Ferguson et al., (2011) found that charter schools often have more flexibility in hiring and retaining teachers, allowing them to implement innovative strategies for recruiting and supporting educators. Collaboration between traditional public schools, charter schools, and community stakeholders is crucial for addressing teacher turnover in impoverished neighborhoods. Research by the RAND Corporation emphasizes the importance of building strong partnerships and sharing best practices to improve teacher retention across all types of schools. By understanding the implications of teacher attrition in impoverished neighborhoods and charter schools, policymakers and educators can develop targeted strategies to support teacher retention and improve educational outcomes for all students (Diliberti et al., 2023).

Research examining the correlation between teacher attrition, school size, and school climate suggests complex relationships that may vary depending on contextual factors. In the article *Examining School Climate, Teacher Turnover, and Student Achievement in NY*, Kraft et al. (2016) investigate the relationships between school climate, teacher turnover, and student achievement in New York. Through empirical analysis, the study explores how the overall atmosphere of a school impacts the retention of teachers and students' academic performance. The findings shed light on the interconnectedness of these factors, highlighting the importance of fostering positive school climates to mitigate teacher turnover and enhance student outcomes in schools.

A 2019 study conducted by Desiree Carver-Thomas and Linda Darling-Hammond found a negative correlation with school size, suggesting that schools with larger student populations tended to have lower teacher turnover rates and a positive correlation with class size, which shows that while there was a trend indicating that schools with larger class sizes had higher teacher turnover rates, this relationship was not statistically significant, meaning it could have occurred by chance (Carver-Thomas & Darling-Hammond, 2019).

In an analysis of teacher turnover in high-poverty schools, Simon and Johnson (2015) discuss various factors contributing to teacher attrition, including school size and climate. While not directly addressing correlations, the study underscores the importance of supportive school environments in retaining teachers, particularly in high-poverty settings where turnover rates tend to be higher. Through various research methodologies and interpretations of working conditions, scholars have consistently discovered that when examining teacher turnover through an organizational lens, the substandard working conditions prevalent in America's most underprivileged schools account for the majority, if not all, of the association between student

demographics and teacher attrition. This finding holds significance because, unlike student demographic factors, working conditions are modifiable. Policymakers and educators have numerous avenues for enhancing elements of the school atmosphere, and while further research can guide these efforts, a substantial body of knowledge already exists regarding factors crucial to teachers' decisions about remaining in their current teaching positions.

These sources offer insights into the intricate relationships between teacher attrition, school size, and school climate, highlighting the need for further research to understand these dynamics fully.

Recommendations

Administrators

Garcia et al. (2023) argue that teachers perform one of the most important and demanding jobs in our society and play a crucial role in our nation's future. They should not be expected to do so for lower wages and at higher personal costs than their peers who choose other careers. If we want to attract smart, dedicated individuals to the profession and effectively address chronic shortages, it should not be the responsibility of teachers to ensure that their classrooms have pens, markers, staples, paper, and other essential supplies that their students need to learn.

To effect change and combat the teacher shortage, school administration must support teachers and provide them with the stage to voice their concerns and needs. Teachers must have adequate resources, teaching time, competitive salaries, and job security. Support must also be extended to future preservice teachers. Furthermore, if teacher education, retention practices, and efforts are not restructured to incorporate the experiences of those historically underrepresented, such as educators of color, the teacher workforce will not reflect the diversity of the student population it serves (McNeal & Lawrence, 2009). Hakanen, Bakker, and Schaufeli (2005) posit

that one promising strategy for addressing teacher turnover could be improving job resources and reducing burnout, which will increase teachers' commitment to their jobs. According to a study by Johnson and Birkeland (2003), new teachers thrive and are most satisfied when working with kids and their peers. If they don't interact positively with these people, they will probably move to a different school or quit teaching entirely.

Policymakers

Michael Allen (2002) argues that policymakers are not fully aware of the dire straits the U.S. educational system is facing. He argues that the very real scarcity of sufficiently qualified teachers in practically every state—whether widespread or limited to specific schools, districts, and subjects—becomes a far more pressing matter if legislators are persuaded that effective teachers are crucially important (Allen, 2002). While salary increases for teachers will not occur overnight, policymakers should examine the salaries teachers are paid, especially in light of the current economy. Inflation and the costs of everyday expenses are rapidly increasing, but the teacher salary has failed to keep up with the demands of everyday life. According to a report by the NEA, teacher pay has failed to keep up with inflation for over a decade. Policymakers should be more deliberate regarding teacher qualifications and the impact it has on student learning, achievement, and outcomes. Attrition deprives students of qualified teachers and consistently conducive learning environments to facilitate academic success. When these positions are filled with substitute teachers, this causes disruptions in the learning process, which hinders students' academic growth.

Mitigating the staffing hurdles in rural schools demands substantial commitment toward bolstering adept school leadership and management. Policy interventions wield the potential to shape myriad factors influencing teacher retention in these regions, with a focal point on school

administration. Contrary to prevalent assumptions, the primary catalysts for teacher turnover in rural schools aren't predominantly linked to class size reduction or salary/benefits enhancements, largely due to their hefty financial implications. Rather, concerns revolving around school administration, encompassing restricted classroom autonomy and inadequate involvement in overarching school decisions, surface as pivotal elements driving teacher turnover (Ingersoll & Tran, 2023).

Suggestions for Future Research

Based on the findings from this research, the following recommendations for research are below:

1. It is important to extend the current study across multiple school districts spanning a broader geographical area as this study only focuses on one urban setting and is not generalizable. Enlarging the scope to include more schools and participants would enhance the comprehension of teacher attrition challenges in the future.
2. This study should be replicated in diverse regions within the United States to validate its findings across different contexts.
3. Employing a mixed-method approach would offer a more comprehensive insight into the reasons behind teacher turnover. This methodology would facilitate the identification of themes among selected participants and enable a deeper understanding of trends observed in the quantitative and qualitative data collected.

Conclusion

The issue of teacher attrition is a multifaceted challenge that demands comprehensive solutions. As educators continue to leave the profession at alarming rates, the consequences are felt not only within schools but across entire communities. Annually, in the United States, a substantial number of teachers, approximately 8% of the overall teacher workforce, exit the

profession for a plethora of reasons (Sutcher et al., 2016). To mitigate this trend, it is imperative for policymakers, administrators, and stakeholders to address the root causes, such as inadequate administrative support, poor compensation, and high stress levels. Implementing strategies that prioritize teacher well-being, professional development, and retention incentives can cultivate a sustainable and vibrant teaching workforce, ensuring that every student has access to quality education and every educator feels valued and supported in their undeniably vital role.

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