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THE CAUSES, IMPACT, AND COST OF TEACHER TURNOVER

A MASTER'S THESIS
SUBMITTED TO THE FACULTY
OF BETHEL UNIVERSITY

BY

JENNY M. YOUNG

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF ARTS

APRIL 2018

BETHEL UNIVERSITY

THE CAUSES, IMPACT, AND COST OF TEACHER TURNOVER

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April 2018

APPROVED

Advisor's Name: Meghan Cavalier, Ed.D.

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Acknowledgements

Thank you to my advisor Meghan, husband Patrick, nanny Ashley, and coworkers Ann and Rachel for supporting, encouraging, and motivating me throughout the process.

Abstract

This literature review examines research studies regarding the causes, impact, and cost of teacher turnover in U.S. schools. Results indicate a strong association between schools with high teacher turnover rates and high rates of students of color. Teachers also report more dissatisfaction with the working conditions and school leadership in schools with high teacher turnover rates. Studies indicate high rates of teacher turnover can have a negative impact on both student achievement and school culture. Overwhelmingly, schools serving a high percentage of students of color bear the majority of this impact. Additionally, schools and districts consume valuable financial resources replacing the teachers that exit positions. Effective turnover reduction methods must address working conditions and provide teachers learning concerning race.

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CHAPTER I: INTRODUCTION

Introduction

The current United States teaching force is in jeopardy of a severe shortage of teachers. Every state is directing energy and efforts to issues related to teacher shortages (Watlington, Shockley, Guglielmino, & Felsher, 2010). It is commonly believed the shortage is caused by the combination of a large generation retiring, fewer college students seeking teaching degrees, and current teachers leaving the profession. However, research finds that teachers leaving the profession due to personal reasons or job dissatisfaction is now the primary issue contributing to the teacher shortage (Darling-Hammond, 2003; Ingersoll, 2001).

In a study of teacher turnover trends, Ingersoll (2001) found results indicating that retirement, a factor in any profession, accounted for only 27% of the teachers exiting the profession. Additionally, staffing directives accounted for about 12% of teacher exits (Ingersoll, 2001). Certainly, retirement is not the leading condition for teachers leaving the profession with 45% of the exiting teachers leaving the occupation early for personal circumstance or choice (Ingersoll, 2001).

Universities continue to generate an adequate supply of new teachers entering the profession each year. The number of new teachers produced each year should sufficiently replace the retirees and meet the nations hiring demands (Darling-Hammond, 2003; Shakrani, 2008). Yet, the number of teachers leaving the profession each year exceeds the number of new entrants (Darling-Hammond, 2003). Berry (2004) conveys that “keeping teachers is a far larger problem than preparing new ones and may be the fundamental solution to the teacher shortage problem” (p. 6).

Teachers are choosing to leave the field at an alarming rate. This turnover has continually increased over that last 30 years (Simon & Johnson, 2015). From 1998 to 2009, the teaching profession has seen a 41% increase of teachers leaving the profession each year (Ingersoll, Merrill, & Stuckey, 2014). Ingersoll et al. (2014) found that for the 2008-2009 school year, 9% of all teachers exited the profession (Keigher, 2010). Data shows new teachers exit at the highest rates. Researchers estimate that between one third to one half of new teachers leave the profession in the first five years of starting their career (Darling-Hammond, 2003; Ingersoll et al., 2014; Synar & Maiden, 2012; Watlington et al., 2010).

The excessive number of teachers leaving the field each year requires that they be replaced. This demand exhausts the pool of highly qualified teachers available to hire. However, exiting teachers is just a part of the teacher turnover problem. In addition to leaving the profession, teachers moving schools is a growing burden. When we include both teachers leaving the profession and teachers leaving a current position for another teaching job, the national teacher turnover rate is estimated at 16% (Barnes, Crowe, & Schaefer, 2007; Burkhauser, 2017). Teachers moving to new positions accounts for 50% to 60% of the total turnover (Johnson & Birkeland, 2003; Scafidi, Sjoquist, & Stinebrickner, 2007; Simon & Johnson, 2015).

Teacher turnover is becoming a serious concern. The incessant turnover of our nation's teachers is responsible for the perpetual need to hire highly qualified teachers at a greater rate than which they are produced. This constant replacement of and demand for teachers has an impact on the education system, staff, and students. Hiring and replacing teachers can be a costly undertaking that depletes district funds (Barnes et al., 2007; Watlington et al., 2010). Additionally, the constant exchange of teachers between schools impacts the achievement of the students (Ronfeldt, Loeb, & Wyckoff, 2013).

American schools face many obstacles in attaining equal education for its students. Evidence of this is most apparent in the nationwide racial achievement gap. In the racial achievement gap, white students outperform students of color on standardized tests. Likewise, teacher turnover affects schools disproportionately (Darling-Hammond, 2003; Ingersoll, 2001; Ingersoll et al., 2014). “In 2004-05, 45 percent of all public school teacher turnover took place in just one quarter of the population of public schools” (Ingersoll et al., 2014, p. 23). Public schools with higher rates of students of color experience teacher turnover at higher rates than other schools and, consequently, carry the bulk of the negative effects of teacher turnover (Barnes et al., 2007; Burkhauser, 2017; Grissom, 2011). Damage from teacher turnover is concentrated in the population of students of color (Ronfeldt et al., 2013; Scafidi et al., 2007). The inability to maintain highly qualified teachers for these schools is detrimental to student achievement and sustains the racial divide (Barnes et al., 2007; Grissom, 2011; Jackson, 2012).

Rationale

Education in the United States is at a pivotal point; making a teacher’s job exceptionally demanding. Policy makers debate the funding and effectiveness of federal and state school accountability systems. Teachers feel the burden of improving achievement outcomes while managing increased standardized assessments, classroom behaviors, and student mental health needs. The accelerated advancement of technology has drastically changed knowledge acquisition and social structures, challenging the timeworn structure of school. These needs and challenges of the current education system do not go unnoticed by teachers. The responsibility of holding the broken pieces of the education system together largely falls on classroom teachers, working daily to overcome the insufficiencies of the system.

The growing expectations of teachers, without accompanying aid, is affecting the health of the teacher workforce. Teachers are leaving the profession in greater number than they are entering (Darling-Hammond, 2003). “As is true in any field, excessive turnover is a symptom of serious problems within an organization, institution, or profession” (Shockley, Guglielmino, & Watlington, 2006, p. 113). The United States teacher turnover rates indicate there are systemic issues that need repair (Guin, 2004; Ingersoll et al., 2014).

High rates of teacher turnover are a threat to high quality education in the United States (Garcia, Slate, & Delgado, 2009; Shockley et al., 2006). Studies show that the teacher is a strong, compelling factor for increasing student learning and achievement (Berry, 2004; Johnson, Kraft, & Papay, 2012). Additionally, valuable knowledge and experience is lost as teachers exit, hindering improvement in schools (Jackson, 2012; Kraft, Marinell, & Shen-Wei, 2016). Using research to pinpoint the causes of teacher turnover, schools and policy makers can make decisions that will keep quality teachers in their positions. Reducing teacher turnover would alleviate the teacher shortage and help ensure access to effective teachers for all children (Ingersoll, 2001).

Addressing teacher turnover could help close the racial achievement gap. “Unequal access to educational resources, such as qualified teachers, has long been considered a primary cause of the stratification of educational opportunity and, in turn, the achievement gap” (Ingersoll & May, 2011, p. 2). Research has repeatedly found that schools with higher rates of students of color have higher levels of teacher turnover (Barnes et al., 2007; Guin, 2004; Hanushek, Kain, & Rivkin, 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012; Johnson & Birkeland, 2003; Ronfeldt et al., 2013; Scafidi, 2007). Additionally, schools with higher turnover face greater difficulty in hiring qualified teachers (Barnes et al., 2007; Ingersoll,

2001; Watlington et al., 2010). Highly qualified, effective teachers are an important element of increasing achievement for racially diverse students (Johnson et al., 2012). Teacher turnover in high-need schools is a prevailing obstruction to student achievement and overall school improvement. Ensuring all schools have adequate teaching staff is one way to establish equal opportunity for students to succeed.

Furthermore, increased teacher turnover also has increased financial costs. Hiring, training, and replacing more teachers requires a portion of the monetary budget (Watlington et al., 2010). Additionally, funds spent on training teachers who soon leave the system are wasted. Gaining control of turnover rates will lessen costs for the hiring process allowing funds to be applied toward other needs. Reducing turnover will also keep the human capital gained through expensive training and professional development within the system.

Definitions of terms

Specific terminology used in this paper is defined in relation to the subject. Throughout the paper *teacher turnover* and *turnover* refers to anytime a teacher leaves their current teaching position, often requiring a replacement. This includes both teachers who leave the profession and teachers who continue to teach in a different school, district, state, or role. “From the viewpoint of those managing at the school-level, ... [both] ... have the same effect: in either case it results in a decrease in staff, which usually must be replaced” (Ingersoll, 2001, p. 16).

The student and teacher demographic of race is closely examined in relation to teacher turnover data. The terms *students of color* and *teachers of color* are used to identify students and teachers who are not racially identified as white. *Black* is used to identify persons who are African-American and *Hispanic* is used to identify persons of Latin American descent.

Much of the research surrounding teacher turnover pairs the characteristics of race and poverty level. While both have strong indications for teacher turnover, race and poverty level are prominent factors considered in education research. References to *high-need*, *hard-to-staff*, or *disadvantaged schools* in this review refer to schools that have higher rates of students of color and higher levels of poverty.

Multiple aspects of a school's organizational structure make up the complex term of working conditions. *Working conditions* includes both the tangible job aspects of time, money, resources, and facilities as well as the psychosocial job aspects of culture, management, collegial relationships, professionalism and support. This paper emphasizes the working condition of school leadership. The term *school leadership* includes principals, administrators, and other persons with the jurisdiction to manage teaching staff and regulate school policies.

Research Questions

With teacher staffing concerns threatening student achievement, the closing of the achievement gap, and school funds, knowledge of teacher turnover is required to pursue a solution. This paper focuses on the causes, impacts, and costs of teacher turnover and provides research-based recommendations for reducing teacher turnover.

This research review is guided by three questions. First, what are the causes of teacher turnover? The focus is on two prominent and widely discussed contributors of teacher turnover: student characteristics and working conditions. Through research, this author seeks to uncover systemic factors that predict higher rates of turnover among teachers. There is a strong focus on race; as it is increasingly important to humanize and call attention to the impact our education system has on students of color.

Second, what is the impact of teacher turnover? Specifically, how does teacher turnover impact student achievement and the school culture? While student achievement is the primary concern, there are many ways that teacher turnover indirectly affects student performance. It must be taken into consideration that teacher turnover affects remaining and incoming staff and therefore the school climate, curriculum, systems and structures.

Lastly, what is the monetary cost of teacher turnover? This literature review will investigate the financial implication of high rates of teacher turnover for districts and schools.

CHAPTER II: LITERATURE REVIEW

This literature review analyzes research on the causes, impacts, and costs of teacher turnover in the United States. Particular attention is dedicated to the relationship of race and student achievement with teacher turnover. Research for this review was acquired primarily through searches in the ERIC database. Additional research was sourced from Google Scholar. Search parameters for research publications mainly included articles that were peer-reviewed and included a link to the full text. Articles cited in this literature review were published between 2001 and 2017, apart from one earlier publication date used to convey groundwork on the body of research. Keywords and phrases used to identify relevant research included *teacher turnover*, *teacher retention* and *teacher attrition* in conjunction with *student achievement*, *cost*, *salary*, *working conditions*, and *race*.

Causes of Teacher Turnover

There are many factors that may cause teachers to leave their positions. Some are related to personal reasons such as child rearing, relocation or retirement (Hanushek et al., 2004; Ingersoll, 2001; Ingersoll et al., 2014). However, job dissatisfaction, working conditions, and other environmental considerations are a growing cause of teacher turnover (Ingersoll, 2001; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson et al., 2012). The available body of research investigates several elements that impact a teacher's decision to stay or leave their position. The current research employs a variety of data analysis methods and strategies to isolate causes attributing to the trends of teacher turnover. The reader should note that even with sound data and analytics, it is highly difficult to isolate and identify a direct cause of teacher turnover (Ronfeldt et al., 2013). Each individual in the teaching workforce may chose to leave their position for a different reason. Additionally, some teachers make their decision to leave

based on a combination of more than one reason. With the extensive number of possible causes and an enormous number of combinations, researchers can only seek to identify elements that strongly increase the likelihood of teacher turnover (Guin, 2004; Kraft et al., 2016; Ronfeldt et al., 2013). Therefore, isolating a cause and determining its degree of relevance in teacher turnover is an imprecise task. Knowledge of this challenge and the limitations of this task should be retained throughout the review.

Student Characteristics

In the search to identify a cause of teacher turnover, many studies examine the relationship between teacher turnover rates and the students that they teach (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ronfeldt et al., 2013; Scafidi et al., 2007). These researchers seek to find a correlation between the rates of teacher turnover and certain student demographics. While there are several student characteristics to explore, research has focused primarily on the characteristics of student achievement, poverty, and race (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Ronfeldt et al., 2013; Scafidi et al., 2007).

Researchers recognize that schools with low student achievement, high poverty, and high percentages of students of color highly correlate with one another (Berry, 2004; Ingersoll & May, 2011; Levy, Joy, Ellis, Jablonski, & Karelitz, 2012; Ronfeldt et al., 2013). Schools that have one of those characteristics also have a higher likelihood of the other two (Guin, 2004; Hanushek et al., 2004; Scafidi et al., 2007). This makes it challenging to determine if just one of these characteristics is a cause of teacher turnover versus the others. Race and poverty level are not synonymous and should not be used interchangeably, however, many studies marry these

terms together because the findings on poverty closely match those about race (Grissom, 2011). This review will focus on the characteristics of student race and student achievement.

Race.

In 2004, Guin conducted a study analyzing the impact of teacher turnover in urban elementary schools. The data was collected from 66 elementary schools within a large urban district that is racially and economically segregated (Guin, 2004). Guin examined teacher turnover rates in relation to student racial demographics, student performance and school climate. Teacher turnover rates were determined from annual state-mandated school data that indicates the education level, years of experience, and number of certified teachers in a school as of October each year. Student data was gathered from a statewide database. Analysis found a district average teacher turnover rate of 19%. However, turnover rates for individual schools ranged from 7% to 36% (Guin, 2004).

To account for the sizable range of turnover rates for individual schools, Guin (2004) compared individual school turnover rates with the percentage of students of color in the school. Guin found that schools with a higher percentage of students of color also had a significantly higher teacher turnover rate. The positive correlation of teacher turnover rates and students of color is echoed in multiple studies.

Ingersoll et al. (2014) completed an analysis on the changes in the teacher force from 1987 to 2012 using data from the National Center for Education Statistics' Schools and Staffing Survey (SASS) and Teacher Follow-up Survey (TFS). The SASS, conducted by the U.S. Census Bureau, is completed by a large nationally representative sample of teachers and "is the largest survey of public, private, and Bureau of Indian Education (BIE)-funded K-12 school districts, schools, teachers, and administrators in the United States today" (Keigher, 2010, p. B-2). The

TFS is administered the following year to a subset of the original participants (Keigher, 2010). From 1987-2012, the SASS and TFS were conducted seven times. Ingersoll et al. (2014) compiled the SASS and TFS data and found the relationship between teacher turnover rates and the rates of students of color in a school is a recurring trend in the teaching profession.

In a 2007 study, Scafidi et al. analyzed how wages, student test scores, student poverty, and the number of Black students in a school relate to a teacher's choice to stay or leave their teaching position. Using data from the Georgia Department of Education and Georgia Department of Labor, Scafidi et al. tracked 11,070 teachers across the state of Georgia over seven academic years. This study used teachers who began their teaching career before age 27 and between the years 1994 and 2001. These teachers started their career in a public elementary school in Georgia (Scafidi et al., 2007).

Scafidi et al. (2007) found 38% of teachers stayed in their original position throughout the study. Results of the study revealed that teachers who left their initial position for any reason, left schools with higher rates of poverty and Black students than those who stayed in their position for the duration of the study (Scafidi et al., 2007). This indicates a correlation between these characteristics and teacher turnover.

When Scafidi et al. (2007) isolated the number of Black students in a school from the other variables, it was found to be a statistically significant predictor for teacher turnover. While Guin (2004) established a connection between turnover rates and schools serving students of color, Scafidi et al. concludes noteworthy results that specify the number of Black students in a teacher's school was a powerful factor in their likelihood to leave their position (Scafidi et al., 2007). A study by Ronfeldt et al. (2013) confirmed that greater turnover occurs in schools with a higher rate of Black students.

Hanushek et al. (2004) investigated the factors contributing to teacher turnover in the Texas public school system. The study analyzed teacher job transitions between schools and districts. To determine motivation for teacher job movement, school characteristics were examined in addition to the factors of salary and four other conditions related to student characteristics: average student achievement score, percent of low income students, percent of Black students, and percent of Hispanic students.

The Texas teacher transition patterns revealed that teachers were most likely to leave their schools for a school with lower rates of Black students and lower rates of Hispanic students (Hanushek et al., 2004). Higher rates of Black and Hispanic students in a school resulted in an increase in the probability that a white teacher would leave the school (Hanushek et al., 2004). This pattern was prevalent throughout the data, even when controlling for the other conditions and district size. Data showed that as a whole, teachers who switched schools in Texas public schools moved to schools with a lower Black and Hispanic population (Hanushek et al., 2004).

Many additional research studies have found that schools with higher rates of Black students, Hispanic students or students of color in general are associated with higher rates of teacher turnover (Ingersoll & May, 2011; Jackson, 2012; Johnson et al., 2012). In a study of the link between principal influence and teacher turnover, Jackson noted that teachers were more likely to leave their position if they taught in a school with higher percentages of students of color. In another study, Johnson et al. used a statewide survey of school working conditions in Massachusetts to determine what factors are most prevalent in a teacher's decision to leave their position. Data revealed that teachers are more likely to plan to leave their position when there are higher rates of students of color in the school population (Johnson et al., 2012). Additionally, a

2011 study by Ingersoll and May affirmed that schools with higher rates of students of color experience higher rates of teacher turnover.

Scafidi et al. (2007), Hanushek et al. (2004), and Ingersoll and May (2011) all found an exception to this pattern. The majority of teachers in these studies are white (Hanushek et al., 2004, Ingersoll & May, 2011; Scafidi et al., 2007). According to the SASS, this is reflective of the United States teaching population with 82.7% of all elementary and secondary teachers in the United States identifying as white in 2011-2012 (Ingersoll et al., 2014). Therefore, the turnover patterns of white teachers drive the results of the analysis of teachers as a whole group. Scafidi et al., Hanushek et al., and Ingersoll and May isolated and analyzed patterns for the teachers of color in their studies, finding that teachers who are Black or Hispanic did not follow the same turnover patterns as their white peers.

Scafidi et al. (2007) initially found that the number of Black students was a significant factor in a teacher's decision to leave. The study then focused on Black teachers, who made up 16.7% of the teachers in the study. Further analysis of the transitions of Black teachers found Black teachers were less likely than the white teachers to move schools due to the number of Black students (Scafidi et al., 2007). Hanushek et al. (2004) found that Black and Hispanic teacher movement patterns tended to favor schools that had a higher population of their own race. Scafidi et al. and Hanushek et al. speculate this preference is possibly due to residential segregation, resulting in a Black teacher living much closer than a white teacher to a school with more Black students.

Ingersoll and May (2011) examined trends, patterns, and predictors of teacher turnover with a focus on differences between white teachers and teachers of color. The study examined how teacher turnover was influenced by several organizational conditions and related each of the

conditions to school characteristics and student demographics. This study used data from the SASS and TFS administered by the Census Bureau to a nationally representative sample of teachers (Ingersoll & May, 2011). The TFS is a supplemental survey given to a subset of the sample one year after the SASS.

Similar to Hanushek et al. (2004) and Scafidi et al. (2007), Ingersoll and May (2011) also determined that teachers of color are more likely to teach in schools with higher percentages of students of color. Results indicated that “the demographic characteristics of the students appear[ed] to be nonfactors” (p. 42) for turnover of teachers of color. Additionally, when moving positions, teachers of color are also more likely to seek a position that serves a higher population of students of color (Ingersoll & May, 2011). However, teachers of color differed from their white peers in other ways as well. Ingersoll and May found that in all six year cycles of the SASS examined, turnover for teachers of color was higher than white teacher turnover. Ingersoll and May’s research indicates that while rates of students of color are strongly correlated with white teacher turnover, other factors are provoking teachers of color to leave their positions.

Levy et al. (2012) conducted a case study on the cost of teacher turnover in secondary schools in the Boston Public School system. The study analyzed data from 2004 to 2008 to determine turnover rates and costs. While the purpose of the research focused on turnover costs, they examined similarities and differences in schools with higher or lower rates of teacher turnover. Characteristics of the 10 schools with highest turnover rates and the 10 schools with the lowest turnover rates were compared. In this district, both the high turnover rate schools and low turnover rate schools had similar rates of white students and students in poverty (Levy et al., 2012). These results contend the aforementioned positive correlation between the percentage of students of color and teacher turnover rates.

Shockley et al. (2006) conducted their study in two school districts in Florida to pilot a tool for measuring the monetary costs of teacher turnover for school districts. Shockley et al. found that the school district with the higher rates of students of color had a lower rate of teacher turnover. These results again counter the vast body of research where results claim otherwise. Shockley et al. conclude this contradiction is due to the district's implementation of a district wide support program for new teachers. This program designed to retain new teachers appears to produce a lower turnover rate, even with higher rates of students of color (Shockley et al., 2006).

The precedingly mentioned studies all had consistent findings about the rates of students of color in relation to overall teacher turnover (Guin, 2004; Hanushek et al., 2004; Ronfeldt et al., 2013; Scafidi et al., 2007) and white teacher turnover (Hanushek et al., 2004; Ingersoll & May, 2011; Scafidi et al., 2007). These studies indicated that schools with higher rates of students of color had higher rates of turnover. Further examination of teacher turnover by race and studies completed by Levy et al. (2012) and Shockley et al. (2006) found results that counter these findings (Hanushek et al., 2004, Ingersoll & May, 2011; Scafidi et al., 2007).

Achievement.

A student characteristic relevant to an increase in the probability of a teacher leaving their position is the achievement level of the students. Guin (2004), Hanushek et al. (2004), and Scafidi et al. (2007) all unveiled a correlation between student performance rates and teacher turnover. Several studies found that schools with students who perform lower on standardized tests have a higher incidence of teacher turnover. Additional studies focused on the monetary cost of teacher turnover provide data supporting these findings (Barnes et al., 2007, Levy et al., 2012).

Hanushek et al. (2004) analyzed the achievement rates of students in relation to teacher turnover. The study revealed that in Texas Public Schools teachers moving schools transitioned to schools with higher student achievement rates (Hanushek et al., 2004; Hanushek & Rivkin, 2007). For teachers who moved, the average achievement score of the students in their new district was three percentile points higher than the previous school (Hanushek & Rivkin, 2007). Several scenarios of teacher movements were modeled in the analysis to control for factors such as school size and type. Results found that regardless of whether a teacher moved from an urban to suburban district, stayed in an urban district, or stayed in a suburban district, teachers were more likely to move to schools that had higher average achievement scores (Hanushek et al., 2004). In fact, Hanushek et al. (2004) state that “teaching lower achieving students is a strong factor in decisions to leave Texas public schools” (p. 347).

As noted, Scafidi et al. (2007) included student test scores in their teacher mobility study in Georgia. Scafidi et al. (2007) found that the schools that teachers left had lower test scores than the schools that had higher teacher retention. Collectively, the schools that teachers moved into had higher average test scores than the schools that teachers left (Scafidi et al., 2007). When test scores were analyzed with controls for other factors, lower achievement level was still associated with higher rates of teacher turnover (Scafidi et al., 2007).

A similar pattern emerged when Levy et al. (2012) examined characteristics of schools with high teacher turnover as compared to schools with low teacher turnover in Boston, MA. Between these two groups, there was a significant difference in the test scores of students on the standardized math test. The 10 schools with the highest teacher turnover rate all had a lower average standardized math test proficiency rate than the 10 schools with the lowest teacher turnover (Levy et al. 2012). When Guin (2004) compared school turnover rates in relation to

student performance on standardized tests, high turnover rates correlated with low performance scores in both math and reading.

These studies all conclude there is a significant connection to a school's achievement level and teacher turnover. Schools with lower achievement scores are more likely to encounter higher rates of teacher turnover, while schools with higher achievement scores are more likely to keep their teachers (Guin, 2004; Hanushek et al., 2004; Levy et al., 2012; Scafidi et al., 2007).

Working Conditions

There are many environmental factors that influence a teacher's career decisions. The varying degree to which the many conditions of the workplace meet a teacher's satisfaction play a role in their decision to stay or leave. Dissatisfaction with one or more of the working conditions contributes to the growing rates of teacher turnover and attrition (Ingersoll & May, 2011; Johnson et al., 2012). In the 2008-2009 school year, 13.1% of the nation's first year teachers left the profession with 45.3% of them stating that they left the profession because of dissatisfaction with their job (Ingersoll et al., 2014). Additionally, 42% of the teachers who left teaching after the 1990-1991 school year did so because of either dissatisfaction with the job or to pursue a better career (Ingersoll, 2001). In 2004-2005, the top reason given by teachers moving to another school was job satisfaction (Ingersoll & May, 2011).

The working conditions of a teacher's job can range from physical and resourceful to social and emotional. Researchers examined a variety of school working conditions to determine if they are a cause of teacher turnover. Johnson et al. (2012) completed a study in Massachusetts to determine the role that working conditions play into the decisions of teachers who leave a classroom position. This study used a sizable sample representative of all schools, districts, and teachers in the state. Data on teacher working conditions was sourced from the statewide

MassTeLLS survey. The research investigated the correlation between teacher turnover and nine working conditions: colleagues, community support, facilities, governance, principal, professional expertise, resources, school culture, and time (Johnson et al., 2012).

Results of the Johnson et al. (2012) study show that the working conditions of teachers play an important role in their employment choices and career plans. When each of the nine different working conditions examined in the study were ranked more negatively by teachers, there was also a stronger intent to leave their position (Johnson et al., 2012). Teachers who rated their working conditions positively, stayed longer in their positions (Johnson et al., 2012). The results indicate strong evidence of working contexts as a predictor of teacher turnover (Johnson et al., 2012).

Echoing previous studies, Johnson et al. (2012) found a strong relationship between the likelihood of teachers leaving schools with higher rates of students of color and poverty. The results also indicated that teachers were less satisfied with all nine previously mentioned working conditions if they worked in a school with high rates of students of color and poverty (Johnson et al., 2012). While it is impossible to completely separate student demographics and working conditions to draw precise conclusions and predictions about teacher satisfaction and turnover, Johnson et al. address this challenge. Cross analysis among teachers and schools with similar working environments was used to check for similar student demographic patterns (Johnson et al., 2012). Control models were also set up for student, school, and teacher characteristics.

Using these strategies, Johnson et al. (2012) found that matters of working conditions account for most of the well-recognized relationship between student characteristics and teacher turnover and satisfaction. As noted earlier, several studies point out the strong relationship between student demographics and teacher turnover rates as a possible cause of teacher turnover

(Hanushek et al., 2004; Ingersoll et al., 2014; Scafidi et al., 2007). Johnson et al. looked beyond this correlation and found that schools with more students of color and low-income students also have inferior working conditions.

In a literature review on turnover in high poverty schools, Simon and Johnson (2015) concluded that the foundational research on teacher turnover focused on student characteristics and ignored the organizational conditions of the school. Research that considers race and the working conditions in a school suggests that teachers leave due to the working environment rather than the students (Simon & Johnson, 2015).

Grissom (2011) confirmed these findings in a study on teacher turnover and principals in hard-to-staff schools. Using the 2003-2004 SASS and 2004-2005 TFS, Grissom found those teaching in schools with higher percentages of students of color feel less satisfied with working conditions in their school. Ingersoll and May (2011) also noted that schools with higher rates of students of color produced more negative views of school working contexts than schools with lower rates of students of color. Darling-Hammond (2003), Johnson and Birkeland (2003) and Ingersoll et al. (2014) identify this same trend: schools with higher rates of students of color also possess less desirable working conditions.

Multiple research studies assert that in schools with high percentages of students of color working conditions are much more likely to be the cause of higher teacher turnover rather than the race of students themselves (Darling-Hammond, 2003; Grissom, 2011; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson & Birkeland, 2003; Johnson et al., 2012; Simon & Johnson, 2015). These findings about school working conditions defend the positive correlation of teacher turnover with the student characteristic race seen in previous research (Guin, 2004; Hanushek et al., 2004; Scafidi et al., 2007) while offering an alternative explanation. The prevailing research

upholds that in schools with high rates of students of color, working conditions are a more prominent cause of teacher turnover than the students' race (Grissom, 2011; Johnson et al., 2012; Kraft et al., 2016). Additionally, teacher turnover rates are more sensitive to the working conditions of a school than the student characteristics (Johnson et al., 2012). Johnson et al. claim "if researchers do not account for differences in working conditions, they will overstate the importance of student characteristics" (p. 22).

Kraft et al. (2016) completed a large-scale study examining the effect of teacher working conditions on teacher turnover in New York City public middle schools. The New York City Department of Education administers an annual survey to staff, students and parents in the district. Kraft et al. used data from these surveys from 2008 through 2012 to determine teacher perceptions of four different working conditions: leadership and professional development, high academic expectations for students, teacher relationships and collaboration, and school safety. Thirty-three items were used from the survey in this study, which were answered using a four point Likert scale. This data was used in combination with human resources data to determine the relationship between changes in working conditions and teacher turnover rates. Similar to the Johnson et al. (2012) study, Kraft et al. (2016) found a negative correlation between all four of the study's working conditions and rates of teacher turnover. Schools that ranked high in the areas of leadership, expectations, relationships or safety had lower rates of turnover (Kraft et al., 2016). Each condition was independently associated with teacher turnover and when compounded, the impact was even greater. Kraft et al. also found that if a school increased the quality of the four conditions studied, the turnover decreased. Ingersoll and May (2011) describe the same pattern of turnover with teachers of color. They found that working conditions of a school was the strongest predictor of a teacher of color leaving a position.

The work of Johnson et al. (2012) declared that the negative relationship between working conditions and likelihood of teacher turnover is not linear. When a teacher rates the school working conditions lower, there is a sharp increase in the likelihood of a teacher leaving (Johnson et al., 2012). These results reveal that “teachers are three times more likely to plan to transfer from schools with particularly poor conditions of work than are teachers whose work environment is of average quality” (Johnson et al., 2012, p. 30).

Some research on school working conditions has uncovered which types of working conditions have a greater impact on teacher turnover. Johnson et al. (2012) found that the working conditions that were of most importance to a teacher were social in nature. The three categories of colleagues, principal, and school culture were the strongest predictors of teacher turnover (Johnson et al., 2012). These categories are characterized by productive working relationships with colleagues, a principal who is a supportive and strong leader, and a school environment that operates with trust, respect, openness and shared commitment to the school values. The combination of these three social conditions were twice as indicative of teacher turnover compared with the availability of resources and appropriate facilities (Johnson et al., 2012).

Johnson and Birkeland (2003) completed a project following 50 new teachers in Massachusetts for four years. They tracked teacher movements and collected data to determine what elements teachers sought in a school. Poor working conditions were prominently cited by participants as reasons to leave (Johnson & Birkeland, 2003). Among them, a chaotic and unsupportive culture. Johnson and Birkeland identified the optimal working conditions teachers sought and also reported that the majority of them were socially based. According to their research, ideal working conditions include balanced and appropriate work assignments,

colleagues who share and encourage, school-wide practices that focus on students, and a fair and actively engaged principal (Johnson & Birkeland, 2003).

Guin's (2004) study in urban elementary schools used data from a School Climate Survey conducted by the school each year. This data revealed a negative correlation between teacher turnover rates and all six climate measures on the survey: school climate, teacher climate, principal leadership, teacher influence, feeling respected, and teacher interactions (Guin, 2004). Schools with higher rates of turnover scored below average on school climate measures (Guin, 2004). In order to investigate climate related working conditions further, Guin conducted quantitative case studies in five of the schools. This study uncovered that schools with low levels of trust and collaboration among colleagues had higher rates of turnover (Guin, 2004).

Jackson (2012) conducted a study to determine if one aspect of school culture influences teacher turnover. Through use of the 1999-2000 SASS, Jackson used multinomial linear regressions to analyze the impact that perceptions of teacher influence in a school held by teachers and principals has on teacher retention. Jackson (2012), Ingersoll (2001), and Ingersoll and May (2011) found the greater influence teachers feel they have in school policy and decision-making correlates with an increased probability of teacher retention. Teachers who felt they had little influence in their school were more likely to move to another school or leave the profession (Ingersoll, 2001; Ingersoll & May, 2011; Jackson, 2012). Jackson advises that schools with a culture that attributes more influence to teachers will have more stable employment of teachers. These results focus on the detail of perceived influence in a school, but serve as a proxy for the working conditions of school culture and educator relationships (Jackson, 2012). The findings make clear that there is a connection between the perceptions held by teachers about their school environment and their decisions to stay, move or leave their teaching positions.

Salary.

The teaching profession is well-known for being a low paying profession. Teacher salaries are generally lower than other college-educated professions and have not increased at a comparable rate (Darling-Hammond, 2003). Characteristically low salaries contribute to the health of the teaching force (Berry, 2004). Salary is an inherent working condition to consider in teacher turnover research, as it “is an important symbolic measure of the importance a society places on the work one does” (Kelly, 2004, p. 197).

Ingersoll and Rossi (1995) used data for the 1990-1991 SASS and 1991-1992 TFS to determine contributors of teacher turnover. Ingersoll & Rossi found a higher rate of turnover in small schools and private schools. These schools also had lower wages and fewer benefits (Ingersoll & Rossi, 1995). In the TFS, 17% of the private school teachers who left the profession cited low salary as one of the top three reasons for leaving (Ingersoll & Rossi, 1995). As a whole, larger schools had a higher average salary than smaller schools and offered more benefits to their teachers (Ingersoll & Rossi, 1995). These findings led Ingersoll and Rossi to have confidence that the relationship between salary, benefits and teacher turnover are intertwined. Ingersoll (2001) completed a study that used data from the SASS to examine how the organizational conditions of a school interact with teacher turnover. Ingersoll found that three-fourths of small private school teachers claim salary as their prominent reason for leaving. Hanushek and Rivkin (2007) also confirm that private school salaries are lower than public school salaries nationwide.

Ingersoll (2001) and Scafidi et al. (2007) revealed lower teacher salaries were associated with higher rates of teachers leaving their position. The participants who moved or left schools had lower salaries than those who stayed in their position (Scafidi et al., 2007). Ingersoll notes

that teachers migrating to new schools cited salary as one of the primary reasons for their movement. In addition, Grissom (2011), Ingersoll (2001), Ingersoll and May (2011) and Jackson (2012) reveal that teachers who are paid a higher salary are less likely to leave their position.

Garcia et al. (2009) completed a study on the connection between teacher salary and teacher turnover in the state of Texas. Data from the Texas educational database was analyzed for three school years: 2003-2004, 2004-2005 and 2005-2006. Findings were consistent across all three years of the study with evidence of a statistically significant relationship between average teacher salary and turnover rates (Garcia et al., 2009). Through this analysis, Garcia et al. determined that salary accounts for 20% of the turnover in Texas.

Garcia et al. (2009) also examined the difference in turnover for the lowest and highest paying districts in Texas. Turnover rates were compared for districts in the bottom quartile and the top quartile for average salary. Turnover rates were nearly twice as high in low paying districts than in high paying districts for each year of the study (Garcia et al., 2009). These results indicate that salary has a significant impact on teacher turnover rates (Garcia et al., 2009).

Hanushek and Rivkin (2007) also used data from Texas public schools to investigate the relationship between salary and teacher turnover. The data used included elementary and middle school teacher movements and the salary before and after the move. The study found teachers who moved districts and had less than 10 years of experience gained an average of 0.4% in their salary by moving to their new position (Hanushek & Rivkin, 2007). Hanushek and Rivkin estimate this to be around \$100. When looking specifically at the subset of teachers who moved from urban districts to suburban districts, teachers took a decrease in salary of 0.7% (Hanushek & Rivkin, 2007).

Hanushek and Rivkin (2007) argue that if other factors are equal, teachers will gravitate toward higher paying positions. Therefore, it is not likely that teachers moving from urban to suburban districts seek lower salaries, rather they find that improved working conditions are more valuable than a salary increase (Hanushek and Rivkin, 2007). Researchers observed greater changes in student characteristics and working conditions than salary when teachers switched schools, concluding “salary affects mobility patterns less than do working conditions” (Hanushek & Rivkin, 2007, p. 82). Hanushek and Rivkin estimate in order to incentivize teachers to stay in urban schools with poor working environments, it would require a salary increase of 25% to 43% for female teachers in their first five years of teaching or a 10% increase for males. At these rates, salaries would begin to offset the impact of the working conditions on teacher turnover.

Kelly (2004) completed an event history analysis of the 1990-1991 SASS and 1991-1992 TFS to determine the effect of salary on teacher attrition. The event history analysis focused on when in their career a teacher was most likely to leave their position. This analysis found that salary has some effect on teacher turnover; higher salary is associated with slightly lower teacher attrition (Kelly, 2004). Kelly found that a salary increase of \$4,000 will increase the probability of a teacher staying in their position by 3.8% for the first 10 years of their career, 4% in years 11-20, and 4.4% in years 21-30.

Kelly (2004) and Darling-Hammond (2003) note that the strongest effect of salary occurs early in a teacher’s career, also when the likelihood of leaving the profession is at the highest. Kelly’s analysis found salary had a minimal impact on teacher turnover later in a teacher’s career and no impact from career years 30 to 35. Overall, the impact of salary on teacher turnover was small (Kelly, 2004). Kelly affirms that other factors specific to individual teachers have a much

greater effect on a teacher's decision to leave than school-level or district-level policies, like salary.

Contending Kelly's conclusions, Darling-Hammond (2003) writes that salary is one of the primary working conditions that lead teachers to leave their position. Through a broad lens, Darling-Hammond finds that salary is just as important as other working conditions when a teacher is deciding whether or not to leave a school. Looking more closely, this work reveals that salary is of greater concern to teachers leaving affluent schools while working conditions are the primary complaint of teachers leaving low-income schools (Darling-Hammond, 2003).

In many cases, salary is not the only factor driving a teacher to depart. Similar to Kelly (2004), Hanushek et al. (2004) found that other reasons rank above salary. Hanushek et al. state that "results show that teacher transitions are much more strongly related to student characteristics than salary differentials" (p. 328). However, many researchers found evidence of salary impacting turnover while controlling for school and student characteristics (Ingersoll, 2001; Ingersoll & May, 2011; Jackson, 2012; Scafidi et al., 2007). Simon and Johnson (2015) argue that while "factors such as salary and work hours matter to teachers, working conditions that are social in nature likely supersede marginal improvements to pay or teaching schedules in importance" (p. 27).

School Leadership.

Johnson and Birkeland (2003) found that dissatisfaction with school administration was the most common reason for teachers to change schools. In New York City middle schools, Kraft et al. (2016) determined that of the four school working conditions studied, leadership was the strongest predictor of teacher turnover. The principal and fellow administrators are in an important position for retainment of teachers (Burkhauser, 2017). They have control over many

of the working conditions within a school that can steer teacher satisfaction (Burkhauser, 2017; Johnson & Birkeland, 2003). Principal and teacher relationships and interactions also influence much of the culture in a school (Hughes, Matt, & O'Reilly, 2015; Simon & Johnson, 2015; Synar & Maiden, 2012). The principal is a persuasive factor in teacher turnover.

Jackson (2012) found that an increase in a principal's perception of their own influence led to an increase in teachers leaving the profession. The results did not indicate teacher perceptions of a principal's influence as a predictor of teacher turnover and the principal's perceived influence did not correlate with teachers moving schools (Jackson, 2012). A principal's own perception of their own influence has significance when teachers are determining whether or not to stay in the teaching field (Jackson, 2012). It is possible then that the principal's perception of their influence plays out through attitude or action and it then affects a teacher's perception of the teaching profession and their career decisions.

Burkhauser (2017) recognizes the high rates of teacher turnover in the United States and that school working contexts are a prominent cause of teachers leaving. Burkhauser (2017) completed a study to analyze the role that the principal of a school plays in a teacher's perception of their school working conditions. The study utilized data from the North Carolina Teacher Working Conditions Survey given biannually from 2006 to 2012. The voluntary survey asked teachers to rank four working conditions: teacher time use, physical environment, teacher empowerment/school leadership, and professional development. Burkhauser (2017) used value added modeling to determine if these working environment perceptions could be attributed to the principal in leadership.

Results of the study "suggest that the individual principal matters when it comes to a teacher's perceptions of his or her work environment" (Burkhauser, 2017, p. 137). Survey

rankings indicated that a higher perception of principal quality could return a higher perception on working conditions (Burkhauser, 2017). In one model, the increase of one standard deviation of principal quality perception was matched with a teacher time use perception of a student teacher ratio with seven less students (Burkhauser, 2017). This information supports the body of knowledge regarding school leadership as a significant factor in a school's working conditions and a teacher's decision to leave or stay in their position (Burkhauser, 2017; Ingersoll, 2001).

Grissom (2011) used data from the NCES 2003-2004 SASS and the 2004-2005 TFS to determine the effect principal quality has on teacher turnover. In Grissom's (2011) research, principal quality was determined by teacher rankings of several survey items. Teachers responded to the items favorably or unfavorably using a four point scale. Results affirmed that an increase in principal effectiveness corresponded with a decrease in the probability of a teacher leaving (Grissom, 2011; Kraft et al., 2016).

Grissom (2011) also found that "principals have a more positive effect on satisfaction in challenging environments than they do in the average school" (p. 2575). If an effective principal is placed in a school with a large percentage of students of color and underperforming students, they will positively impact teacher turnover more significantly than if they were placed in an average school. Grissom found that a more effective principal in a school with high rates of students of color, impoverished, and underperforming populations can counteract the low teacher retention that is characteristic of these schools. If a principal who is rated at least 1.5 standard deviations above the mean is placed in one of these schools, it can eliminate the disparity in teacher turnover rates with other average turnover rate schools (Grissom, 2011).

Simon and Johnson (2015) reviewed several studies about the impact of school leadership on a teacher's decision to leave. The research confirmed "that teachers' perceptions of their

principal are among the most important in teachers' career decisions" (p. 10). They determined the most valuable qualities desired of principals were effective management, fair and encouraging leadership, instructional support, and inclusive decision-making (Simon & Johnson, 2015). These skills should be sought and supported in principals of high-need schools (Simon & Johnson, 2015).

In seeking a cause of teacher turnover, research found a significant positive correlation between the percentage of students of color in a school and student achievement scores with teacher turnover (Guin, 2004; Hanushek et al., 2004; Scafidi et al., 2007). As a whole, teachers leave these schools at higher rates than others (Ingersoll et al., 2014). However, this correlation has not proven that students of color and underperforming students are causing teacher turnover (Ronfeldt et al., 2013). This information led researchers to pursue other theories for causation.

Newer research found school working conditions were a significant contributor to teacher turnover (Ingersoll et al., 2014; Johnson & Birkeland, 2003, Johnson et al., 2012; Kraft et al., 2016). Teachers leave schools where they are dissatisfied with their working conditions. While there are results indicating some importance of salary in a teacher's decision to leave, working conditions that are social in nature have a the most significant impact (Jackson, 2012; Johnson & Birkeland, 2003; Simon & Johnson, 2015).

Grissom (2011) and Johnson et al. (2012) both identify working conditions or school leadership as causes of teacher turnover that are especially powerful in underperforming schools and schools with higher percentages of students of color. Researchers repeatedly found evidence that students of color experience higher rates of turnover (Guin, 2004; Hanushek et al., 2004; Scafidi et al., 2007) and poorer school working conditions (Darling-Hammond, 2003; Grissom, 2001; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson & Birkeland, 2003; Johnson et al.,

2012; Simon & Johnson, 2015). The correlation between poor working conditions and schools with high rates of students of color and low student achievement explains the older theories of teacher turnover causes (Darling-Hammond, 2003; Grissom, 2011; Ingersoll et al. 2014; Johnson & Birkeland 2003; Johnson et al., 2012; Simon & Johnson, 2015). Johnson and Birkeland (2003) note in their study “the fact that Voluntary Movers found better working conditions in schools serving wealthier students highlights the problem of inequities in education” (p. 24). It is clear that the poor work environments causing teacher turnover and “the negative aspects of turnover’s impact are felt disproportionately in schools that serve large numbers of students of color and economically disadvantaged students” (Jackson, 2012, p. 877).

Impact of Teacher Turnover

Teacher turnover rates vary from school to school, however, research identifies schools with specific characteristics to have higher teacher turnover rates (Guin, 2004, Hanushek et al., 2004; Levy et al., 2012). Schools with higher teacher turnover rates have higher rates of poverty, students of color, and lower standardized test scores (Ingersoll & May, 2011; Ronfeldt et al., 2013; Scafidi, 2007). Therefore, students of color and students in poverty are most affected by teacher turnover (Guin, 2004; Jackson, 2012; Ronfeldt, et al., 2013). The high rates of teacher turnover that plague schools with underserved populations and poor working conditions, also have an impact on the level of student achievement (Ronfeldt et al., 2013).

Impact on Student Achievement

The correlation of high turnover rates with low student achievement in math and reading is a primary concern for the student population, particularly students of color (Guin, 2004; Levy et al., 2012; Scafidi et al., 2006). This correlation may or may not be indicative of cause, but is motivation to research the relationship further (Ronfeldt et al., 2013).

Ronfeldt et al. (2013) conducted a study on the effect that teacher turnover has on student achievement. The study was conducted using data from the New York City school system over eight academic years from 2001 to 2010. The study focused specifically on teacher turnover and achievement results in the fourth and fifth grade. Ronfeldt et al. analyzed the effect of teacher turnover in a single year and in a single grade level. The study used multiple analyses focusing on several teacher turnover variables to determine if each played a role in student achievement. Variables in the analysis included school type, school year, teacher experience, teacher effectiveness, and student test performance. Ronfeldt et al. repeatedly found that teacher turnover had a significant negative effect on student achievement in math and English language arts and big, small, new, and old schools. Teacher turnover continued to have a negative effect on student achievement when controlling the data for level of teacher effectiveness and experience (Ronfeldt et al. 2013).

Ronfeldt et al. (2013) found that teacher turnover had a negative effect on student achievement in classrooms that did not have a teacher removed or replaced. In schools that experienced a year of high turnover, student achievement dropped in the classrooms of teachers who stayed (Ronfeldt et al., 2013). Remaining teachers were more effective with their students before the large teacher turnover occurred in their school. Therefore, Ronfeldt et al. reason that teacher turnover has a disruptive effect on schools that, in turn, impacts student achievement. Ronfeldt et al. (2013) confirms that greater turnover occurs in schools with lower test scores and more Black students. Knowing these populations are already underserved, high rates of teacher turnover contribute negatively to the education of these students.

Research by Kraft et al. (2016) in New York City middle schools found that improvements to working conditions had a positive impact on both teacher turnover rates and

student achievement. In the study, after making improvements to school conditions over time, gains in student achievement emerged. This correlation was much stronger for scores in mathematics than English language arts (Kraft et al., 2016). Specifically, bettering school safety and order and raising academic expectations resulted in a significant increase in mathematics achievement as well as a reduction in teacher turnover rates (Kraft et al., 2016). With this study, Kraft et al. (2016) advocate that improved school working conditions will result in retaining more teachers and increased student achievement.

Hanushek and Rivkin (2007) used data from a school district in Texas to determine if teacher turnover affects student achievement. The study used fourth and fifth grade standardized mathematics test data from 1996-2001. Hanushek and Rivkin analyzed the average gains students made for the teachers staying in or moving from one urban district. When comparing the gains of students of teachers who stayed in their urban district position to those who moved to another district, no major change in student gains was observed (Hanushek & Rivkin, 2007). Students of teachers who left the profession had smaller student gains than teachers who stayed in the district. There was also evidence that teachers who switched schools within the district had significantly lower gains than students of teachers who stayed (Hanushek & Rivkin, 2007).

With varying results, Hanushek and Rivkin (2007) fail to make any conclusion on if teacher turnover harms student achievement. However, in this district, teachers who moved appeared to be less effective than teachers who remained in their position (Hanushek & Rivkin, 2007). The data does not reveal whether a less effective teacher was moving voluntarily or if it was a district staffing decision. It is also noted that this study measures student achievement by the individual teacher and not as a whole school, contrary to the study by Ronfeldt et al. (2013). Therefore, it does not measure if teacher turnover had an impact on achievement schoolwide.

Ingersoll (2011) concedes that some level of turnover in the industry is inevitable and natural. Barnes et al. (2007) and Adnot, Dee, Katz, & Wyckoff (2017) argue that teacher turnover can be beneficial to student achievement. If teachers leaving their positions are replaced with more effective teachers, then school productivity and student achievement could increase from teacher turnover (Barnes et al., 2007; Ingersoll & May, 2011). For a principal in a case study by Guin (2004), “turnover was a way to weed out the teachers she didn’t feel were effective” (p. 14). Barnes et al. acknowledge a low amount of turnover can be healthy for a school, but higher rates of turnover remain disadvantageous. For example, Ingersoll (2001) suggests that turnover rates above 25% will likely result in a negative impact on the school as an organization. Ronfeldt et al. (2013) contest that this viewpoint is too narrow; that the effects of turnover are evident beyond the classroom of an individual teacher. Ronfeldt et al. show that other students and teachers in the school are affected by high rates of teacher turnover. The study points out that “though there may be cases where turnover is actually helpful to student achievement, on average, it is harmful” (Ronfeldt et al., 2013, p. 32).

Adnot et al. (2017) completed a unique study examining the effects of teacher turnover on student achievement and teacher quality. In the 2009-2010 school year, District of Columbia Public Schools (DCPS) implemented a teacher evaluation program called IMPACT. The IMPACT program uses rigorous assessment components to annually evaluate individual teacher effectiveness. Teachers identified as highly effective are rewarded and teachers deemed ineffective are dismissed from the district. The IMPACT program protocols create one of the highest urban school district rates of teacher turnover in the country (Adnot et al., 2017). DCPS seeks to appropriate and guide teacher turnover to utilize it as a means for removing ineffective teachers and improving the overall teacher effectiveness in their district (Adnot et al., 2017).

Adnot et al. (2017) examined multiple teacher and student data points from the 2009-2010 through 2012-2013 school years. Adnot et al. (2017) design several models with and without assumptions to isolate the effects of teacher turnover on teacher quality and student achievement in DCPS. Results indicated a net increase in both teacher effectiveness and student achievement under the IMPACT program (Adnot et al., 2017). Adnot et al. (2017) found that replacement teachers had a higher average effectiveness score than the ineffective teachers that were removed. As a result, student achievement improved when ineffective teachers were removed and replaced with more effective ones (Adnot et al., 2017). There was no significant change in reading scores and a significant change in math did not occur until 2013 (Adnot et al., 2017).

Thirteen percent of DCPS most effective teachers voluntarily left each year. While this study did not examine the reasons for these teachers to leave, it did examine the effects of their departure. Adnot et al. (2017) found that the average effectiveness score of replacement teachers were lower than the average score of the highly-effective teachers lost. The loss of highly effective teachers resulted in a decrease in the quality of teachers and a decrease in student achievement (Adnot et al., 2007).

During this period, ineffective teachers left the DCPS district at a rate three times that of effective teachers (Adnot et al., 2017). With more ineffective teachers dismissed than highly effective teachers, “teacher quality is improving as a result of teacher turnover” (Adnot et al., 2017, p. 66). The teacher turnover in DCPS resulted in a small annual increase in teacher quality. Contrary to previous studies, these results indicate how to capitalize on teacher turnover to increase student achievement. While the achievement gains are not significant yet, over time it is likely to have a significant impact. “As long as DCPS continues to recruit more able teachers

than it loses, compositional change will likely lead to increased student achievement” (Adnot et al., 2017, p. 73).

Impact on School Culture

Ronfeldt et al. (2013) bring attention to the extended impact of teacher turnover. Teacher turnover can impact elements in a school beyond a singular classroom (Ronfeldt et al., 2013). Simon and Johnson (2015) remark on the varying and broad definitions of school culture used in turnover research. Researchers have included teacher satisfaction, student satisfaction, perceptions of leadership, parent engagement, and levels of order, trust, support, respect and shared commitment as elements of school culture that are impacted by teacher turnover (Simon & Johnson, 2015).

In addition to the correlational study on teacher turnover and school characteristics, Guin (2004) conducted a qualitative study to determine the impact that teacher turnover has on a school’s organizational capacity. Guin (2004) used data from a School Climate Survey conducted by the school each year. This data revealed a negative correlation between teacher turnover rates and all 6 climate measures on the survey: school climate, teacher climate, principal leadership, teacher influence, feeling respected and teacher interactions.

To investigate the impact of teacher turnover rates on the school climate further, Guin (2004) conducted quantitative case studies in five of the schools. Guin (2004) uncovered that high teacher turnover in a school coincided with lower levels of trust and collaboration among staff. This result was influenced by the school leadership and the constant need to assist new teaching staff (Guin, 2004). High turnover rates also impacted the school’s ability to maintain and implement a schoolwide instructional focus and comprehensive curriculum (Guin, 2004), impacting student achievement. Additionally, Guin (2004) identified how schools with high rates

of teacher turnover had a much smaller and less qualified pool of applicants for replacing teachers.

Johnson and Birkeland (2003) conducted a qualitative study on the experiences of new teachers in Massachusetts. The study followed 50 teachers, eight of which voluntarily moved to a different school after the first year. While the findings are from a small sample, the anecdotes from these teachers provide insight into underlying environmental causes for teacher turnover. Johnson and Birkeland (2003) found that lack of appropriate assignments, adequate resources, colleagues who share and encourage, school systems that support learning, and an actively engaged principal were all factors that influenced teachers when leaving.

Overwhelmingly, the temperament and support of school leaders was the primary factor that motivated teachers to switch schools (Johnson & Birkeland, 2003). School leaders are responsible for implementing the other environmental factors listed as reasons for departure (Johnson & Birkeland, 2003). This indicates that the principal and other school leaders can have a profound influence on the teacher turnover rates in a school.

Schools with high rates of teacher turnover are associated with higher rates of teacher dissatisfaction with the social conditions of their school community (Johnson et al., 2012; Simon & Johnson, 2015). High rates of teacher turnover weaken the collegial relationships necessary to promote healthy leadership and growth in teacher communities (Simon & Johnson, 2015). Ronfeldt et al. (2013) mention the unstable collegial relationships and distrust among staff as a detriment to student achievement.

This research reveals some of the impact that teacher turnover can have on student achievement and a school's culture. Ronfeldt et al. (2013) found that despite school size or teacher characteristics, high rates of turnover have a detrimental effect on math and reading

achievement scores. Adnot et al. (2017) and Hanushek and Rivkin (2007) introduced the consideration of teacher quality as an important variable in teacher turnover. Their work focused on how to capitalize on teacher turnover for the betterment of a school's teaching staff.

Ingersoll (2001) warns that high rates of teacher turnover are disruptive to a school community. Ronfeldt et al. (2013) discovered the impact of turnover permeates other areas of the school indirectly. High turnover weakens staff relationships and trust and damages the school community (Guin, 2004; Simon & Johnson, 2015). The substandard culture resulting from teacher turnover may lead to dysfunction in the organizational systems in a school (Ingersoll et al., 2014). Repeated teacher turnover slows teacher productivity and weakens instructional capacity (Johnson et al., 2012). This makes it difficult for schools to build up high quality curriculum and instructional programs (Johnson et al., 2012). The consequences to the school culture can also become causes of further turnover (Barnes et al., 2007; Johnson et al., 2012). "Repeated turnover thwarts the continuity needed to build sustained, trustful relationships among teachers, students, and families" (Simon & Johnson, 2015, p. 5). Then, poor working conditions become both a cause and symptom of teacher turnover (Barnes et al., 2007).

Monetary Cost of Teacher Turnover

Teacher turnover has monetary costs as well. "The cost of replacing exiting teachers places a drain on resources that could otherwise be expended more directly on student learning" (Jackson, 2012, p. 879). The National Commission on Teaching America's Future estimated the nation's turnover costs to be seven billion dollars for one school year (Shakrani, 2008).

There are several models used to estimate the monetary costs of teacher turnover for school districts. Watlington et al. (2010) conducted a study examining two different tools that are used to measure teacher turnover cost. The first tool is the School Turnover Analysis (STA) used

in 2006 by Shockley et al. (Watlington et al., 2010). The STA is a cost analysis tool designed specifically for educational institutions (Shockley et al., 2006; Synar & Maiden, 2012; Watlington et al., 2010). The cost of teacher turnover is determined by assessing costs in the categories of separation, hiring, and training.

Shockley et al. (2006) tested the STA in two school districts in Southeastern Florida: Broward County and St. Lucie County. Utilizing four years of data, the STA model found Broward County had an estimated cost of \$12,652 to replace a teacher and in St. Lucie County a cost of \$4,631 per teacher (Shockley et al., 2006; Watlington et al., 2010). The large difference in turnover cost between the districts was accompanied by a difference in turnover rates. Broward County retained 73% of their teachers over four years while St. Lucie retained 45% (Shockley et al., 2006; Watlington et al., 2010). Shockley et al. (2006) attribute the higher teacher replacement cost and lower turnover rate in Broward County to their New Educator Support System (NESS), a comprehensive program designed to mentor new teachers.

In 2012, Synar and Maiden completed a study using the Teacher Turnover Cost Model (TTCM) designed by the National Commission of Teaching and America's Future to determine the costs of teacher turnover. The TTCM incorporates costs from the categories of separation, hiring, training and performance productivity (Synar & Maiden, 2012). Synar and Maiden (2012) used the TTCM tool to estimate the costs of teacher turnover in a study in an urban mid-sized district in the southern United States. By utilizing district data from 1999 until 2008, Synar and Maiden (2012) calculated an average cost of \$14,508.86 for each teacher who leaves the district. This district had a turnover rate below the national average (Synar & Maiden, 2012). The findings in Synar and Maiden's (2012) study aligned with the results of the Shockley et al. study

of Broward County in Florida. In both districts, their costs for teacher replacement were similar and both implement a comprehensive induction and mentoring program for new teachers.

Synar and Maiden's (2012) research points out that a large portion of turnover costs, 89.07%, are spent on training and performance productivity. These costs are not often considered in district budgets and may be overlooked by districts (Synar & Maiden, 2012; Watlington et al. 2010).

In 2007, Barnes et al. piloted a study using the Teacher Turnover Cost Calculator (TTCC) designed to estimate teacher turnover costs (Watlington et al., 2010). The TTCC makes estimations based on recruitment and training costs and does not incorporate the costs of employee separation or salary differential (Barnes et al., 2007; Watlington et al., 2010). The study focused on five public school districts of varying size from both urban and suburban regions. Barnes et al. conducted an in-depth examination of each district's teacher turnover trends and costs. Their turnover cost calculations included eight categories: recruitment and advertising, special incentives, administrative processing, training for new hires, training for first-time teachers, training for all teachers, learning curve, and transfer.

The cost of teacher turnover was estimated independently for each district (Barnes et al., 2007). Barnes et al. noted the challenge of inconsistent data collection systems in each district and recommended a streamlined process to allow for regular annual review of turnover costs. Researchers found that in the district with the most representative and complete data the cost of turnover per teacher was \$6,233 for the district and an additional \$3,642 for the school; a total of \$9,875 (Barnes et al., 2007).

The TTCC is an online calculator that can estimate the costs of teacher turnover by district and by school, while the STA can only estimate by district (Watlington et al., 2010).

Watlington et al. (2010) prefer to calculate costs by district, since that is where budgets originate. However, due to different rates of turnover for schools within the same district, a need to determine individual school costs exists (Barnes et al., 2007; Guin, 2004, Keesler & Schneider, 2010). Results of the study by Barnes et al. substantiate that schools with higher rates of students of color and lower achievement scores have greater rates of turnover. Within the same district, Barnes et al. found that a high performing school and a low performing school of the same size spent a difference of \$67,000 in turnover costs. Schools with low student performance and high rates of students of color spend a much greater amount of their resources on turnover (Barnes et al., 2007).

There are several models and tools designed for determining the monetary costs of teacher turnover. Barnes et al. (2007) made their TTCC available to all education personnel and members of the public online. These tools vary or may overlap in the factors they consider when determining costs. To utilize teacher turnover costs on a widespread scale, the measurement of teacher turnover costs should be standardized (Levy et al., 2012). With a clear and accepted measurement of teacher turnover costs, schools and districts can utilize the estimates to make changes that will reduce the rate of teacher turnover in their schools.

CHAPTER III: DISCUSSION AND CONCLUSION

Summary of Literature

The threat of a teacher shortage (Darling-Hammond, 2003; Ingersoll, 2001) and the increase of teacher dissatisfaction (Ingersoll & May, 2011; Johnson et al., 2012) has led to a need to research the causes, impact and cost of rising rates of teacher turnover. This review focused on existing research examining student characteristics and working conditions as possible causes of teacher turnover. It also included the impact of teacher turnover on student achievement and school culture and the estimates of the monetary costs of teacher turnover for schools and districts nationwide.

This review focused on the student characteristics of race and achievement. The studies discussed repeatedly indicated that high rates of students of color (Barnes et al., 2007; Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012; Johnson & Birkeland, 2003; Ronfeldt et al., 2013; Scafidi et al., 2007) and low performance on standardized tests (Barnes et al., 2007; Guin, 2004; Hanushek et al., 2004; Keesler & Schneider, 2010; Levy et al., 2012; Scafidi et al., 2007) are both strong indicators of a school with higher teacher turnover. Studies that examined teacher transfer reported that on average, teachers who change schools move to schools that have higher percentages of white students and lower rates of students of color (Hanushek et al., 2004; Johnson & Birkeland, 2003; Johnson et al., 2012). Examining individual race more closely, Hanushek et al., Ronfeldt et al., and Scafidi et al. all found higher turnover rates in schools with higher rates of Black students. Hanushek et al. also reported the same trend with the Hispanic student population, concluding “racial composition is an important determinant of both the probability of leaving the public schools entirely and the probability of switching district” (p. 347).

While numerous studies called attention to the connection between student race and teacher turnover, some research found exceptions to the pattern. Studies that factored in teacher race found that turnover rates drop when a teacher's race matches the race of most of their student population (Hanushek et al., 2004; Ingersoll & May, 2011; Scafidi et al., 2007). These findings expose that the correlation between high teacher turnover and students of color is largely representative of white teachers, who make up almost 80% of the teaching population (Ingersoll et al., 2014).

Multiple studies also correlate higher teacher turnover rates with lower student achievement scores (Barnes et al., 2007; Guin, 2004; Hanushek et al., 2004; Hanushek & Rivkin, 2007; Levy et al., 2012; Scafidi et al., 2007). Studies in Texas (Hanushek et al., 2004; Hanushek & Rivkin, 2007) and Georgia (Scafidi et al., 2007) found that when teachers transferred schools they moved to schools with higher average student achievement scores than the school they left. This correlation was consistent across data analysis research studies (Barnes et al., 2007; Guin, 2004; Levy et al., 2012; Scafidi et al., 2007).

There is ample evidence connecting student characteristics and student achievement to teacher turnover: teachers are more likely to leave schools with higher rates of students of color and underperforming students than the contrary (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012; Johnson & Birkeland, 2003; Johnson et al., 2012; Keesler & Schneider, 2010; Levy et al., 2012; Ronfeldt et al., 2013; Scafidi et al., 2007; Shakrani, 2008). However, the correlational and observational nature of the research makes it unclear if student characteristics or achievement are causing teacher turnover. The characteristics of race, poverty, and achievement in schools highly correlate with one another, making it dangerous to assume one or more is a cause of teacher turnover. Attempts were made using

statistical tools to isolate the impact of one characteristic in the data, nonetheless, the challenge created by the interconnectedness of these characteristics should be maintained.

The evidence of a strong relationship between student characteristics and teacher turnover brings enlightenment to the issue of teacher turnover, who is affected, and possible causes. The theory that schools with higher rates of specific student characteristics cause higher teacher turnover may be difficult to accept. Additionally, if student characteristics are causing teacher turnover, there is little within the realm of control for schools, districts, and policy makers to justly reduce turnover (Grissom, 2011; Simon & Johnson, 2014). In search of a solution, these results led researchers to consider other factors as causes of teacher turnover.

Many researchers identified a correlation between student characteristics and working conditions, prompting further exploration of the connection to teacher turnover (Grissom, 2011; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson & Birkeland, 2003; Johnson et al., 2012). Several studies conclude that the high correlation between student characteristics and working conditions discredits the theory of high rates of students of color and low achievement rates as a cause of turnover (Barnes et al., 2007; Grissom, 2011; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson et al., 2012; Simon & Johnson, 2015). Simon and Johnson (2015) found that “researchers who included both working conditions and race in their model found that working conditions explain away all or most of the relationship between student demographics and teacher turnover” (p. 10).

Unsatisfactory school working conditions were found as a prominent cause of teacher turnover (Darling-Hammond, 2003; Grissom, 2011; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson et al., 2012; Simon & Johnson, 2015). The wide range of working contexts studied all had some impact on teacher movement. Studies reveal that social and relational

working conditions are the highest priority for teachers and a strong predictor of teacher turnover rates (Jackson, 2012; Johnson & Birkeland, 2003; Johnson et al., 2012; Simon & Johnson, 2015). A common contention for teachers, research has also examined teacher salary in conjunction with teacher turnover rates. Researchers found higher salaries were associated with lower rates of turnover and lower salaries were associated with higher rates of turnover, especially in newer teachers (Garcia et al., 2009; Grissom, 2011; Hanushek et al., 2004; Ingersoll, 2001; Ingersoll & May, 2011; Jackson, 2012; Kelly, 2004; Scafidi et al., 2007). While there is a correlation between salary and turnover rates, it is minimal and far less impactful than social and relational working conditions (Hanushek et al., 2004; Kelly, 2004).

One especially influential working condition is school leadership. School leadership was repeatedly found to have a significant impact on a teacher's decision to leave their position (Burkhauser, 2017; Grissom, 2011; Jackson, 2012; Johnson & Birkeland, 2003; Kraft et al., 2016; Simon & Johnson, 2015). Teacher turnover rates are lower in schools with leaders who are supportive and empowering of the teaching staff (Jackson, 2012; Simon & Johnson, 2015). Due to the nature of the position, principals and administrators also have the ability to shape and control many of the working conditions in a school (Burkhauser, 2017; Johnson & Birkeland, 2003). This gives school leaders the capability to reduce teacher turnover in their schools by addressing unsatisfactory working conditions. Quality school leaders are even more effective when placed in schools serving higher rates of students of color, students in poverty and underperforming populations (Grissom, 2011).

Research shows that schools impacted most by teacher turnover are those that serve student populations with higher rates of students of color and lower achievement scores (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012;

Johnson & Birkeland, 2003; Johnson et al., 2012; Keesler & Schneider, 2010; Levy et al., 2012; Ronfeldt et al., 2013; Scafidi et al., 2007; Shakrani, 2008). Schools with high turnover also have inferior working conditions for teachers, which are experienced by the students as well (Grissom, 2011; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson & Birkeland, 2003; Johnson et al., 2012). These findings reveal that the population of students that is impacted the most by teacher turnover is already underserved. This disadvantage, coupled with the continual replacement of teachers, targets underperforming students and students of color, a population that needs highly qualified teachers the most.

High teacher turnover in a school has an impact on the staff and students that remain. The influence of teacher turnover on student achievement is a significant concern. Synar and Maiden (2012) note that it is likely that the “cost to students is incalculable” (p. 142). Ronfeldt et al., (2013) found that increased teacher turnover caused a decrease in student test scores in math and reading, while Kraft et al. (2016) identified improving working conditions in a school led to reduced teacher turnover and improved student achievement. Ronfeldt et al. also revealed important findings that teacher turnover impacts the achievement of students throughout a school, even if they do not experience turnover firsthand.

Teacher turnover also impacts student achievement indirectly through its negative effects on a school’s culture. Teaching staff relations are strained under the burden of continual replacement. Trust, respect, motivation and productivity all decrease with teacher turnover (Guin, 2004; Ronfeldt et al., 2013; Simon & Johnson, 2015). In turn, the poor leadership and working conditions that cause teacher turnover are reinforced, contributing to an unending cycle of exiting teachers (Barnes et al., 2007; Ingersoll, 2001; Johnson et al., 2012; Simon & Johnson, 2015).

Adnot et al. (2017) studied teacher quality in conjunction with teacher turnover. The research revealed that if an ineffective teacher is replaced with a teacher that is more effective, turnover can increase student achievement. However, the ability to capitalize on the benefits of teacher turnover is a luxury unavailable to schools who suffer from high teacher turnover rates. Schools with high rates of students of color and underperforming students struggle to attract and retain effective and qualified teachers (Adnot et al., 2017; Barnes et al., 2007; Berry, 2004; Darling-Hammond, 2003; Johnson et al., 2012). Due to higher rates of turnover and deficient working conditions, “schools that most frequently need to hire teachers have the smallest applicant pool on which to draw from” (Guin, 2004, p. 19). The positive aspects of turnover that low turnover schools benefit from are unattainable in most schools with higher percentages of students of color.

Teacher turnover also takes a toll on schools monetarily. Schools must hire and train each replacement teacher, consuming vital time, personnel, and financial resources. Each district and school allocates money differently, contributing to a wide range of costs. With higher turnover rates concentrated in schools with high rates of students of color, “turnover costs become a drain on already scarce resources that could otherwise be invested to improve teaching effectiveness and student growth” (Barnes et al., 2007, p. 5). Estimates on the cost for teacher turnover can range from around \$4,000 to \$14,000 per teacher (Barnes et al., 2007; Shockley et al., 2006; Synar & Maiden, 2012; Watlington et al., 2010). Barnes et al. (2007) points out that schools who invest heavily in teacher training and support will have a higher cost per teacher. However, the investment will likely pay off with lower turnover rates and a lower overall cost.

Professional Application

The research of the causes and impacts of teacher turnover brings to light several areas where schools, districts, and teacher training programs can focus efforts to reduce teacher turnover. On a large scale, the nationwide teacher shortage and increase of teachers exiting the profession is not due to a lack of new teachers (Berry, 2004; Darling-Hammond, 2003; Ingersoll, 2001) or an excess of retirees (Ingersoll, 2001; Shakrani, 2008; Watlington et al., 2010). Rather, it is a result of the inability of schools to retain teachers in their position and the profession. Therefore, to keep teachers in the profession, policy changes should address retention over recruitment (Synar & Maiden, 2012). Below are recommendations for implementing reforms to retain teachers and reduce the rate of teacher turnover based on the research in this review.

Focus on Specific Schools

Efforts to reduce teacher turnover should be focused at specific schools (Johnson & Birkeland, 2003). There can be a wide range of turnover rates at schools within the same district (Guin, 2004; Keesler & Schneider, 2010). Therefore, districtwide policies are likely to be too general for some schools and futile in others. The body of teacher turnover research makes it clear that schools with higher rates of students of color, poverty and underperformance on standardized tests have much higher rates of teacher turnover than other schools (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012; Johnson & Birkeland, 2003; Johnson et al., 2012; Ronfeldt et al., 2013; Scafidi et al., 2007). To retain teachers in schools with high turnover, resolutions must be designed to meet the needs of these schools and for this student population. Implementing universal teacher turnover reduction strategies would likely maintain the current divide between high turnover

and low turnover schools, perpetuating the racial achievement gap. Strategies planned to reduce teacher turnover in a school must keep the needs of that specific school at the forefront.

Focus on Race

There is a large differential between the race of our nations teachers and students. Barnes et al. (2007) indicate that in most of the schools they researched there was a significant difference between the percentage of students of color and percentage of white teachers in a school. In 2011-2012, Ingersoll et al. (2014) found over 80% of the nation's teaching force was white with 44% of the nation's students comprises students of color. It cannot be ignored that teacher turnover patterns also follow along racial lines. Research reveals that teacher turnover is more probable when the majority of students in the classroom do not reflect the race of the teacher (Hanushek et al., 2004; Ingersoll & May, 2011; Scafidi et al., 2007).

Teachers of color do not adhere to all the teacher turnover patterns. They are not as likely to leave schools with high percentages of students of color at higher rates, in fact, they are more inclined to teach in these schools (Hanushek et al., 2004; Ingersoll & May, 2011; Scafidi et al., 2007). These findings indicate that teachers of color play an important role in the teacher workforce: They seek and fill the positions that white teachers are chronically leaving. Students of color also benefit from having a teacher of color. Teachers of color serve as role models who also understand their racial and cultural differences (Ingersoll et al., 2014). With the help of recruitment programs, the percentage of teachers of color in the U.S. has "increased from 12.4 percent in 1987-88 to 17.3 percent in 2011-12" (Ingersoll, et al., 2014, p. 17). This impressive and celebrated growth for teachers of color is undermined by their higher than average turnover rates (Ingersoll & May, 2011; Ingersoll et al., 2014). Making changes to reduce teacher turnover will preserve the vital progress made with teachers of color in the field.

Strategies to reduce teacher turnover in schools with high rates of students of color must acknowledge the racial and cultural differences that are in play. Addressing this reality by increasing awareness of the complex history and construction of race in our society, especially for white teachers, is imperative to bridge the divide between teachers and students. Milner and Laughter (2015) convey that while most teachers have good intentions and want the best for their students, they lack explicit training for teaching students of color and in poverty. “Rather than blaming and criticizing teachers for the inability to empathize with their racially diverse students,” teacher education programs need to reform and provide in-depth study of race, poverty, and their intersection (Milner & Laughter, 2015, p. 350). Then, supported with knowledge based in racial context, teachers can identify and discontinue inequitable practices while promoting a positive racial identity in each student (Milner & Laughter, 2015).

Improve Working Conditions

Improving working conditions in schools with high turnover is likely the most effective way to retain teachers. Working conditions are shown to be a direct cause of teacher dissatisfaction leading to turnover (Darling-Hammond, 2003; Ingersoll, 2001; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson & Birkeland, 2003; Johnson et al., 2012; Kraft et al., 2016). Bettering the work environment for teachers can include assigning appropriate workloads, increasing salary and benefits, providing curriculum and classroom management support, and ensuring safety and acceptable facilities. Improvement on any working condition will likely produce a change in teacher turnover, however, conditions that are social in nature are more effective (Jackson, 2012; Johnson & Birkeland, 2003; Johnson et al., 2012; Simon & Johnson, 2015). As a highly relational profession, teachers seek a school culture that values the relationships and contributions of each staff member and has a strong foundation of mutual

trust, respect, and commitment (Johnson et al., 2012). Darling-Hammond (2003) summarizes the importance of strong relationships among staff in the teaching profession:

Good teachers gravitate to places where they know they will be appreciated; they are sustained by the other good teachers who become their colleagues; and together these teachers become a magnet for still others who are attracted to environments where they can learn from their colleagues and create success for their students. Great school leaders create great school environments for accomplished teaching to flourish and grow. (p. 11)

Improve Quality of School Leadership

While reform to any working condition will help reduce teacher turnover, efforts concentrated on improving the quality of school leaders are the most effective. In multiple research studies, the quality of leadership in a school was the working condition with the strongest impact on a teacher's decision to leave their position (Burkhauser, 2017; Grissom, 2011; Jackson, 2012; Johnson & Birkeland, 2003; Kraft et al., 2016; Simon & Johnson, 2015). An effective principal is especially influential at quelling turnover in high need schools (Darling-Hammond, 2003; Grissom, 2011). Good school leaders are actively engaged with the students, teachers, and other components of the school community (Johnson & Birkeland, 2003). Effective leaders provide instructional support to teachers as well as emotional and environmental support. (Hughes et al., 2015; Simon & Johnson, 2015). A study by Hughes et al. found that principals generally think they are giving more support than teachers perceive receiving. Therefore, school leaders should offer further support to teachers, beyond what they expect is needed.

The principal is also in position to oversee and manage the working conditions of a school, allowing them to make changes that keep teachers satisfied in their school (Burkhauser,

2017; Hughes et al., 2015; Johnson & Birkeland, 2003; Simon & Johnson, 2015; Synar & Maiden, 2012). One way that effective school leaders accomplish this is through a system to welcome and honor teacher input in decision making. Increasing teacher influence is associated with reduced attrition (Ingersoll, 2001; Ingersoll & May, 2011; Jackson, 2012). The principal also has the ability to influence the tone of the staff, promoting the healthy and positive social interactions teachers seek. Effective school leaders should promote non-punitive accountability to help create a supportive, trustworthy and productive school culture (Watlington et al., 2010). Other principal qualities desired of teachers in high poverty schools include effective management, a fair approach, encouragement, collaboration and communication (Hughes et al., 2015; Simon & Johnson, 2015).

Invest Money in Retention Strategies

Several research studies on the cost of teacher turnover reveal that there are substantial financial implications when a teacher leaves a position (Barnes et al., 2007; Shockley et al., 2006; Synar & Maiden, 2012; Watlington et al., 2010). While some level of turnover is normal and expected in any profession, high levels of turnover can be detrimental to a school monetarily. It is suggested that schools regularly estimate their teacher turnover rates and costs in order to determine if teacher turnover is an issue and how it should be addressed.

Barnes et al. (2007) provide the Teacher Turnover Cost Calculator (TTCC) free online for public use. The TTCC is accessible to all school leaders, staff, and community members at www.nctaf.org and provides turnover cost estimates at the school-level and district-level. Using this information, a school or district can create a profitable plan to invest in teacher retention. If districts allocate money for strategies that will reduce teacher turnover, they will in turn reduce their turnover costs. With effective strategies in place, districts can spend the same amount or

less on teacher retention strategies rather than on teacher turnover costs. Essentially, investment in teacher retention can be compensated for through the savings in teacher turnover costs (Barnes et al., 2007).

The study by Shockley et al. (2006) provided a successful example of this strategy. Florida's Broward County schools invested significantly in teacher induction and mentoring programs. While this increased the cost of turnover per teacher, it also greatly reduced their turnover rates. Broward County spent more money per teacher, however, their net turnover costs were lower due to the resulting low turnover rate. By investing in their teachers, districts can create supportive and agreeable working conditions that will keep teachers in their positions. This investment will stabilize and better the teaching force while simultaneously saving money for districts.

Limitations of the Research

Current research methods provide a challenge to identifying a specific cause of teacher turnover with certainty. When examining real life data, it can be difficult to find an experimental control given the innumerable variables concerned. It is implausible to create an experiment that accurately represents the many variables involved. Therefore, researchers observed and collected data on the diverse and inconsistent schools in existence. Each state, district, and school has unique factors that may alter findings from one study to the next. Researchers rely on these correlations and anecdotes in order to study teacher turnover. Correlational data analysis and qualitative case studies identify factors that have the greatest probability of influencing a teacher's decision to leave their position.

Analysts are also challenged by the close correlation between student race, achievement, and poverty rates (Berry, 2004; Grissom, 2011; Guin, 2004; Hanushek et al.,

2004; Ingersoll & May, 2011; Keesler & Schneider, 2010; Levy et al., 2012; Ronfeldt et al., 2013; Scafidi et al., 2007). Even when using models that isolate the variables, it can be difficult to study the impact of one without the other in order to determine causation. Kraft et al. (2016) was the only study to report implementation of a reverse causality test to verify results.

A similar limitation in determining the causes of teacher turnover and the impact it has on students and schools is that they are largely identical. Much like the chicken-and-egg dilemma, it is difficult for researchers to determine which came first. The evidence presented indicate working conditions and student achievement may cause teacher turnover while simultaneously being the consequence. Ergo, teacher turnover may be a cause of teacher turnover (Barnes et al., 2007). It can be difficult for research to untangle the causes and impacts when they are one and the same.

While many of the quantitative studies used ample-sized representative datasets, several studies acquired data from surveys. Simon and Johnson (2015) express that the nature of survey data is often “restricting researchers’ ability to probe teachers’ responses more deeply” (p. 25). Additionally, survey participants may not rate their responses accurately. Participants who are dissatisfied might overstate the conditions of their work, creating unreliable data (Johnson et al., 2012). Some research utilized the self-reported intentions of teachers staying or leaving rather than actual turnover data. Teacher stated intentions may or may not be analogous with their resulting actions (Jackson, 2012).

Implications for Future Research

With teacher turnover patterns following closely along racial lines, it is paramount that researchers investigate these ties further. More explicit experimentation must be done to pinpoint causation with more certainty and to determine the degree of responsibility race, poverty, and

student achievement level play in teacher turnover. However, the current data is clear in that students of color experience the education system differently than their white peers. This is also evident in the increasingly apparent achievement gap between white students and students of color. Does teacher turnover contribute to the achievement gap in education? Grissom (2011) suggests that teacher turnover is an important factor. The present teacher turnover research suggests there is more to this racial divide than simply achievement level. The racial divide in education is indicative of a need to understand the underlying social and cultural influences that may be impeding the success of a system with predominantly white teachers with students of color. Studying this sociological layer of teaching is becoming more and more vital.

Research shows that schools with more students of color experience more teacher turnover than schools with predominantly white students (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012; Johnson & Birkeland, 2003; Johnson et al., 2012; Ronfeldt et al., 2013; Scafidi et al., 2007). As a result, these schools struggle to find highly qualified and experienced teachers to fill their positions (Barnes et al., 2007; Berry, 2004; Darling-Hammond, 2003; Grissom, 2011; Guin, 2004; Jackson, 2012; Johnson et al., 2012; Scafidi et al., 2007). The research by Adnot et al. (2017) and Hanushek and Rivkin (2007) begin to address the element of teacher quality and effectiveness combined with teacher turnover. Further research should scrutinize the impact that teacher turnover has on teacher quality and its effect on the school, staff and students. This data would expand and enhance the sparse research on the impact teacher turnover has on student achievement.

Teachers in schools with higher rates of students of color also experience poorer working conditions (Darling-Hammond, 2003; Grissom, 2011; Ingersoll & May, 2011; Ingersoll et al., 2014; Johnson & Birkeland, 2003; Johnson et al., 2012; Simon & Johnson, 2015). New research

could inquire what role these conditions play into student satisfaction and achievement.

Additionally, what is the effect of multiple poor working conditions on teacher turnover and student achievement?

School working conditions are the primary cause of turnover that can be addressed (Simon & Johnson, 2015). There is a strong need for more information regarding healthy and satisfactory working conditions for teachers. Specifically, how the relationships and social working conditions in a school can be improved, developed and maintained (Johnson et al., 2012). How can school and district leaders create the most desirable conditions in a cost-effective way? This knowledge would expand the options for teacher retention strategies and programs.

The research on the impact of teacher turnover is thin. Schools can benefit from learning more about how teacher turnover affects the quality of teaching and learning. Additional research to add to the work by Ronfeldt et al. (2013) analyzing the effects of teacher turnover on the remaining students and staff would reveal the true impact. As noted earlier, turnover can be cause of turnover (Barnes et al., 2007). Much of the current research observes turnover impact isolated annually. Further analysis of repeated turnover can give a more detailed impression of the consequences in high-need schools.

Conclusion

Increasing teacher turnover rates in the United States is a growing detriment to the educational system in the United States. Research indicates turnover contributes to a shrinking teacher force and weakened school environments (Berry, 2004; Darling-Hammond, 2003; Ingersoll, 2001). Student achievement suffers directly and indirectly from the revolving door of teachers and school cultures are damaged (Guin, 2004; Ronfeldt et al., 2013; Simon & Johnson,

2015). The school conditions resulting from teacher turnover also perpetuate more turnover, creating a cyclical phenomenon (Barnes et al., 2007). Additionally, the negative effects of teacher turnover are concentrated in schools with high rates of students of color, impoverished, and low performing students (Guin, 2004; Hanushek et al., 2004; Ingersoll & May, 2011; Ingersoll et al., 2014; Jackson, 2012; Johnson & Birkeland, 2003; Johnson et al., 2012; Ronfeldt et al., 2013; Scafidi et al., 2007). This population is already underserved by the education system and struggles to secure the same quality education as their peers. Adding to the hardships of repeated and higher rates of teacher turnover further impedes student learning and widens the achievement gap (Barnes et al., 2007; Grissom, 2011).

The costs of teacher turnover are consuming funds that could otherwise be spent on supporting teachers and students (Barnes et al., 2007; Jackson, 2012). Without addressing the issues that cause teacher turnover, the education system will need to continually recruit and replace teachers on a regular basis at the expense of schools with meager funding. By strategically analyzing turnover trends and costs, districts and schools can reallocate these funds to support and retain teachers and simultaneously decrease turnover.

Inferior school working conditions and culture are the main cause of teacher turnover; specifically, the relational, social and administrative aspects. This is “the primary underlying problem - the manner in which schools are managed and teachers are treated” (Ingersoll, 2001, p. 24). Working conditions are an addressable problem and efforts to reduce teacher turnover must begin here. “Analyses suggest that when schools strengthen the organizational contexts in which teachers work, teachers are more likely to remain in these schools, and student achievement on standardized tests increase at a faster rate” (Kraft et al., 2016, p. 1439). With policies that value, respect, and support teachers, the education field will once again be an esteemed, desirable and

sustainable profession. A strong and stable teaching force will ensure all students the opportunity to thrive and flourish.

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