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Place-based Scholarship Program Design, Context, and Intergenerational Mobility:
A Case Study of the Kalamazoo Promise Scholarship Program

A dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy
at
Virginia Commonwealth University.

by
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Abstract

Earning a college degree correlates with achieving financial security. Thus, improving an individual's access to college is a key tactic used to mitigate poverty and foster intergenerational mobility. Despite the recognized value of higher education, earning a degree remains unattainable for many because of financial constraints. However, research definitively demonstrates that financial aid overcomes that obstacle. It also reveals that some program designs are more effective than others.

The Kalamazoo Promise is a place-based scholarship program that offers four-year, full-tuition scholarships to residents who graduate from a Kalamazoo public high school. It is characterized by first-dollar and universal eligibility features, which are fundamental to designs that promote upward economic mobility. Leveraging a rapidly growing body of knowledge that links context (place) to upward mobility, this study examined the relationships between the Kalamazoo Promise, the place where it is based, and intergenerational mobility.

My investigation focused on the interplay between the program design and its context. I examined changes, which emerged in the first five years after the program's inception, in four Kalamazoo City characteristics that correlate with mobility. The study revealed increases in residential and school segregation by race and class, intense income inequality, elementary school quality that continued to lag behind the quality in neighboring communities despite improvements in test scores, and a reduction in family stability. These findings suggest that in the first five years the Kalamazoo Promise did not produce impacts to the context, in direction or magnitude, to improve intergenerational mobility. In the future, longitudinal research and mixed methods studies could add richness to our understanding of the people and place. In addition, changes to school assignment policies, modifications to the promise program design, and adjustments to employer recruitment/enticement programs are proposed.

Place-based Scholarship Program Design, Context, and Intergenerational Mobility: A Case Study
of the Kalamazoo Promise Scholarship Program (KPSP)

I. Introduction

In a 2009 poll conducted for the Pew Research Economic Mobility Project, 85% of respondents said that their definition of the American Dream is earning a post-secondary degree and close to 90% indicated that access to a quality education is essential or very important to achieving intergenerational economic mobility (Haskins et. al., 2009). Regrettably access to post-secondary education is not equitable and reducing college costs is a major policy issue. In addition to fostering intergenerational mobility, increasing college enrollment is a key tactic for mitigating poverty and triggering economic growth (Deming & Dynarski, 2010; Dynarski, 2008; Haveman & Smeeding, 2006).

The Kalamazoo Promise Scholarship Program (KPSP) is the first local, privately funded place-based scholarship in the U.S. It is the initial investment in Kalamazoo's economic development plan and the program design is based on the premise that increasing the education levels of Kalamazoo residents will stem economic decline. In theory, attracting and building an educated workforce will help Kalamazoo City attain the long-term community-level goal of economic revitalization. To achieve this goal, increased access to post-secondary education through the elimination of financial barriers and the development of community institutions and culture that promote and support college attendance are required in the short- and medium-terms. I intend to focus on the intersection of program design and context—the characteristics of the community—in order to assess whether this location-based program is an appropriate and effective instrument to advance person-based as well as place-based outcomes.

The theoretical framework in my study extended the model of economic growth used in Kalamazoo by introducing “place” (context) into the analysis and drew a distinction between the two types of growth in economic assets: one at the city level and the other at the individual level. This study introduced a new strand of research that extended the literature on the theories of economic growth that emphasize human capital accumulation as the engine of that growth. Relationships between the KPSP and intergenerational mobility—the driving force behind the American Dream—were examined. A rapidly growing body of knowledge links context (place) to upward mobility and supports the belief that place matters. These findings were the foundation for my investigation of the interplay between the KPSP design and its context.

To uncover who benefited from this spatially targeted development program, this study examined the extent to which the KPSP influenced spatial inequality within the Kalamazoo public school district. Underlying structural arrangements such as enrollment and achievement patterns as well as lateral mobility and migration responses were examined at student, school, and neighborhood levels. Chetty et. al. (2014a & 2014b) contended that mobility is context-specific, varying across metropolitan areas and geographic regions in relation to five community characteristics that are both strongly and positively correlated to intergenerational mobility: less residential segregation, less income inequality, high-quality primary schools, greater social capital, and greater family stability. These characteristics—both before and after the implementation of the KPSP—were calculated and analyzed.

As a growing number of communities consider place-based scholarships as a means to improve K-12 student achievement and increase access to college, a key challenge will be to ensure that educational leaders and policy makers charged with designing and implementing these programs recognize that context matters and understand how program design and context interact.

II. Review of the Literature

The Value of a College Degree

Earning a college degree is seen as a way that individuals can improve their economic and social well-being (Healy & Côte, 2001). Education is the engine that drives upward economic mobility because as researchers attest, "attaining a college degree quadruples the likelihood that a child born to parents on the bottom rung of the income ladder will make it to the top" (Haskins, Holzer, & Lerman, 2009, p. 4).

Recent data show that in the U.S., the high school diploma rate for young adults age 25-34 is slipping relative to other countries. Global comparisons indicate that the US has the highest percentage of citizens with a postsecondary degree among 55-64 year olds; however, it falls to 10th place when comparing the postsecondary degree rate among 25-34 year olds (OECD, 2013). The impact of this trend is vivid when examining workforce education levels. In 1973, 72 percent of U.S. workers had a high school diploma or less. In 2009 that proportion was 42 percent and it is projected to fall to 38 percent by 2018. To qualify for 85 percent of 21st century jobs—those described as middle- and high-skilled—applicants need post-secondary education and training (Iriti, Bickel, & Nelson, 2010; Holzer & Lerman, 2009).

Moreover, studies suggest that education improves overall well-being by affecting job satisfaction, health, marriage, parenting, trust, and social interaction. While differences exist across race, gender, and age; on average, each additional year of post-secondary studies boosts median earnings by nearly 10 percent (Owens & Sawhill, 2013). Lifetime earnings premiums are projected to reach \$570,000 for graduates of four-year programs and \$170,000 for those earning Associate's degrees. Thus, workers who have Bachelor's (BA) degrees could reap close to a half-million dollar return on their investment of approximately \$102,000—the total of both

tuition and opportunity costs. In the three decades between 1972 and 2003, the earnings of college graduates remained stable while those of workers without a degree tumbled. In 1972 the income of men with Bachelor's degrees was 22 percent higher than those of men with only a high school diploma. By 2003 this gap nearly tripled reaching 60 percent (Deming & Dynarski, 2010). Of those who earn a college degree, white men benefit the most financially, followed by white women and women and men of color.

Obstacles to Obtaining a College Degree

Despite the recognized value of higher education, earning a college degree remains unattainable for many because of financial constraints, poor academic achievement, and social obstacles such as isolation by race or social class (Healy & Côte, 2001).

Financial barriers. Financial barriers prevent close to 50 percent of qualified low- and moderate-income students from attending a four-year college. In addition, many students who enroll in either two- or four-year colleges fail to graduate for financial reasons (Mundel, 2008). Access is further diminished because college costs have increased at a higher rate than inflation and salaries while state and federal support is shrinking. Subsidies to moderate costs at state institutions have been cut. Financial aid to individuals has been reduced and most dollars are made available as loans rather than scholarships and grants (Harris & Orr, 2012). Goldin and Katz (2008) conclude, “the combination of the high cost of college, credit market constraints, and student debt aversion leaves many youth from poorer and middle-income families behind in the pursuit of a college education” (p. 349).

Poor academic achievement. Using standardized high-stakes test scores as a proxy for achievement, many educators, parents, and policy makers bemoan failing schools and denounce the initiatives designed to remedy these issues. Although No Child Left Behind has not

improved the academic achievement of all students, the reporting requirements associated with that program highlight a large and intractable achievement gap between minority/non-minority and low poverty/high poverty students. The academic achievement of students in high poverty districts—as measured by their performance on the National Assessment of Educational Progress (NAEP) reading, mathematics, music, and art assessments—is weaker than that of students in low poverty districts (Aud, S., Hussar, W., Planty, M., Snyder, T., Bianco, K., Fox, M., Frohlich, L., Kemp, J., Drake, L., 2010).

Social obstacles. Educational outcomes differ noticeably between students in high- and low-poverty schools in the U.S. High School graduation rates and college enrollment are significantly lower for high-poverty schools. In 2007-08, 68 percent of 12th graders in high-poverty schools and 91 percent of 12th graders in low-poverty schools graduated with a diploma. Since the turn of the century the graduation rate in high-poverty schools has fallen by close to 20 percent while the rate in low poverty schools has been stable (Aud et. al., 2010).

College enrollment is also significantly different between categories of schools. Just over one-quarter of graduates of high-poverty schools attend a four-year institution as compared to more than one-half of graduates from low-poverty schools. Moreover, graduation from high school does not mean that a student is “college-ready.” Often students who attend high-poverty schools are less likely to have access to rigorous curricula and AP classes, tutors and mentors, or counselors or teachers prepared to guide them to a college prep program and hold them accountable for strong academic performance (Aud et. al., 2010). Only one-third of children from families in the lowest income quintile enroll in college and only a portion of those students actually graduate (Haskins et. al., 2009).

Despite substantial increases in enrollment over the last four decades, the number of students earning a degree has lagged (Turner, 2007; Deming & Dynarski, 2010). Turner (2007) found that the share of college graduates among those born in the late 1970s was lower than the share of graduates for those born in the late 1950s. U.S. Census data show that between 1968 and 2005, college attendance increased from just over one-third to almost three-fifths of 23 year olds. However, less than 60 percent of students who attend a four-year college graduate (Iriti, Bickel, & Nelson, 2010). Increasing educational opportunity and access are important first steps; however, driving persistence through to graduation is essential to advance economic mobility (Urahn, Currier, Elliott, Wechsler, Wilson, & Colbert, 2012).

Financial Aid: A Method to Improve Access to College

Varieties of initiatives sponsored by academic institutions, all levels of government, non-profit endowments and charities, or private businesses have been implemented in hopes of increasing interest in and alleviating the barriers to attaining higher education. Increasing college enrollment is a key tactic for mitigating poverty and reducing college costs is an effective tool employed by policy makers to make college more accessible (Deming & Dynarski, 2010; Dynarski, 2008; Haveman & Smeeding, 2006). Unlike dropout prevention, which provides human capital development for some individuals but shows limited effect on mitigating poverty, financial aid shows positive impact on human capital development and can be credibly linked to poverty reduction (Levine & Zimmerman, 2010). Moreover, economic studies comparing the efficacy of different childhood interventions designed to generate and support upward economic mobility reveal that financial aid produces one of the largest effects relative to the cost (Levine & Zimmerman, 2010).

In a meta-analysis of several dozen studies, Leslie and Brinkman (1988) found that a \$1,000 decrease in college costs was associated with a three to five percentage point increase in college attendance. Kane (1995, 2003) uncovered a four-percentage point increase and others as high as a six-percentage point increase in the rates of college attendance for every \$1,000 reduction in public tuition (Cornwell, Mustard, & Srinidhar, 2006; Deming & Dynarski, 2009; Dynarski, 2000; Dynarski, 2002a; Dynarski, 2002b). Most recently, Cardiff-Hicks (2013) identified a three-percentage point increase for every \$1,000 reduction in tuition in the California public college system. Using a difference-in-difference analysis, Dynarski (1999) determined that college attendance decreased by more than 33 percent when the Social Security Student Benefit program was terminated in 1982 after providing scholarships to students for close to two decades (Dynarski & Scott-Clayton, 2013).

In years past, public tuition subsidies were granted to state universities and colleges in order to hold tuition fees below actual costs and thereby increase access. However, since the 1980s, state support for higher education has shifted from institutions to students (Cardiff-Hicks, 2013; Dynarski & Scott-Clayton, 2013). Scholarships are one of two types of tuition subsidies directed to students. A scholarship is an award of financial aid for a student to further his or her education, which students are not obligated to repay. In contrast, students are obligated to repay loans when they leave college—regardless of whether they have earned a degree. This case study focuses on the Kalamazoo Promise Scholarship Program (KPSP)—a specific scholarship program.

The political variables that relate to policy development and implementation of scholarship programs include the characteristics of program structure in addition to selection and retention practices. In the U.S., scholarships have been used since 1643 when the first

scholarship was established at Harvard University. This long history affords us a robust body of research about the efficacy of different program designs as well as unintended consequences that emerge. For example, reducing scholarship award amounts in order to increase access by raising the potential number of recipients may advantage low-poverty students already planning to attend college while discouraging high-poverty students for whom the smaller amount does not provide sufficient resources to allow them to enroll or continue in college. The following sections more fully describe different design features, their impacts to efficiency, and their unintended outcomes.

Application process. A clear and simple application process significantly improves access. Dynarski and Scott-Clayton (2013) projected a seven to nine percent increase in students from families with incomes below \$50,000/year if the application process was less complex. Bettinger, Long, Oreopoulos, & Sanbonmatsu (2012) found that a simplified Free Application for Federal Student Aid (FAFSA) coupled with tax preparation from H&R Block increased enrollment by eight percent. They concluded, “Increases in educational attainment could be achieved at virtually no cost by making existing aid programs simpler and more transparent” (p. 299).

Award notification. Studies indicate that late award notification inhibits college going (Deming & Dynarski, 2010). Early notification about scholarships coupled with programs to build social capital help students think more about the future and how their school experiences and challenges connect with later success in life. Early commitments of financial aid are essential to students from low-income households because many feel that college is financially out-of-reach so they fail to adequately develop college readiness (Harris & Orr, 2012; Schneider, 2007). Awareness regarding the availability of financial aid improves pre-college performance

as evidenced by improved scores on AP exams in Texas (Jackson, 2010) and increases in ACT scores in Tennessee (Pallais, 2009).

Award amount. In general, the most important factor to students is the amount of tuition covered by the scholarship (Duffourc, 2006). Enrollment declines in Fall 2012 in Alabama, Arkansas, and Mississippi were directly linked to increased restrictions and reductions in the size of awards in Federal Pell Grants. In contrast, during the summer of 2009 when Pell Grants were made available year round, three-fifths of 35 institutions participating in a research survey experienced improved completion rates and increased enrollments for the duration of the extension (Kastinas, Davis, Friedel, Koh, & Grant, 2013). Award size has been shown to influence college selection. Large awards typically result in increased enrollment in colleges and universities that are both more selective and more expensive (Bangs, Davis, Ness, Elliott, & Henry, 2011). Finally, award amounts have been shown to have a significant effect on retention and completion (Iriti, Bickel, Nelson, & Kaufman, 2012). When scholarship awards are not sufficient to cover tuition and fees, students are often forced to take jobs that limit their availability and weaken their motivation. In addition, many of these students take on debt. Using the 1997 cohort of the National Longitudinal Survey of Youth researchers found that both genders experience slowing and even diminishing probabilities of graduating when carrying high levels of debt (Dwyer, Hodson, & McCloud, 2013).

Stipulations/conditions. Even so, research informs us that aid packages that require students attain certain academic standards and achieve certain milestones to maintain their scholarships, often referred to as performance-based scholarships, improve college performance, persistence, and completion as compared to aid offering access alone. In these programs, five-

year graduation rates increased by four percentage points and on-time graduation grew by nearly seven percentage points (Dynarski & Scott-Clayton, 2013).

Scholarships providing benefits for fewer than four to five academic years, calling for full-time and/or continuous student status, requiring matriculation in the academic year immediately following graduation, or limiting availability to a term not to exceed four or five years after a high school diploma was granted limit access or increase college dropout rates. Researchers found evidence that the scholarship programs increased the dropout rate in 1.4 percent of the programs studied. In two of the 14 states that required full-time enrollment the dropout rate increased between the first and second years returning to pre-scholarship levels after the second year (Binder & Gandurton, 2002; Duffourc, 2006).

Funding sources. Three of the most common scholarship funding sources include: public funding through tax revenues, public funding using alternate revenue streams like state lotteries, and private funding from donors or endowments. The program scope and award size are influenced significantly by inherent characteristics of each source. In general, scholarships funded by tax revenues or private donors/endowments tend to be more vulnerable in terms of grant amounts and perpetuity. Studies that reviewed legislatively funded programs in four states explained that these programs offered smaller awards to address two key issues. First, the legislators had to allocate and balance limited resources across other programs that had equal or higher priorities among the different members of their constituencies. Second, taxpayers grew reluctant to fund large-scale programs when they directly saw the costs and became aware of both the absolute magnitude and the accelerating escalation (Glaser, Aristiguita, & Miller, 2003). As such, differences among different state-funded scholarship program designs are explained by political and economic contexts (Duffourc, 2006). Privately funded scholarships are susceptible

not only to the financial position/viability of the donor or endowment, but also to their goals and values. On the other hand, large-scale full-tuition-through-graduation programs funded through state lotteries, which generate sufficient resources to underwrite all costs without using any tax revenues, do not face significant levels of taxpayer scrutiny or concern and thus far, seem to be less vulnerable (Duffourc, 2006).

Eligibility criteria. Scholarships are awarded based upon various criteria, which usually reflect the intentions and goals of the donor or founder of the award. These establish the population from which applicants are selected and facilitate the allocation of limited dollars among a large number of applicants. They are designed to provide financial support to individuals who meet specific requirements or fit into certain categories. For example, The American Society of Safety Engineers (ASSE) offers a scholarship to students majoring in occupational safety, health, and the environment. Eligibility requirements are applied to that universe to select those to whom the scholarship will be given.

Traditionally scholarships were awarded based the student's on need and/or merit. Recently, place has been used to establish eligibility. Each of these three criteria will be discussed below.

Need-based criteria. Need-based aid is distributed to students who are constrained by financial need but otherwise eligible to enroll in post-secondary education programs. Research provides evidence that need-based programs, Pell Grants and Stafford Loans in particular, have minimal effects on enrollment. These programs do not significantly improve access because of the student groups targeted. Like those two federal programs, most need-based programs are intended to serve students from low-income families who are often first-generation college students, English language learners, or minority students (Deming & Dynarski, 2010). In

addition, harsh judgments are frequently leveled against these financial opportunities, which are funded by federal or state revenues, because wealthier students do not have access (Duffoure, 2006). Nevertheless, research consistently cites the chief criticisms of state-funded across the board, merit-based scholarships as: high costs, benefits that disproportionately favor the affluent, and enrollment and retention outcomes below targets (Heller, 2006; Heller & Marin, 2004).

Merit-based criteria. Merit-based scholarships are typically awarded for outstanding academic achievements, strong SAT or ACT scores, athletic or artistic abilities, special talents, leadership potential or other behavioral characteristics such as attendance or service hours. Merit scholarships may be awarded without regard for the financial need of the applicant.

Programs without income thresholds disproportionately benefit students who are already advantaged because of the link between family income and academic achievement. They also increase racial disparities because a larger percent of white students qualify (Walters, 2007). Examining the impact that a state-funded broad-based merit-aid scholarship had on college attendance in Georgia, Dynarski (2002) found increases in college enrollment of 12 percent for white students and 11 percent for upper income students while enrollments of black and low-income students were either unchanged or reduced. This program, like more than one dozen other programs funded through state lotteries, proves to be regressive. The highest contribution, based on the number of winners, came from the 20 zip codes where annual household incomes fell below the state median while the largest number of recipients came from the 20 zip codes where annual incomes were 72 percent higher than the state median. This phenomenon is attributable in part to higher levels of social capital in the wealthier zip codes and in part to the

direct correlation of the merit/GPA requirement to higher household incomes (Deming & Dynarski, 2010).

Some public universities now use financial aid that is not need-based to attract students with strong academic records to boost the school's ranking or students from out-of-state who bring revenue to offset the loss of state support even though those recipients are not necessarily the best students. These practices shift support from the poorest students to the wealthiest. Analysis of U.S. Department of Education data from 1996-2012, which included a period of recession, uncovered a reduction in both the number and award size of grants from public colleges and universities to students in the lowest quartile of family income (Wang, 2013).

When considering their efficacy in increasing college access, merit-based scholarships have produced little effect on motivation and achievement in secondary students. They drive small increases in student achievement among whites near the cut off while simultaneously promoting small increases in dropouts among poor performing students. In addition, these aid packages offer students already planning to attend college an opportunity to enroll in better colleges and reduce debt (Bangs et. al., 2011; Walters, 2007).

Place-based criteria. In general, place-based investments direct resources, opportunities, and economic development toward a specific geographic region rather than groups of individuals. Place-based programs are policies based on economic principles with a primary purpose of fostering economic growth within a specific geographic area. Referred to as engines of community transformation, placed-based programs are efficient at driving systemic change. They are particularly successful when they are paired with efforts to strengthen institutions and other parts of the local system. These initiatives are often considered transformational because they produce large-scale systemic reform by recognizing and addressing interconnected

challenges such as poverty, urban decay, high rates of crime, and struggling public school systems (Reese & Ye, 2011).

In its most basic form, a place-based college scholarship is awarded to any student who attended and graduated from schools in a specific local area or district. Eligibility for these scholarships, often referred to as universal, is based on relationships to place rather than characteristics of people. While the aid is awarded to people, the individual need not meet specific academic performance criteria, behavioral requirements, family income level, nor fit into certain affinity or racial/ethnic/gender categories—that is to say, these are universally available.

According to Fishkin's principle of the “Equality Of Life Chances” (Fishkin, 1983), those from a higher socioeconomic status have greater opportunities (life chances) and greater influence on the political process and legal systems. While less than equal life chances may not be directly related to discrimination, those children are in environments that "inhibit the effective development of their talents or aspirations" (Fishkin, 1983, p. 17). Programs based on “Equality Of Life Chances” principles must be broadened to become universal. When the economy is not robust, members of the wider society are less supportive of the targeted programs. The hidden agenda is to improve the life chances of groups such as the underclass by emphasizing programs in which the more advantaged groups of all races and classes can positively relate. These universal programs, which are designed to reach an entire population, enjoy broad support across the political spectrum, are non-stigmatizing, engage a diversity of individuals, are easy to administer, understandable, accessible, and thus more likely to reach the most needy and vulnerable population. Universal programs reduce poverty and have been shown to double the percent of graduates with low grades who complete a four-year degree program (Bangs et. al., 2011). Moreover, universal social programs are both public and private goods because they

transform and improve the lives of the individuals as well as the entire community (Miller-Adams, 2011). As such, place-based scholarships are more expansive and pervasive than simply democratizing education.

In certain contexts and with certain program designs, place-based initiatives have encouraged or produced gentrification (DeGiovani, F., 1984; Smith, N., & LeFaivre, M., 1984), which is defined as an increase in the educational level and/or average family income in a census tract or area. Gentrification often results in racial turnover and potential displacement of low-income or minority groups (McKinnish, Walsh, & White, 2010). In the 1970s planners and economists used filtering models to predict the impact of gentrification and forecast the bidding up of housing prices by high-income residents and migrants and the displacement of poorer residents (Smith, 1972). These early place-based studies found those who entered (i.e. moved to the gentrifying areas) tended to be white college graduates younger than 40 years old and middle class blacks. Specifically, black high school graduates comprised approximately 30 percent of the gentrified population and contributed up to one-third of the income gains. Later researchers found that existing residents valued some neighborhood amenities. Using panel data Freeman (2005) found little evidence that low-income people in a gentrifying neighborhood were more likely to exit. In fact, Freeman and Braconi (2004) found that low-income residents in gentrifying neighborhoods were actually less likely to leave than those in non-gentrifying neighborhoods. More recent research, which examined demographic processes that emerged as neighborhoods gentrified, revealed that middle-class black & Hispanic families preferred gentrifying neighborhoods over predominantly white middle-class neighborhoods—regardless of schools (Bayer, P., Fang, H., & McMillan, R., 2005 (Revised 2011); Bayer, P., Ferreira, F., & McMillan, R., 2007; Bayer, P., & McMillan, R., 2005). McKinnish et. al. (2010) described

similar results discovering that middle-class black families are attracted to gentrified areas in black neighborhoods. It is important to determine whether place-based scholarship programs foster demographic patterns associated with gentrification.

Promise Scholarships

Promise scholarships are a relatively new type of financial aid for students pursuing post-secondary education. These instruments, which are place-based scholarships, are touted as a panacea that will eliminate poverty, improve struggling schools, build human capital, and in some cases reverse urban decline. Based on the premise that increasing the education levels of residents is requisite to curbing economic decline and fostering growth, these scholarships are a component of an area's economic development plan. Calling it the talent dividend, Cortright (2008) calculated the economic gains that metropolitan areas and cities could achieve by improving their human capital. This equates to the summative value of an area's individual earnings premiums (see page 2). Cortright (2008) projected a \$124 billion increase in aggregate annual personal income if the four-year college attainment rate in each of the 51 largest metropolitan areas in the U.S. grew by only one percentage point.

Promise Scholarships are a type of scholarship program that use place-based criteria as the initial condition for determining student eligibility. These programs are designed to build human capital in a specific geographic region. Designed to increase access to post-secondary education by eliminating financial barriers and changing the community's systems and culture to promote and support college attendance, most Promise—place-based—scholarships are typically awarded to students who are continuously enrolled in an area's public schools for a minimum of four years. Eligibility is universal, as compared to need- or merit-based as long as attendance requirements are met.

Funders of such scholarships believe that the value of a four-year full scholarship would draw many working- and middle-class families to the area fueling a virtuous cycle that would produce a highly skilled workforce, attract employers, and drive economic growth. Moreover, these financial incentives are expected to retain the high achieving students in the region. Proponents argue that these programs increase student quality by giving incentives to strong performers to stay in state and motivating low-income students who now see college within their reach to improve their academic performance (Cornwell et. al., 2006; Dynarski, 2000; Henry & Rubenstein, 2002; Zhang & Ness, 2010). For example, review of outcomes from one state's program revealed that 75 percent of students who scored in the 99th percentile on the SAT attended an in-state college or university after the introduction of their Promise scholarship compared to only 23 percent prior to the program (Cornwell et. al., 2006). It is important to note that the supporting data described only merit-based Promise scholarships whose recipients, by design, are strong performers (THEC, 2012; WVHEPC, 2009).

Critics argue that these programs, particularly if they are publicly funded, become economic entitlements, which makes it difficult to adjust or modify them to accommodate changing fiscal priorities (Duffourc, 2006). Many of the existing programs grant funds based on merit and have directed a majority of the funds to privileged students (Bangs et. al., 2011). These more selective requirements, which are often imposed during economic downturns, further reduce access to the most vulnerable students. Too if funding is limited, additional eligibility criteria are often put in place in addition to the place-based criteria. While these targeted programs—those that make awards to individuals from select groups meeting need- or achievement/merit-based criteria—distribute scarce resources more efficiently (Deming & Dynarski, 2009 & 2010; Dynarski, 1999; Dynarski & Scott-Clayton, 2008 & 2013; Vaade &

McCready, 2011), they can significantly reduce access and opportunity. As further criteria are applied, fewer people remain eligible to receive a scholarship (Figure 1).

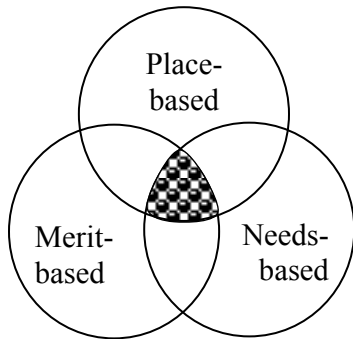


Figure 1. Venn diagram illustrating the impact on access of targeting specific groups.

The amount of access, as illustrated by the size of the overlapping regions, continues to shrink as more criteria are applied.

There are a variety of promise scholarships in place in the U.S. Below is a discussion of some key design components and examples of different programs and the benefits and shortcomings of associated design factors. This review provides a frame of reference from which to begin the analysis of the KPSP.

State-based promise-type scholarships. Beginning in the early 1990s, 17 states introduced promise-type programs. These program designs differ from the KPSP in a number of ways and are not the primary focus of this research; however, they warrant review, as they were the precursors to the KPSP. Some of the differences to be discussed include the sources of the funding and the overlay of merit-based criteria to guide the allocation of limited resources. In addition, these programs cover areas significantly larger than a single metropolitan commuting region so they tend to focus almost singularly on keeping existing residents as compared to many of the local programs that include goals to both keep existing and attract new residents.

These broad-based merit aid programs were launched with hopes of increasing college access and degree completion. Awards ranged from \$1,000 to full-tuition and were funded

through lottery revenues. While enrollments in four-year colleges increased, research revealed that the growth was not due to significant numbers of new students. For example, Georgia's 5.9 percent increase in students resulted from students shifting from out-of-state colleges and universities to in-state institutions (Cornwell, Mustard, & Sridhar, 2006). Similarly, a study by Binder and Ganderton (2002) discovered New Mexico's increase in attendance in four-year post-secondary programs was due to a shift from two-year to four-year programs; not from new entrants. These scholarships have proved to be effective in stemming the out migration of talented students. Many of these programs like the Georgia HOPE Scholarship, the West Virginia HOPE Scholarship, and the Alaska Scholars Award were introduced to try to retain academically strong students in the "place," in this case, the state. Research on the Alaska Scholars award determined that in 1999, when there were no in-state requirements, 60 percent of the students enrolled in universities in the lower 48 states and the majority did not return to Alaska. In 2004, after the program was modified to provide students incentives to attend in-state colleges, a larger number of graduates remained in Alaska (Duffourc, 2006). Data on West Virginia's PROMISE scholarship uncovered similar outcomes. A 2014 study reported that 47.8 percent of all students who graduated from West Virginia public colleges and universities were working in the state in 2012. Moreover, 59.6 percent of all Promise scholarship recipients remained in West Virginia (Deskins & Bowen, 2014).

Another defining characteristic of these promise-type aid programs is early commitment. Communicating a clear path early in a student's academic journey was shown to improve academic preparation and increase social capital (Harris & Orr, 2012). In addition, as many of the programs provided tuition benefits for up to four years, the number of students completing their programs increased. An obvious challenge when funding is limited and the applicant pool

is large is simplifying the process while simultaneously designing programs to meet the many, sometimes confounding, goals of these placed-based aid programs.

Almost all statewide programs are merit-based. Only three are specifically targeted to low-income students—those in Indiana, Oklahoma, and Washington. Most establish academic achievement requirements like minimum grade point averages (GPA) or test scores (SAT or ACT). Some also include performance-based requirements like attendance (days absent) or community service requirements. Data from the merit-based programs in Florida and Georgia confirmed that the bulk of the awards go to middle- and high-income students (Dynarski, 2000).

Local promise-type scholarships. The majority of local promise-type programs were created between 2006 and 2007, on the heels of the 2005 introduction of the Kalamazoo Promise Scholarship Program (KPSP). Based on an Upjohn Institute survey of the websites of 25 promise programs, close to three quarters of those programs were framed by the overarching community-level goals of promoting economic development, regional vitality, and/or the creation of an educated workforce (Miller-Adams, 2011). In theory, the long-term community-level goal of economic revitalization would be attained by attracting and building an educated workforce, which in the short- and medium-terms required increased access to post-secondary education through the elimination of financial barriers and the development of community institutions and culture that promoted and supported college attendance. Program designs varied in response to and recognition of funding availability, which most often comes from private donations and endowments, and community goals and contexts.

In all the community-based promise scholarship programs the primary and defining eligibility criterion was place-based. Needs-based criteria were less prevalent in both local and statewide promise-type program designs than in more traditional financial aid (Harris & Orr,

2012). Many local designs include merit requirements either as a basis for qualification or as a means to determine the award size.

For example, the Pittsburgh Promise, which was announced in 2006, was launched with merit-based standards in addition to the place-based criteria. The additional standards were established as a way to allocate limited resources because scholarships were granted before the endowment was fully funded. The University of Pittsburgh Medical Center (UPMC) seeded the program with a donation that now exceeds \$100m and is more than four times greater than any of the subsequent donations.

Its first awards were made to eligible students of Pittsburgh traditional public and charter schools who graduated in 2008. In 2011, 29,445 students were enrolled in participating Pittsburgh public schools. Initial awards were limited to \$5,000 for every student who met the additional eligibility requirements: a minimum GPA of 2.5 and enrollment in an accredited postsecondary educational institution in Pennsylvania. In 2012, award tiers were implemented to make larger awards available to Pittsburgh's strongest students. This increase was introduced in hopes of increasing the attractiveness/"pull" of the program in order to draw more families to the city.

The first of the program's three primary goals, as noted on the website, is "to mitigate and reverse population declines in the City of Pittsburgh and the enrollment declines in Pittsburgh Public Schools (PPS)" (Retrieved 2014-Mar-10 from http://www.pittsburghpromise.org/about_vision.php). In 2014, there are indications that the city population is growing for the first time in 50 years and the enrollment declines in PPS are beginning to stabilize. However, it is important to note that there is no evidence that the Promise was the cause of this change.

Program outcomes reflect the challenge posed by merit-based criteria. In 2009, 64 percent of black graduates compared to 25 percent of white graduates had GPAs below the 2.5 cut off. Moreover, 39 percent of black students as compared to 9 percent of their white cohorts had GPAs below 2.0 (Bangs et. al., 2011). Studies also revealed that, like those eligible for Pell Grants (students from low-income families), black students who received Promise awards were more likely than their white and Asian counterparts, to attend a community college as opposed to a public or private four-year institution (Iriti et. al., 2012). Student outcomes in place-based scholarship programs appear consistent with those associated with financial aid programs in general.

Summary of program design implications. Lowering college costs improves access and completion (Fack & Grenet, 2013). Scholarship programs can increase access to college for low-income and minority students and encourage upward economic and social mobility. Students are often unaware of the aid for which they are eligible. Moreover, they routinely estimate college costs to be two to three times the actual cost. The complexity of eligibility and delivery moderate the impact of aid on both enrollment and completion. However, performance-based criteria linked to scholarship retention improve persistence after enrollment (Dynarski & Scott-Clayton, 2013; Iriti, Bickel, Nelson, & Kaufman, 2012). Interventions that couple financial incentives and support services have been shown to increase persistence among low-income students (Deming & Dynarski, 2010). To engage more students and maximize the impact, program designs should include early commitments; significant contributions toward total costs; and early, clear, and consistent communication about college requirements and the value of the degree (Bangs et. al., 2011; Bettinger et. al., 2012; Miller-Adams, 2009). Simple broad-based financial aid programs are most effective at supporting educational achievement (Table 1).

Table 1. Scholarship program design features and their effect on college access.

		Increases access	Limits access
		Application process	Clear and simple required—FAFSA is too complex
	Award notification	Early commitment—during elementary or middle school—while students have time to become “college ready”	Late commitment discourages focus on achievement. Late commitment discourages low-income students from even applying to school
	Award amount	Awards sufficient to cover most, if not all, tuition and fees	Small amounts augment funds for affluent students but do not offer sufficient resources for low-income students
Program design features	Funding source	Anonymous private funding in perpetuity or with commitment to notify students of cancellation 4 or more years in advance	State funding can be reallocated quickly. State funding promotes merit-based programs. Private funding without constraints can be withdrawn without warning
	Needs-based eligibility	Minimal effects on boosting enrollments.	Negative connotation because considered an <i>entitlement</i>
	Merit-based eligibility	Disproportionately benefit affluent students because of the link between family income and academic achievement	Reinforces achievement gap due to SES and/or race. High cost and typically doesn't meet enrollment or retention targets
	Place-based eligibility	Without additional eligibility criteria layered on, seen as “universal” with the potential of fostering equity	Place-based investments can lead to gentrification... research needs to examine whether this holds true for place-based scholarships that are restricted to small local areas

The Kalamazoo Promise Scholarship Program (KPSP)

KPSP overview. In 2005, a place-based or promise scholarship was introduced in Kalamazoo, MI. This scholarship program, which was designed as the first phase of the city's economic development plan, provides financial assistance to Kalamazoo residents who attend

and graduate from a Kalamazoo public high school. Economists believe that any region is only as strong as its urban core (Miller-Adams, 2009). Many believed that this "education-based economic renewal...held the potential to transform not just college-going patterns of Kalamazoo's young people and the personal finances of their parents, but the entire community" (Miller-Adams, 2009, p. ix). It was called "an asset-building opportunity of unparalleled proportions" (Miller-Adams, 2009, p. x). As the first local place-based scholarship program, the Kalamazoo Promise was without precedent and observers had no way to foresee or predict the outcomes. The Kalamazoo Promise, which is broad-based, flexible, and offers generous awards in perpetuity, was described as having "the potential to unite the region or intensify long-standing divisions between black and white, middle- and low-income populations, city and suburb ... [and] transform the community or leave it unchanged" (Miller-Adams, 2009, p. 2).

When describing the program to the community for the first time, Dr. Janice Brown, the Superintendent of the Kalamazoo Public Schools (KPS) explained, "...it's a very simple concept. Go to school at KPS, and in your hands there will be a scholarship in the amount of tuition plus fees [based on] the number of years that you have gone to KPS" (Miller-Adams, 2009, p. 1).

Eligibility for the Kalamazoo Promise Scholarship Program (KPSP) is based exclusively on "place," making its design universal, as opposed to merit- or need-based. Fewer than half of the active local promise programs (Miller-Adams, 2011) can be characterized as universal. Students do not need to meet grade, attendance, or service requirements. Rather, they need only to graduate. There are, however, flexible and straightforward GPA requirements in place to maintain the scholarship and drive retention.

The scholarship package is first-dollar, which means that it is calculated and awarded before any other funding, and places no requirement on students to seek aid from other sources.

The application process is simple: The form is a single page and there is no family assessment. In other words, all students are awarded the scholarship regardless of family income. The sole factor, which determines whether a student qualifies for the scholarship, is "place-based."

Every KPS graduate who was enrolled in the district schools for at least the four previous years receives a scholarship for 65 percent of tuition and fees at any public college or university in Michigan. Those who attend KPS from kindergarten receive funding of 100 percent and students who fall between these end points are awarded a proportion in increments of 5 percent for each additional year of schooling.

The Kalamazoo Promise (KPSP) was designed to attract new residents to the city of Kalamazoo and new students to the Kalamazoo public school district. Students who live in Kalamazoo County but do not attend a Kalamazoo city public school are not eligible. The program was not intended to be the cornerstone of a school reform strategy; rather, it was the first initiative in an economic development program (Miller-Adams, 2011). By increasing access to college, planners and policy-makers hoped to attract both employers and middle-class families.

KPSP outcomes.

Early results. After decades of decline, enrollment in Kalamazoo Public School increased by more than 20 percent in six years with little change in its demographic make-up. Increases in rates of attendance have been roughly equivalent among all ethnic and class groups. Evidence confirms that enrollment increases resulted from migration of new families as well as retention of existing students and teachers. The program is also credited with strengthening the college-going culture and student motivation. KPS has been characterized as a typical urban school district because 70 percent of its students come from low-income households. Even so,

almost 90 percent of KPS graduates enroll in some type of post-secondary education (Bartik, Eberts, & Huang, 2010).

The generous award amounts not only attracted new students and encouraged a higher proportion of students to enroll in college, it is also associated with influencing the types of programs and the institutions to which students apply. This program quadrupled the enrollment in the University of Michigan, the state's premier and most costly institution, from 12 in 2005—the year before the program was implemented—to 48 in 2008 (Bangs et. al., 2011).

Initially the success of the Kalamazoo Promise was determined by measuring changes in the population in the city, enrollment in the Kalamazoo Public Schools, the graduation rate, and the rate of college attendance (Bartik et. al., 2010; Miller-Adams, 2009 & 2011). Based on preliminary results, the Kalamazoo Promise had been touted as an indisputable success. The studies, however, focused almost exclusively on short-term results using economic rather than educational or economic/social justice perspectives. While there were some analyses of educational issues, these were done at the district level (Bartik et. al., 2010).

Recent results. More recent studies included more comprehensive graduation and college matriculation data and revealed little improvement in high school graduation, college matriculation, and college persistence rates (Mack, 2014-November 24). Bob Jorth, the director of the Kalamazoo Promise, noted, “The biggest challenge is completion. ... The number one factor in getting kids through college is making sure they are ready to start college (Stateside staff, 2014-June 10).” These challenges had gone unnoticed earlier because of incomplete data that allowed for a short-term focus. Even before these lackluster results were announced scholarship benefits were extended to fifteen private liberal-arts colleges (Mack, 2014-June 10). And immediately after the socioeconomic and racial achievement gaps were noted the editorial

board of the Kalamazoo Gazette echoed calls to provide more community support for low-income and minority students (Kalamazoo Gazette Editorial Board, 2014-November 30).

Although school improvement and educational equity might prove to be by-products of this promise program, the primary aim was to improve the economic viability of the city.

The theoretical framework of the KPSP. Theoretically, the expansion of an area's economic capital/assets is generated by increases in residents' human capital/assets—using years of education as a proxy—coupled with increases in their social capital/assets. The theoretical framework of the Kalamazoo Promise Scholarship Program detailed below (Figure 2), represents the basic theory behind most promise-type programs.

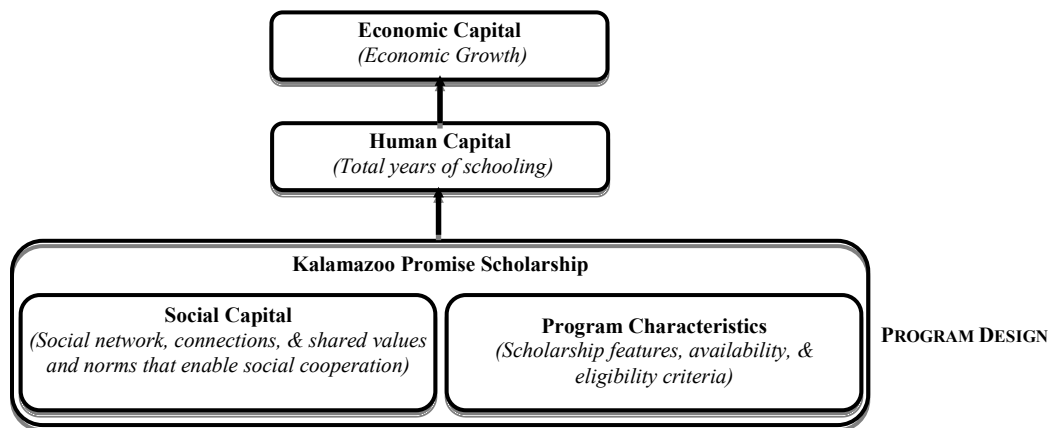


Figure 2. The theoretical framework that illustrates the role of a place-based scholarship in promoting economic development.

This illustration depicts the relationship between the KPSP and economic growth.

Economic capital/economic growth. Education policy is important to an area's economic health. Graduation rates are positively related to capital investments in infrastructure and construction (Reese & Ye, 2011). Additional research reveals that salaries increase directly with an increase in human capital—the number of years of education—and unemployment rates decline. Using productivity accounting and an aggregate production function framework, Denison (1962) examined the quality of labor (human capital—HC), as measured by years of

education, to estimate education's contribution to output (economic growth—EG). Based on his 1962 study where he attempted to analyze the macro-level human capital/economic growth relationship by studying the effect of education on the earnings of individuals, he concluded that close to one-quarter of the economic growth between 1929 and 1957 could be accounted for by education expansion. Walters and Rubinson criticized Denison's conclusions regarding human capital and economic growth because Denison inferred aggregate effect from the individual's relationship between human capital and earnings and assumed that increased earnings reflected increased productivity derived from additional education (Walters & Rubinson, 1983). Most educational theories that emerged in the 1970s questioned that assumption (Bowles & Gintis, 1976). In addition, Denison's estimates of human capital's effect on economic growth were based on assumptions rather than empirical data. Thus, Walters et. al. concluded that an increase in human capital drove some expansion in economic growth but not of the magnitude suggestion by Denison. Further, they found that the effects of education varied by level of education and historical period (Walters & Rubinson, 1983). Walters et. al. acknowledged that after controlling for numerous factors, an increase in years of schooling (growth in human capital) produces a positive economic return for the individual. This is confirmed in more recent research where Corak (2012) noted that in 2011 a U.S. male college graduate earned 70 percent more than a high school (U.S. male) graduate.

Walters et. al. also argued that it is possible for "there to be a positive relationship between years of schooling and earnings for individuals even if there is no positive relationship between educational expansion and economic growth for the economy as a whole" (Walters & Rubinson, 1983, p. 480). Corak (2012) offered a different perspective contending that "the higher the return to college education, the lower the degree of generational mobility" (p. 13). In

recent decades the rate of return to schooling has been increasing thus contributing to higher inequality and lower generational mobility.

Private returns to education are higher than social returns at all levels of schooling; however, the discrepancy is greatest at postsecondary levels where the rate of returns at a macroeconomic level is lowest. Increases in the levels of primary and secondary education produce higher levels of social returns than do increases in the levels of tertiary education. In other words, private returns to a college education—i.e. those returns that an individual accrues—particularly in developed countries, are higher than social returns. Moreover, the economy as a whole accrues a positive return to schooling only if the aggregate educational increase affects the size and shape of the both the occupational and economic structures. Thus, an increase in human capital may not produce the economic growth in a region even if the area's students acquire additional years of schooling (Sianesi & Van Reenen, 2003).

Even so, proponents of these scholarships believe that the value of a four-year full scholarship would attract many working- and middle-class families to an area. While they may argue this would fuel a virtuous cycle that would produce a highly skilled workforce and drive economic growth, it may simply improve the area's economic viability by increasing both the local population and the number of students attending public school. These factors would increase public school funding and improve the financial health of the school system as well as increase the local tax base.

In other words, the economy of an area may grow leading to an improvement in living standards for all in the area. This condition, called absolute mobility, is often described as the tide that lifts all boats. This type of mobility is more socially and politically acceptable because everyone's living standards improve. Relative mobility, often called intergenerational, vertical,

or upward mobility, considers how likely children are to move to a higher position in the income scale than their parents. According to the OECD, intergenerational mobility refers to changes in social or economic status that occur between parents and children's generations. These may be movements between income classes or percentiles or movements between occupations based on social class rankings. Many immigrants have come to the U.S. believing that it is the land of opportunity: It is a place where one's chances of success do not depend on family background.

Earning a college degree is often seen as requisite to securing intergenerational mobility (Urahn et. al., 2012). This is substantiated by a survey conducted by The Pew Charitable Trust (2009) as part of their research initiative on economic mobility. Over 80 percent of respondents said that having a good education is essential or very important to garnering economic mobility. Further, 55 percent said that their definition of the American Dream is earning a college degree. It is important not to conflate or confuse economic growth for the individual—i.e. upward or intergenerational mobility—with economic growth for the place. Improvements across the "place" may not translate into improvements distributed equitably among the people. The tide may lift all boats; however, some boats may get a bigger boost than others.

Social capital. Coleman (1988) introduced social capital to education research. He defined it as “resources gained through social ties, memberships of networks, and sharing of norms” (Healy & Côte, 2001, p.21). In addition, he argued that learning is supported by social capital. The OECD concurred noting, “human and social capital may be mutually reinforcing” (Healy & Côte, 2001, p. 61). Thus, human achievement requires a combination of social relationships and individual skill.

Evidence also establishes social capital as a key dimension to be considered when developing policies to alleviate poverty, social exclusion, and inequality. Social capital is

relational and, as compared to human capital, is not the exclusive property of one individual. As such, it is predominantly a public good shared by a group and produced by societal investments of time and effort (Healy & Côte, 2001, p.39). Social capital has the potential to generate an ongoing benefits stream for society; however, it can also produce inequality if used by one group against another. It can also confer private benefits on individuals or reinforce privilege. Social capital must acknowledge power issues and recognize economic capital. More than simply connectedness and networks, social capital is a critical component in the production and reproduction of individual success. As such, it should be a critical consideration in policy development because the social networks and social cohesion—trust in and willingness to support community endeavors—are important drivers of long-term economic success.

Human capital formation is a social process. The impact of social capital in supporting learning and student achievement is especially relevant for families from disadvantaged areas where they have poor access to income, employment opportunities, and social networks. For example eighth graders from families in the highest income quartile are nearly ten times as likely as those from families in the lowest income quartile to earn college degrees (Bailey & Dynarski, 2011).

In her study that examined the relationship between social and human capital, Menahem (2011) considered two issues: how bridging and bonding social capital affect academic achievement in urban schools and the contextual effects of social capital. Bridging social capital is comprised of open networks that are “outward looking and encompass people across diverse social cleavages” while bonding social capital is comprised of “inward looking [networks that] tend to reinforce exclusive identities and homogeneous groups” (Putnam, 2000, p. 22). Menahem found a “significant positive relationship between the density of a community’s bridging social

capital and its rates of educational performance, with no such relationship indicated for bonding social capital. Moreover, in most cases bonding social capital has negative effects on educational performance” (Menahem, 2011, p. 1122). Further, these findings suggest that bridging social capital influences different levels of educational performance, while bonding social capital shows no effect.

Menahem (2011) underscored the importance of considering the contextual effect of social capital on educational performance. As an example, she submitted “Community associations can provide resources such as knowledge, information, and guidance that are beyond the reach of either individual community members or networks based on the similarity of member characteristics” (p. 1123). This aligns with Chetty, R., Hendren, N., Kline, P., & Saez, E. (2014a; Chetty, R., Hendren, N., Kline, P., Saez, E., & Turner, N., 2014b) findings of a relationship between social capital and intergenerational mobility. Menahem’s submission provides a clear description of the type of social capital that must be present to support the promise-type scholarship theoretical framework (Figure 2). Moreover, this social capital is influenced and defined by its context.

Context/“Place”. Place-based initiatives are situated in a specific context. This condition is true for promise scholarships. Interestingly, context is not explicitly identified in the theoretical framework for this place-based initiative. Menahem highlighted the importance of context when considering bridging social capital. This type of social capital is essential in promoting relative economic growth. Although the stated objectives of the KPSP do not mention economic mobility, Miller-Adams and others contend that the universal eligibility criteria position this program to drive educational equity. In addition to Menahem, a growing body of research reveals the link between context and intergenerational mobility or relative

economic growth. Because the KPSP is situated in a specific context and characteristics of a specific context either promote or inhibit equity and mobility, the context of the scholarship program should be examined. This research focus has not been pursued yet.

When answering the question “Do poor children become poor adults?” Corak (2006) noted that the U.K. and U.S. have the lowest levels of intergenerational mobility compared to seven other developed countries. In fact, 84 percent of children from families in the middle-income quintile or lower remain in those quintiles (PSID, 2006). This offers evidence that in the U.S., a parent’s place in earnings tells us a good deal about where the child will be. In climbing the income ladder, location matters. Intergenerational mobility was shown to vary by state across the U.S. (Chetty et. al., 2014a & 2014b). This same study revealed that the chances that affluent children grow up to be affluent are similar across areas. When discussing some of the preliminary results of that study in an interview with the *NY Times* (2013-Jul-23), Hendren noted that there were only modest or no relationships between mobility and the number of local colleges and their tuition rates or the amount of extreme wealth in a region. Instead, the research uncovered five factors associated with intergenerational upward mobility:

1. **Residential segregation**—less segregation increases mobility. Residential segregation emerges from a complex interplay of social and economic processes. Recognizing its multidimensional nature underscores how it affects people's lives and well being in a number of ways (Massey & Denton, 1988). Most U.S. school attendance zones assign children, particularly students in the elementary grades, to neighborhood schools. Thus residential segregation produces school segregation, which research has shown hinders academic achievement (Orfield, Kuscera, Siegel-Hawley, 2012).

2. **Income inequality**—the size and dispersion of the middle class affected mobility.

Out of 28 characteristics, the size of the middle class is a stronger predictor of intergenerational mobility than all but two. Both the size of the middle class and the dispersion of poor families among mixed-income neighborhoods promote mobility (Olinsky & Post, 2013). Hacker and Pierson (2010a & b—both book & article) claim that inequality skews social choices in ways that benefit the advantaged and limit the influence public policy can have toward reducing inequality. Compared to other rich countries, parental income and wealth in the U.S. are a stronger correlate of adult outcomes. Contributing factors include: income inequality is more dramatic, labor markets are more unequal, resources and incentives are skewed toward the wealthy, and U.S. public policy tends to make it harder for the disadvantaged, rather than leveling the field (Corak, 2012).

3. **School quality, particularly primary schools**—better elementary and secondary schools increase intergenerational mobility. Decades of research indicate that schools that are integrated by both race and class consistently produce better outcomes academically and socially (Orfield, Kuscera, Siegel-Hawley, 2012). In addition, the effects of school desegregation have been shown to perpetuate across generations (Mickelson, 2011). Further, children who move at a young age to a high mobility area were shown to have done as well as those who spent their entire childhoods there. However, children who moved as teenagers did less well (Chetty et. al., 2014a & 2014b), which underscores the importance and influence of high quality elementary schools.

4. **Social capital**—more civic engagement and other types of contextually influenced social bridging activities (Menahem, 2011) increase mobility.
5. **Family stability**—communities with a greater number of two-parent households support mobility.

To gain a clearer understanding of whether the KPSP actually promotes educational equity and upward mobility I examined Kalamazoo City, the context in which the program was implemented, in relation to four of the five factors identified by Chetty et.al.'s (2014).

III. Reasons for the Study

Weaknesses in Existing Research

Short-term and economic foci. A majority of promise programs have been implemented in struggling urban school districts with the hope that they will help reinvigorate the city. Many U.S. cities are characterized by the decline of industry and manufacturing coupled with the movement of jobs outside the city limits; the subsidized growth of the suburbs promoting the abandonment of the urban core; failing urban infrastructures and diminishing services coupled with shrinking tax bases; and racial and socioeconomic isolation. As systems of economic, social, and political activities, cities both influence and are influenced by the physical and demographic environment. To build a sustainable community the environment and equity must be considered in addition to economics. The impacts of promise programs extend beyond the urban economy and must be evaluated from a systemic perspective.

In order to qualify for the scholarship a student must reside in Kalamazoo City and attend a KPS high school for at least four years. Although the program was announced in 2005 it was not implemented until 2006 and the first class of students who were eligible for the KPSP graduated in 2010. Furthermore, the scholarship is available for up to ten years after graduation

and that cycle will not lapse until 2016. The initial studies, which were completed three to four years after the program launched, examined student, school, and district data that did not include complete graduation or college matriculation records. Studies released at the end of 2014 provided some additional insight into enrollment and achievement trends and revealed differences among class and racial groups. Students of color tended to be low-income lagged and did not complete post-secondary programs at the rate of their middle-class white cohorts. These findings neither reflected the outcomes of the full ten-year cycle nor offered a clear picture of the impact that the longer time frame might have on low income and minority students.

Placed-based scholarships are long-term educational programs. To accurately assess their impacts, particularly on educational and economic equity, they should be studied from a long-term perspective using theoretical frameworks that consider educational research topics like segregation and achievement gaps, and address context. For example, studies need to examine the characteristics of students who entered or stayed in the district as well as enrollment and achievement patterns between different schools in the district in order to more clearly understand residential and school segregation, elementary school quality, and income inequality.

Context matters. According to Nathaniel Hendren, a Harvard economist who co-authored *Where is the Land of Opportunity? The Geography of Intergenerational Mobility in the U.S.* (2014), “where you grow up matters.” It is important to identify the factors that drive equality of opportunity. Particularly because this scholarship is awarded based on place, it is essential to understand the relationships between program design and context and how they influence both the macro-level (i.e. economic and social impacts in the city and the region) and micro-level (i.e. who benefits from the program and what are the social impacts on individuals and groups). A clear appreciation of how the program design applied within a specific context

catalyzes economic and social change can help establish realistic expectations for the short- and long-term. Moreover, examining a context using Chetty's paradigm could clarify design characteristics, increasing the likelihood of a program's success. In addition, my research introduced a new strand of research on the KPSP.

The theoretical framework used in this study was built on the KPSP theoretical framework and introduced "place" (context) into the analysis (Figure 3). Context was intentionally placed between human capital and economic growth. Doing so introduced a distinction between the two types of growth in economic assets: one at the city level and the other at the individual level. While the entire process occurs within the context, this study focused on the effect the Kalamazoo city context had on economic mobility. Theoretically an individual can complete more education with the scholarship—i.e. increase human capital—and still be unable to move up the income ladder. According to Chetty et. al. (2014) the context influences whether the increase in human capital will drive intergenerational mobility. As a way to gain insight into the effect the KPSP has on equity, I studied the effects of that interplay by examining factors that describe the context.

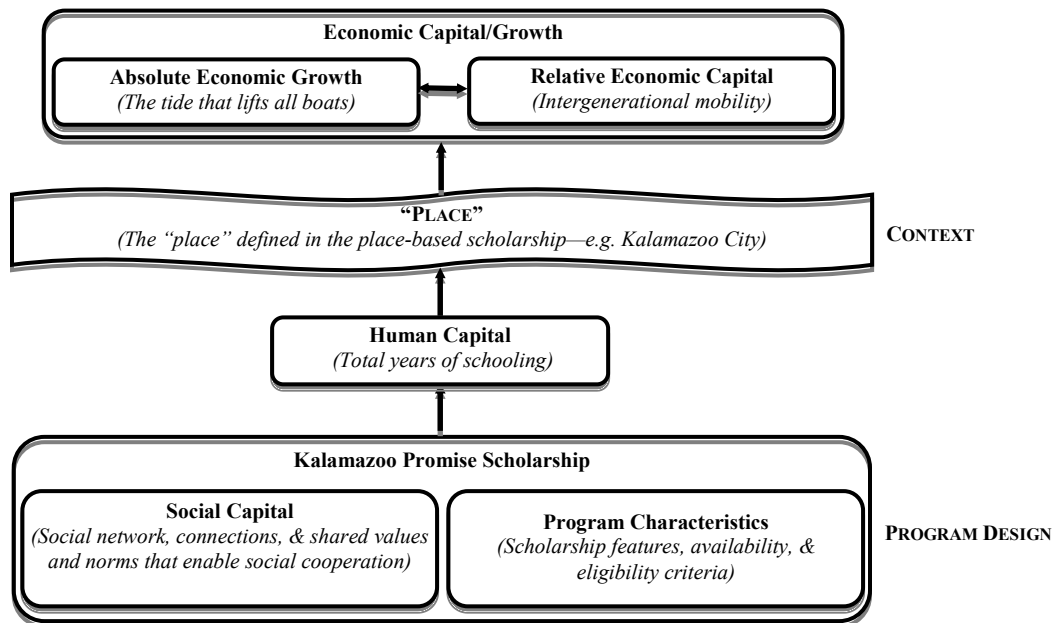


Figure 3. Theoretical framework illustrating absolute and relative economic growth stimulated by the KPSP.

This depicts the interplay between the program design, context, and economic growth.

Promise-type program popularity. In addition, the number of promise programs has grown exponentially in less than one decade. While it is difficult to definitively determine the number of programs in the U.S., estimates range between 80 and 100. A large number of smaller cities are considering implementing these types of programs. While most are not publicized during the development phase, the Upjohn Institute has worked with at least 15 locations over the last five years, with most of the consulting engagements occurring since 2012. While all are location based, many of these programs incorporate different requirements and scholarship amounts. Given the rapid adoption of and variations among programs, a thorough analysis of the relationships between different program design elements and the contexts in which they are applied is essential to inform policy makers.

Large monetary investment required. Finally, endowments for these programs can reach into the hundreds of millions of dollars. As of 2012, the Kalamazoo Promise Program had already paid out \$35 million to 2,500 students (Fishman, T. —*NY Times*, 2012-Sep-13, retrieved 2014-Mar-10 http://www.nytimes.com/2012/09/16/magazine/kalamazoo-mich-the-city-that-pays-for-college.html?_r=0&pagewanted=all). The Pittsburgh Promise set \$250 million as the target amount for their endowment. As of 2014-Mar the endowment was funded for \$174 million and close to 4,800 students received awards totaling close to \$48 million (retrieved 2014-Mar-20 from: https://pittsburghpromise.org/about_dashboard.php). Given the large sums of money committed to promise-type programs, more thorough assessments of long-term educational and equity impacts are critical.

Rationale for Study of Problem

Prior research definitively demonstrates that financial aid increases access to and completion of post-secondary education programs. It also reveals that some program designs are more effective than others in generating equity and promoting upward economic mobility. Given the magnitude of investment and the numbers of individuals and communities affected by student aid—both directly and indirectly—we must gain a clearer understanding of how program design and context interact in order to determine optimal designs for specific contexts.

Research Questions

The city is the context in which the program is set. This study identified changes that emerged after the implementation of the KPSP regarding the size, demographics, and distribution of the population of the city and its public schools district. Then, the ways that those changes affected the indicators, which describe some of the factors identified in the Chetty study, were

examined to assess whether Kalamazoo City—the context of the KPSP—offered fertile ground for intergenerational upward mobility to take root.

Four broad questions examined how changes in Kalamazoo City, which emerged within five years of the introduction of the KPSP, affected key Chetty et.al. indicators of socioeconomic mobility. The research questions were:

1. How did residential segregation in Kalamazoo change after the implementation of the KPSP?
2. How did income inequality in Kalamazoo change after the implementation of the KPSP?
3. How did elementary school quality in the Kalamazoo Public School District change after the implementation of the KPSP?
4. How did family stability in Kalamazoo change after the implementation of the KPSP?

IV. Data and Methods

Setting

Kalamazoo (City), the county seat for Kalamazoo County, is a city spanning approximately 25.18 square miles in southwestern Michigan. The city, which is 35 miles east of Lake Michigan, represents the halfway point between Chicago and Detroit. In addition, it lies 107 miles west of Ann Arbor, and 70 miles west of Lansing.

Kalamazoo County, which extends over 580 square miles, contains 24 local jurisdictions that are divided into nine school districts. These nine districts comprise the Kalamazoo Regional Educational Service Agency (RESA), the Intermediate School District (ISD) that spans urban, suburban, and rural communities in Kalamazoo County. More than 50 percent of the ISD/RESA

district lies outside Kalamazoo City and its Public School District (KPS). This county configuration, which was pushing Kalamazoo City closer to what David Rusk identified as "the point of no return," allowed more affluent white residents to settle in surrounding suburbs that offered lower taxes and predominantly white schools (Miller-Adams, 2009). Rusk, an urban scholar and consultant who claims that a city that stops growing will start shrinking, describes a city that has reached "the point of no return" as one that is characterized by continuous population declines, increases in minority ratios, and an ever-widening city/suburb income gap. Cities that exhibit these conditions are no longer places to invest or create jobs (Rusk, 2013).

This proved true of Kalamazoo where in the 1980s and 1990s the city's economy endured plant closings, mergers, extensive job losses, and rising poverty. The impact was moderated because Kalamazoo had some economic diversity and a generous and active philanthropic community. Nevertheless, the outflow of affluent white residents and economic changes threw Kalamazoo city into a downward spiral similar to that faced by many older core cities, particularly those located in the "rust belt": high paying jobs evaporated, middle class families left the area, and the residents who remained were low income minorities. Hoping to reverse these trends, Kalamazoo City implemented a number of traditional development programs like tax abatements and regional cooperation to no avail (Miller-Adams, 2009). The KPSP, the first phase of a new economic development plan, was announced in 2005. This program, the focus of my study, was intended to attract residents and businesses to the city.

The Kalamazoo Promise Scholarship Program is an innovative and untraditional "place-based" economic development program that encompasses the city and its associated public

school district—the Kalamazoo Public School district.¹ Kalamazoo City presents discernible urbanization land use patterns and is the primary urban statistical area within the county.

Kalamazoo City is the context where the KPSP is set and was the primary focus and unit of analysis of this research. This designated area was studied in order to capture unintended outcomes growing out of the lateral mobility derived from and stimulated by its economic integration with surrounding counties (Abramson, Tobin, & VanderGoot, 1995).

Methodology

This case study investigated interrelated questions about the processes and impacts of Kalamazoo's place-based Promise Scholarship Program and examined how this initiative influenced the well-being of residents as measured by intergenerational economic mobility. Chetty et. al. (2014a & 2014b) contend that mobility is context-specific, varying across metropolitan areas and geographic regions in relation to community characteristics. Using statistical analyses including Hierarchical Linear Modeling (HLM) to disentangle how people, places, and public policy impact equity; these researchers uncovered five factors that are both strongly and positively correlated to intergenerational (upward) mobility: less residential segregation, high-quality primary schools, less income inequality, greater social capital, and greater family stability. I did not examine social capital in my study because Promise Executive Director Robert Jorth identified insufficient social capital as a key driver of low high school graduation and college completion rates among at-risk and underrepresented minority students. He acknowledged that both issues are deeply intertwined with race and class. Further, he

¹ Students from a handful of blocks within one census tract (29.03) outside the city limits are also assigned to KPS public schools. The impact to the analyses is insignificant as that entire census tract in 2010 contained 350 students and only a portion of those were assigned to KPS schools. If every school aged resident from that tract attended a KPS school they would account for 2.8 percent of the district enrollment.

challenged parents, community organizations, and individual community members to help replicate the kinds of support systems enjoyed by white middle class students (i.e. their social capital/networks) and make them available to all children (Kalamazoo Editorial Board, 2014).

To uncover who benefited from this spatially targeted development program, this inquiry explored the extent to which the Kalamazoo Promise Scholarship Program influenced *spatial inequality* within the Kalamazoo public school district. In addition to public-private partnerships and governance, the nature and size of the community (its geography, networks, social structures and spatial dimensions of opportunities) were considered (Jacobs, 1961; Tate, 2008). To determine whether the Kalamazoo Promise promotes equity (not equality) of opportunity and upward economic mobility, underlying structural patterns such as neighborhood housing composition, school attendance and achievement patterns, and lateral mobility were examined.

Descriptive statistics and trend analyses. Descriptive statistics of both resident and student populations were captured in order to provide a clear picture of the context. Trend analyses were done to determine what changes occurred after the implementation of the KPSP and thus were executed for all variables that described four of the five characteristics identified by Chetty et. al. (2014 a & b), discussed earlier in this document: segregation, income inequality, elementary school quality, and family stability (Table 2).

Table 2. Analytical assessment techniques associated with the Chetty context characteristics reviewed in this study.

	Residential segregation	Income inequality	Elementary school quality		Family stability
			Segregation	Achievement	
GIS maps	✓	✓			
Evenness	✓		✓		
Exposure	✓		✓		
Concentration	✓	✓	✓		
Inequality		✓			
Statistics	✓	✓	✓	✓	✓
Trends	✓	✓	✓	✓	✓

Spatial analyses: Geographic Information Systems (GIS). Geographic Information Systems (GIS) software and neighborhood scale indicators are very effective when forging alliances for small area improvement (Goldring, Cohen-Vogel, & Smrekar, 2006; Saporito & Sohoni, 2006; Sawicki & Flynn, 1996; Sohoni & Saporito, 2009). These types of indicators (or metrics) are fundamental in neighborhood revitalization efforts because they incorporate information on social and economic conditions. Neighborhood-level indicators such as number of single-parent households or percent of households by race can be tools to change peoples' lives. Moreover, they provide a way to "monitor conditions and signal where a particular course of action might be needed" (Sawicki et. al., 1996, p. 168). Geographic indicators are more important than subject area indicators (indicators that are not linked to a specific geography or neighborhood) because policies—particularly place-based/spatially-targeted interventions—are administered through geography and cities affect the quality of peoples' lives. Researchers have used GIS tools to examine the relationships between segregation and different school types (e.g. private, magnet, and charters schools) or metropolitan characteristics (Goldring et. al., 2006; Saporito & Sohoni, 2006). The indicators used in this study were selected to highlight specific

policy implications and distinguish between the well-being of Kalamazoo residents as opposed to the well-being of the city of Kalamazoo (Chetty et. al., 2014a & b; Sawicki et.al., 1996).

GIS maps can be created at a number of different levels; however, for these analyses census tract data were analyzed. Census tracts, which are intended to represent neighborhoods, are devised based on local input (Iceland & Steinmetz, 2003). Neighborhoods, which are social constructs formed by the people who live in them, reflect the history as well as the social and cultural attitudes of their residents. In addition, neighborhoods boundaries often align with school catchment zones. However, the impact of neighborhood boundaries is mitigated in Kalamazoo City because KPS has magnet programs that allow students to enroll in schools outside of their neighborhood catchment areas. Moreover, census tracts are drawn to be as homogeneous as possible regarding population demographics/characteristics, socio-economic status (SES), and living conditions

(<http://www.census.gov/geo/reference/pdfs/GARM/Ch10GARM.pdf>). Further, using standard areas defined by the Census Bureau offers significant benefits that include: wide availability, unrestricted access, broad geographic coverage, and the ability to link and compare multiple data sets over time. No changes were found in the Kalamazoo City census tract maps for 1970 through 2000. There were 21 tracts (Figure 4). However in the 2010 census, the number of tracts grew to 22. To ensure consistency for period over period (time series) change analyses; adjustments to tract boundaries, splits, additions, and eliminations were made to accommodate differences between the 2000 and 2010 geographies. For example, census tract 14.01 was included in the Kalamazoo city data in 2000 but in 2010 that same area was identified as census tract 55.01, census tract 15.05 while in the 2000 map was replaced by census tracts 15.06 and

15.07 in 2010, and large pieces of census tracts 15.04 and 7 from 2000 were associated with 15.04 in the 2010 geography.

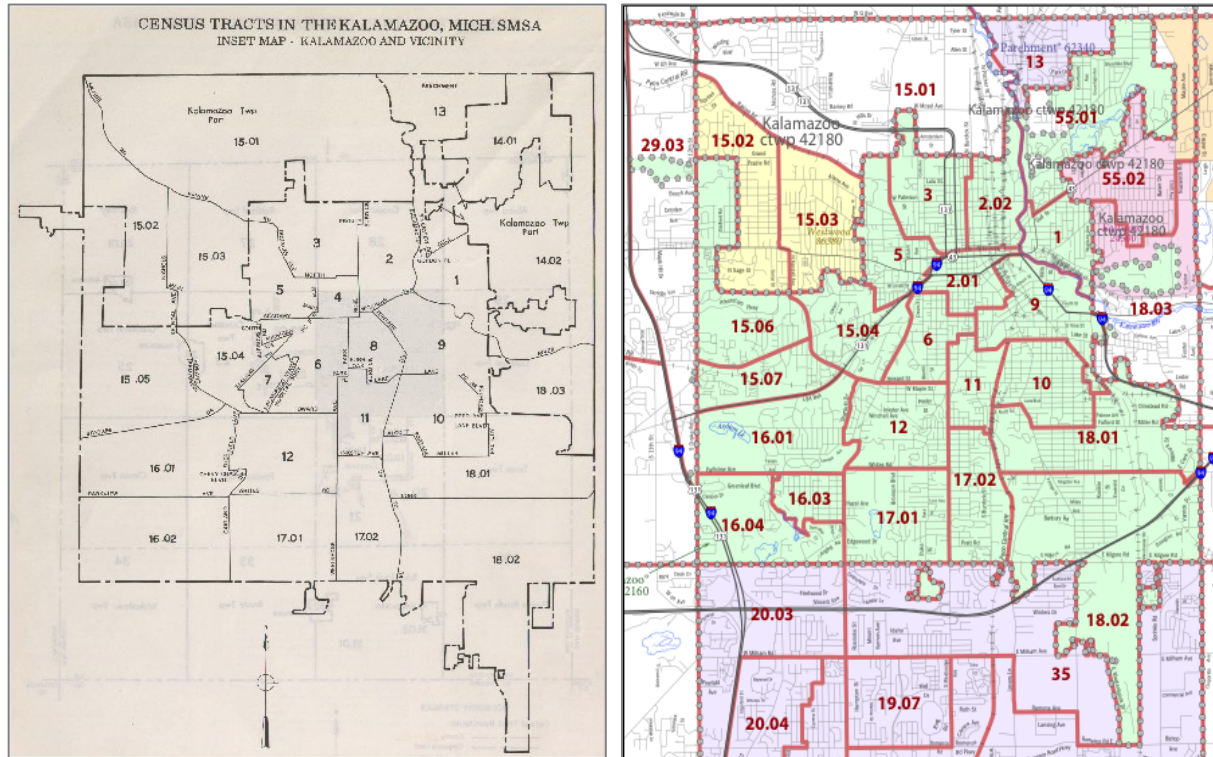


Figure 4. Census tract maps of Kalamazoo City, MI (1970 and 2010).

Sources: 1970 tract map retrieved 20-Nov-2014 from:

http://archive.lib.msu.edu/DMC/US_Census_Maps/pdfs/c3_223_11_970_98.pdf

2010 tract map retrieved 20-Nov-2014 from:

http://www2.census.gov/geo/maps/dc10map/tract/st26_mi/c26077_kalamazoo/DC10CT_C26077_001.pdf

It is important to note that there is not a one-to-one correlation between census tracts and neighborhoods because census tracts honor administrative and legal boundaries. However, neighborhood boundaries fluctuate and collecting data is difficult, which limits the ability to analyze and compare data across time and space. Neighborhood maps were not available for 2000; however, when a 2006 neighborhood map was overlaid on the 2010 census tract map a minimal number of differences were identified. The number of tracts and neighborhoods was

consistent although some of the census tract designations, while similar, did not exactly mirror neighborhood boundaries (Figure 5).

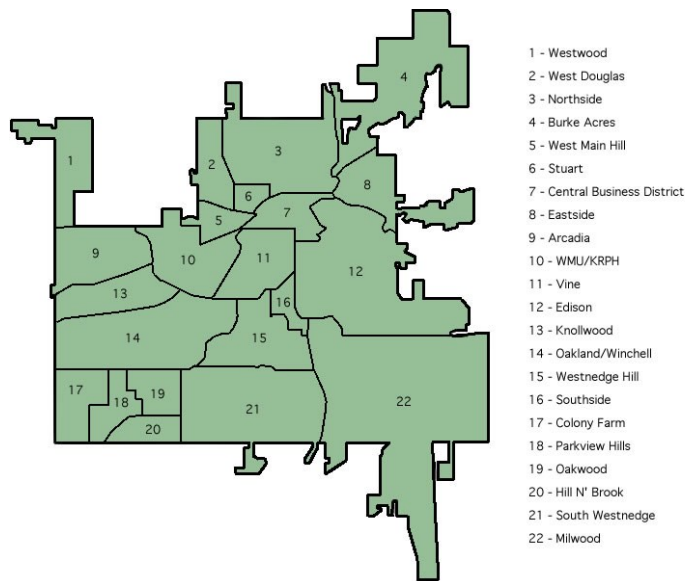


Figure 5. Map of Kalamazoo City neighborhoods (2006).

Source: Retrieved 01-Jan-2015 from:

http://commons.wikimedia.org/wiki/File:Kalamazoo_Neighborhoods_Numbered.jpg#file

The maps generated using GIS illustrated housing and school enrollment patterns before and after the promise program was implemented. They offered clear and powerful images of the data. U.S. decennial census DP1 and SF1 tables from 1970 as well as custom reports and American Community Survey data from 2000 and 2010 provided city and district level demographic statistics that were joined with mapping software to show those patterns at the census tract level by race and income status (Saporito, Chavers, Nixon, & McQuiddy, 2007). . All data used were non-restricted. That is to say, those data are accessible without special permissions through the U.S. Census Bureau. In some instances data from the state of Michigan and the county and city of Kalamazoo were used. Data describing socio-economic characteristics for 2000 were retrieved from the decennial census long form while those for 2010 were gathered primarily from the American Community Surveys (ACS) 2010 five-year records.

One-, three-, and five-year reports were used because the population of Kalamazoo City exceeded 65,000 residents for the entire period under study.

School trends including demographic, segregation, academic achievement, and district stability patterns were examined to calibrate and assess school quality. GIS maps were created using data from the state of Michigan data systems: the Center for Educational Performance and Information (CEPI) and the Michigan Department of Education (MDE) School District Demographic Profiles. In addition, data on both the Kalamazoo Public School district and individual Kalamazoo public and private schools were gathered from federal sites including the National Center for Education Statistics (NCES), the Elementary and Secondary Information System (ELSI), the Civil Rights Data Collection, and the Common Core of Data (CCD). The data included 2005-2006, and 2010-2011 Common Core of Data (CCD), Public Elementary/Secondary School Universe Survey, Local Education Agency (CEPI) data files and data from the 2001-2005, 2006-2010, and 2008-2012 American Community Surveys (ACS). MI CEPI reports on non-public school enrollments from 2008 and 2010 were compared to examine changes in private school attendance. Lastly, aggregate data sets were retrieved from the following organizational sites: the National Historical Geographic Information System (NHGIS), the Global Report Card, and the Brown University State of Public School Integration provided. GIS-compatible boundary files were downloaded from the School Attendance Boundary Information System (SABINS); however, the boundaries included areas in the Kalamazoo RESA so the school district maps were created using U.S. Census Bureau TIGER files of the census tracts in Kalamazoo County. The appropriate census tracts were combined to mirror the KPS boundaries.

Spatial analyses: Segregation and inequality indices. Spatial structure is multidimensional. In addition to GIS analyses, constructs for neighborhood and school segregation over time were analyzed using different dimensions of measurement: exposure/isolation, evenness (dissimilarity), and concentration indices (Massey & Denton, 1988). These metrics describe distinct dimensions of variation and were calculated to take into account race and socioeconomic status (SES). I used census tract data to quantify and examine dimensions of segregation and inequality and execute statistical analyses that uncovered patterns, changes, and trends. Calculations using these data, which described the context at a census tract level, generated more detailed results than a map and revealed differences that were too small to detect in choropleth or graduated symbol visuals.

Total population numbers for Kalamazoo City vary slightly from the population of the city derived from the sum of the data associated with the census tracts. The differences stem from the way the census data were collected, organized, and tabulated. Census tract boundaries always follow the boundaries of states and counties; however, they do not necessarily follow the boundaries of other governmental units. In some situations a county subdivision or a place/city boundary divides a census tract. This is the case with Kalamazoo City. The place/city boundaries divide small portions of a few of the census tracts and the differences are not material. I used census tract data for most of the analyses as these data are required to define school district boundaries, produce the GIS maps and segregation indices, and perform the calculations for the spatial analyses.

The segregation analyses examined the different dimensions of city and school segregation over time. Multiple measures were used because they offer an in-depth understanding of the different aspects of spatial separation. The census tracts/neighborhoods, as

well as their metropolitan area, were categorized into predominantly white (those with 80 percent or more white residents), diverse (those with more than 20 percent but less than 60 percent nonwhite residents), and predominantly nonwhite (with 60 percent or more nonwhite residents) types (Orfield & Luce, 2012). Together, these analyses provided an understanding of macro- and micro-level trends.

The exposure index, for example, offered a glimpse of the typical neighborhood for residents of different races or different socio-economic classes or levels. Exposure indices (P^*) revealed the extent to which members of a particular group are exposed only to members of their own group. The rates ranged from zero to one where zero indicated no isolation and one reflects complete isolation. This measure were also used to look at school contexts. For example, the exposure index might indicate that the average white student in a particular district attends a school with 35 percent Hispanic students. That average is a rough measure of the potential contact between these groups of students.

Meanwhile, the dissimilarity index (D) depicted how individuals from various groups, both race and class, were spread out across the different settings at different levels of geography. This index described the evenness of racial group members across schools in the KPS district or neighborhoods (census tracts) in the city. This measure compared the actual pattern of resident distribution to what it would be if proportions were distributed evenly by race. For example, if the metropolitan area were .35 (or 35 percent) black and .65 (or 65 percent) white and each census tract had this same proportion, the indices would reflect perfect evenness. At the other end, maximum possible segregation or uneven distribution would be present if all of the census tracts in the metropolitan area were either all white or all black. With the dissimilarity index, a

value above .60 indicates high segregation (above .80 is extreme), while a value below .30 indicates low segregation.

Other dimensions of evenness, the Shannon-Weiner Diversity Index and the Theil Entropy Index—which reveal the exposure of one group to many—were considered because the data had some degree of aggregation and an underlying hierarchy (e.g. census tracts within the city or schools within the district). The Theil Index can be deconstructed and is able to provide evidence of inequality both between and within groups. The share attributed to the between-group component suggests the importance of the spatial dimension in inequality. Despite those benefits, the Theil index has a significant disadvantage: It is not easily understood.

The Gini coefficient, which is based on the Lorenz curve, is more intuitive to many people. Moreover, it is the only evenness measure that satisfies the four criteria established by James and Taeuber (1985). Specifically: “the *transfer principle*, which states that a measure should be sensitive to the redistribution or *transfer* of minorities among areal units with minority proportions above or below the metropolitan area’s minority proportion (and not just transfers from areas above to areas below that proportion); *compositional invariance*, which states that the relative size of minority population should not affect the index—i.e. direct comparison can be made between areas/units with different size populations; *size invariance*, which states that the measure should not be affected if the number of people in each group is multiplied by a constant; and *organizational equivalence*, which holds that an index should be unaffected by aggregating units with the same minority composition” (Iceland & Weinberg, 2002). This index, which is well suited for analyses of conditions with two distinct groups, is customarily used to assess income inequality. In Kalamazoo, erosion of the middle class drove growing income inequality that was represented by a bi-modal SES pattern. For these reasons and the fact that it was the

measure used by Chetty et. al. in their work, the Gini coefficient was the foundation for the discussion of Chetty et. al.'s third characteristic in this paper.

GIS mapping functioned as an analog to evenness indices and provided clear and powerful illustrations of the between/within group dynamics for this demographic profile. While the racial composition of the city was becoming multicultural—with three or more subgroups each contributing 10 percent or more to the total population—during the periods under investigation Kalamazoo remained primarily bi-racial/cultural. As late as 2010, blacks and whites composed 87.8 percent of the population while Hispanics and Asians each contributed less than 10 percent to the remainder (Table 5). GIS supplied spatial perspectives depicting inequality within and between Kalamazoo's neighborhoods.

Poverty thresholds were the analytic criteria used to study the SES/class patterns in Kalamazoo. These thresholds are the original version of the federal poverty measure. They are updated annually by the Census Bureau and used primarily for statistical purposes. All official poverty population figures are calculated using the poverty thresholds that describe income poverty. Census tracts were categorized as high-poverty, poor, and low-poverty using the U.S. Census definition developed in 1970 in support of the War on Poverty Programs initiated in the Great Society Legislation. Tracts where 40 percent or more of the residents had incomes below the federal poverty threshold were categorized as high-poverty, those where 20 percent of the residents had incomes below the federal poverty threshold were categorized as poor, and all others were considered low-poverty.

The extent of income inequality was explored using the Gini coefficient and the decennial and ACS census data described above. In addition, data from the Small Area Income and Poverty Estimates (SAIPE) reports were gathered and reviewed. These reports, which

combine data from administrative records and postcensal population estimates in addition to the decennial census and the ACS, are produced primarily for school districts, counties, and states and provide updated estimates of income and poverty statistics that more accurately reflect current conditions than multi-year survey estimates (retrieved 01-Oct-2014 from <http://www.census.gov//did/www/saipe/>). Measures of the dispersion/concentration and inequality of distribution of income or wealth within a population, were calculated across time to assess and describe changes in the levels of inequality. In addition, basic trend and statistical analyses were performed.

The Gini coefficient/index was also calculated using variables that served as proxies for wealth in order to examine the distribution of asset poverty. Inequalities among the frequencies of specific values of household income and housing value data at the census tract level were calculated. Vacancy rates are frequently proposed as an indirect way of measuring economic viability; however, the relationship can be tenuous as other conditions can significantly affect those rates. A cursory examination yielded patterns that aligned with outcomes that emerged from the analyses of income and housing value. As a result, they were not included in the results or discussion. Tenure (i.e. owning or renting one's residence) is also considered as a proxy for wealth; however, the data lacked identifiers and could not be ascribed to individuals or subgroups of residents. This variable was also excluded from the analyses.

School quality was calibrated with statistical and spatial analyses using student demographic data as well as standardized test scores. Substantial research shows strong linkages between segregated schools and multiple forms of unequal educational opportunity and outcomes (Mickelson, 2006). Minority segregated schools tend to have less stable student enrollments and high dropout rates (Balfanz & Legters, 2004; Swanson, 2004). Conversely,

desegregated schools are related to profound benefits for *all* students, including improved academic achievement for minority students with no decline for white students (Braddock, 2009; Crain & Mahard, 1983; Schofield, 1995), heightened critical thinking skills (Schofield, 1995), loftier educational and career expectations (Crain, 1970; Dawkins, 1983; Kurlaender & Yun, 2005), reduction in students' willingness to accept stereotypes (Mickelson & Bottia, 2010), the ability to communicate and make friends across racial lines (Killen, Crystal, & Ruck, 2007) and high levels of civic responsibility (Braddock, 2009). Racial and socio-economic segregation trends were key parts of the analyses performed to evaluate and categorize school quality. My research question focused on the quality of KPS elementary schools so a review of student achievement, the more common approach to measuring school quality, was also completed.

Concentration indices also illustrated levels of inequality. School segregation patterns by the proportion of each racial group enrolled in predominantly minority segregated schools (50-100 percent of the student body are students of color), intensely segregated schools (90-100 percent of the student body are students of color), and apartheid schools (99-100 percent of the schools are students of color) were also explored. Such schools, especially hypersegregated and apartheid schools, are nearly always associated with stark gaps in educational opportunity (Carroll, Krop, Arkes, Morrison, & Flanagan, 2005; Orfield, Siegel-Hawley, & Kucsera, 2011). To provide estimates of diverse environments, the proportion of each racial group in multiracial schools (schools with any three races representing 10 percent or more of the total student body) was calculated.

Schools were categorized into predominantly white (those with 80 percent or more white students), diverse (those with more than 20 percent but less than 60 percent nonwhite students), and predominantly nonwhite (with 60 percent or more nonwhite students) types. These

categories are consistent with the framework used earlier to classify residential data and are based on schema from Orfield & Luce (2012). A similar analysis was performed on data collected by the U.S. Commission on Civil Rights (Steiner, 1977). The degree to which district white enrollment has changed in comparison to the overall metropolitan area was explored to provide insight into whether schools are resegregating, integrating, or remaining segregated or stably diverse.

The schools were also categorized with regard to concentrations of poverty. The school poverty measure used by the U.S. Department of Education, and throughout this report, is the percentage of a school's enrollment that is eligible for free or reduced-price lunch (FRPL) through the National School Lunch Program (NSLP). Schools where more than 75 percent of students are eligible for FRPL are considered high-poverty and those where less than 25 percent of students are eligible for FRPL are considered low-poverty. According to the National Center for Education Statistics (NCES), 20 percent of public elementary schools and 9 percent of public secondary schools in the United States were categorized as high-poverty in 2010. Those schools enrolled close to 6 million elementary students and 1 million secondary students (Aud et. al., 2010).

V. Results

Results are categorized by each of the four context characteristics and described below. Specifically, trends in residential segregation by race and poverty across the city were investigated. Next, the levels of income inequality were determined by studying income and wealth patterns at census tract and city levels. Then, school quality was ascertained and trends were examined by analyzing changes in enrollment and achievement patterns in the KPS district schools. Patterns of racial/ethnic and poverty segregation among the schools were also studied

and considered in the assessment of quality. And finally, changes in family stability were uncovered by studying the proportion and dispersion of single parent families.

Residential Segregation

To determine how residential segregation in Kalamazoo changed after the implementation of the KPSP, I examined Kalamazoo's levels of residential segregation, by race/ethnicity and socio-economic status (SES)/class. Descriptive and trend analyses of the population demographics explained the context and are addressed in the following section. Fluctuations in the number of residents were recorded and reviewed. Changes in the racial/ethnic composition of the population from 1970 through 2010 were documented. Age distributions overall as well as by racial subgroup were also identified.

The next section focuses on the dimensions of segregation—measures that described the spatial expressions of segregation. A segregation typology was introduced in order to designate segregation levels and reveal changes in the residential population patterns. Then different indices were calculated to describe the distribution of and interaction among the different racial/ethnic subgroups over time. These indices explained how residential segregation based on race/ethnicity framed the daily experiences of residents.

Patterns of population dispersion based on SES/class were considered in the final subsection. Poverty is often described exclusively from the perspective of the people affected, by quantifying the number of high-poverty neighborhoods and the demographic information about their residents. This approach does not capture the spatial dimension of poverty—in other words, it does not address segregation by class. To truly understand how poverty affects the quality of life and access to opportunities, it must also be explored from the perspective of place.

In this section the levels of poverty are defined and quantified and areas of concentrated poverty are identified and situated, by census tract, within the geography of the city.

Population demographics: Descriptive and trend analyses.

Population size. According to U.S. Census count data, in 1970 Kalamazoo city's population peaked at 85,555 (Table 3). In the following four decades, the population declined by 13.2 percent. Between 1970 and 1980, the number of residents in the city tumbled 6.8 percent to 79,722 as whites fled to avoid the implementation of a federally mandated school desegregation plan (Miller-Adams, 2009). By 1990 the population inched up to 80,277, which was an increase of just under one percent from the prior decade but a full 6 percent less than two decades earlier. However, within three decades of the population peak, a free fall began in 2000 when the city reported only 77,145 residents. Like other U.S. cities in the rust belt where manufacturing and blue-collar jobs evaporated, Kalamazoo's population continued to leave the city (Miller-Adams, 2009). In 2005, the year that the KPSP was announced, the total population slid to 72,700. In 2010, the population rebounded slightly from its all-time low inching up to 74,262. Projections showed minimal increases year over year.

Table 3. Kalamazoo City population (1970-2010).

Year	Population	Change by Decade
1970	85,555	
1980	79,722	-6.8%
1990	80,277	0.7%
2000	77,145	-3.9%
2005	72,700	
2010	74,262	-3.7%

Source: U.S. Census Bureau Quick Facts

Between 1970—a turning point for school desegregation and white flight—and 2010, the borders of Kalamazoo City remained constant while the number and boundaries of the census

tracts increased from 21 (Figure 4) in 2000 to 22 in 2010. Over the decade, the changes in the number and demographic characteristics of the residents were not uniform across tracts². Four tracts grew although two of them grew modestly (Table 4). The population in seventeen tracts (81 percent) declined. Less than one-quarter (23.5 percent) of those exhibited reductions of more than five percent.

Table 4. Census tract population changes in Kalamazoo City (2000 to 2010).

Census Tract	Growth (2010/2000)	Census Tract	Reduction (2010/2000)
15.06	15.06%	16.04	-0.26%
15.07	7.54%	16.03	-1.18%
2.02	2.11%	15.04	-3.41%
14.01	1.39%	6.00	-4.54%
		12.00	-5.57%
		17.02	-5.57%
		16.01	-7.61%
		3.00	-7.96%
		2.01	-8.57%
		17.01	-9.12%
		18.02	-9.69%
		18.01	-11.42%
		5.00	-13.08%
		1.00	-15.19%
		11.00	-19.27%
		10.00	-19.83%
		9.00	-29.25%

Source: SimplyMap 3.0 data from U.S. Decennial Census 2000 and 2010

Comparing the percent of change among census tracts did not reveal the complete story because the land and population sizes were not equal. In 2010, close to one-third of the tracts

² The changes were measured by comparing the total population in 2002 in the 2002 geography with the total population in 2010 in the 2002 geography.

(2.01, 2.02, 9.00, 11.00, 16.03, 16.04) had populations below 2,000; one-third had populations between 2,000 and 4,000; and the final third had populations over 4,000 (Figure 6).

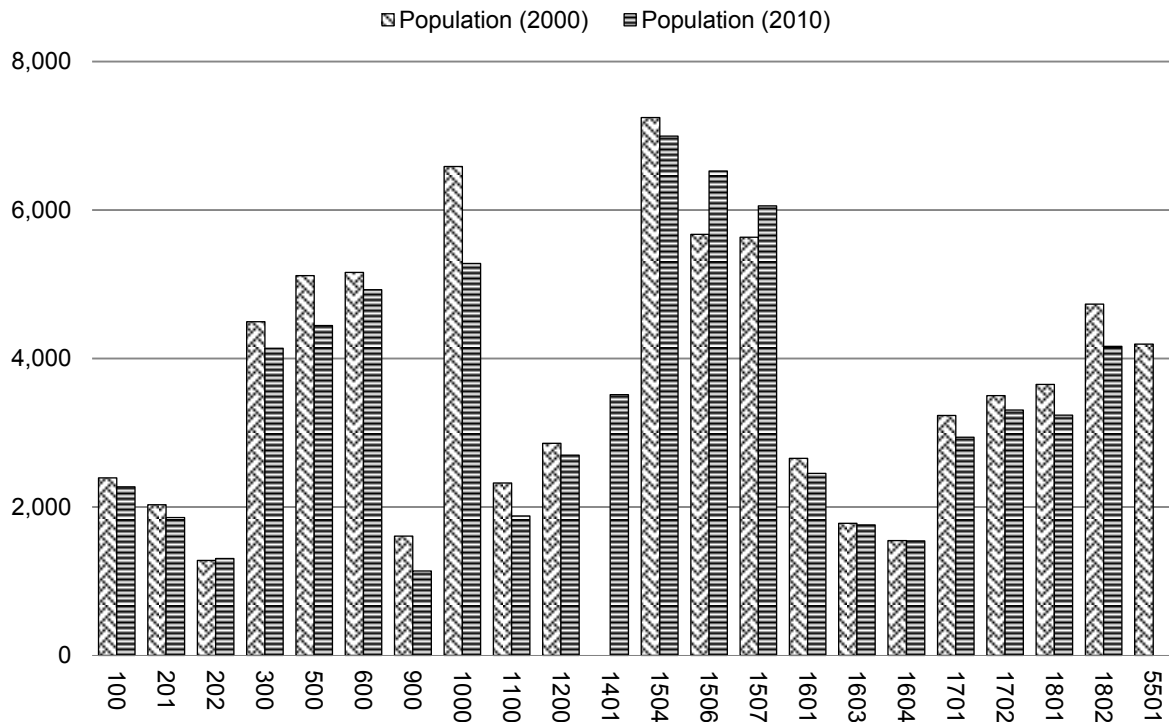


Figure 6. Population numbers for Kalamazoo City census tracts (2000 and 2010).

Source: SimplyMap 3.0 data from U.S. Decennial Census 2000 and 2010

Racial/ethnic composition. During that same time period the share of white residents fell while the shares of black and Hispanic residents grew. In 1970 just under 11 percent of the population was composed of minorities (Figure 7). Whites accounted for 89.4 percent of the total population, blacks contributed 10.0 percent, and other/non-specified making up the remaining 0.6 percent. Those of Hispanic ethnicity/origin³ comprised just below 2 percent of the population (Steiner, 1977, p. 1).

³ In the 1970 Hispanic ethnicity was based in large part on whether the person(s) had a Hispanic surname. This ethnicity was not associated with any designation of race.

The 2000 Decennial Census uncovered a smaller city characterized by significant shifts in racial makeup. After 30 years, whites remained a majority; however, the share of blacks almost doubled and the proportion contributed by the sum of other racial groups grew 19-fold to slightly more than 12 percent of the 77,145 residents (Figure 7). In the decade between 2000 and 2010, the total population of Kalamazoo City fell by 3.7 percent or 2,883 residents, while the total number of white residents fell by 13.3 percent from 53,616 to 46,488. The share of the population that was white fell by just under four (3.9) percentage points.

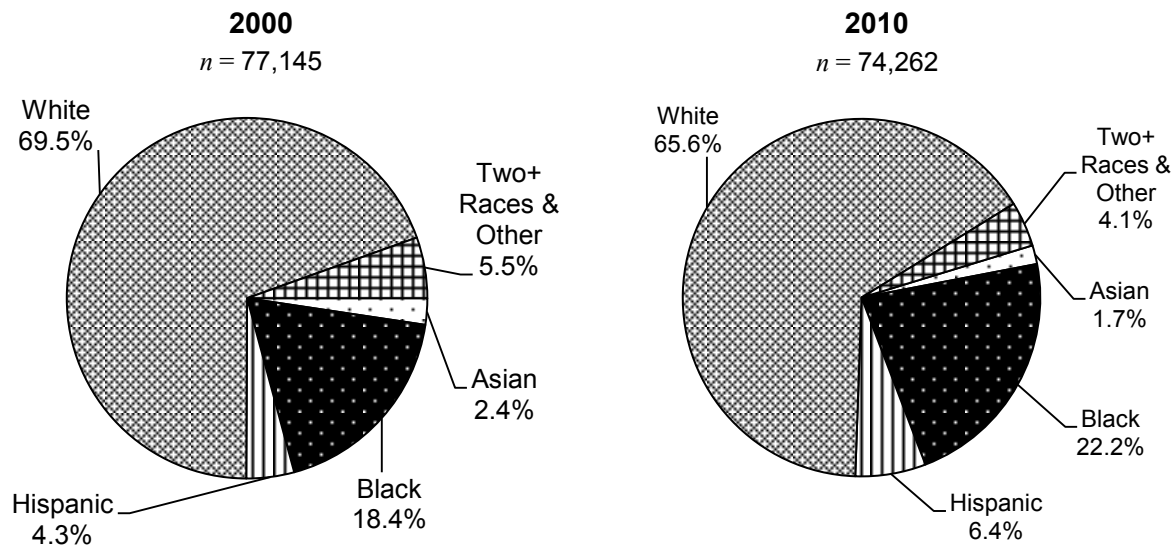


Figure 7. Kalamazoo City population by race—2000 and 2010.

Source: Census Geography-Kalamazoo city, Michigan: Profile of General Population and Housing Characteristics: 2000. http://www.census.gov/prod/cen2000/DEC_00_DP_DPDP1.htm

The city's 2010 total population remained majority white. Nevertheless, it had a higher proportion of minorities than Portage City (its sister city in the metropolitan statistical area) the county, or the state (Table 5). More than three-quarters of the residents in the county and state as compared to under two-thirds of the residents in Kalamazoo City were white. There was a twenty percentage point spread between the share of white residents in Portage City, where they comprised more than 85 percent of the total population, and the share in Kalamazoo City.

Table 5. Comparison of 2010 population by race: Kalamazoo City, Kalamazoo County, and the state of Michigan.

	Kalamazoo City	Portage City	Kalamazoo County	Michigan
White	65.6%	85.2%	79.9%	76.6%
Black	22.2%	4.9%	10.7%	14.2%
Hispanic	6.4%	3.1%	4.0%	4.4%
Asian	1.7%	3.8%	2.1%	2.4%

Source: U.S. Census Bureau 2010 data, retrieved 2014-Mar-08 from <http://www.quickfacts.census.gov/qfd/states/26/2642160.htm>

Age composition by race/ethnicity. At 26.1 years and 26.2 years, the median ages in 2000 and 2010 were comparable (Figure 8). At first glance, the pie charts appeared identical; however, a more careful inspection revealed small shifts in the distributions. In both census reports, approximately one-fifth of Kalamazoo City's residents were 18 years or younger. However, between 2000 and 2010 the share associated with that population grew 0.2 percentage points from 20.3 percent to 20.5 percent. In both census reports the 18 to 34 year demographic contributed more than two-fifths to the total; however, between 2000 and 2010 that segment shrank a little more than one-half a percentage point from 42.6 percent to 42.0 percent. The working age population, those between 18 and 64 years, accounted for 69.6 percent of the population in 2000 and grew to 70.1 percent in 2010. The growth occurred in the middle to older segments of that larger group as the share of those aged 35 to 64 years grew 4.1 percent from 27.0 percent to 28.1 percent of the total. In 2010, fewer than one in ten people in Kalamazoo City was 65 years or older. That age group experienced the largest percentage change of all groups, shrinking by 6.9 percent.

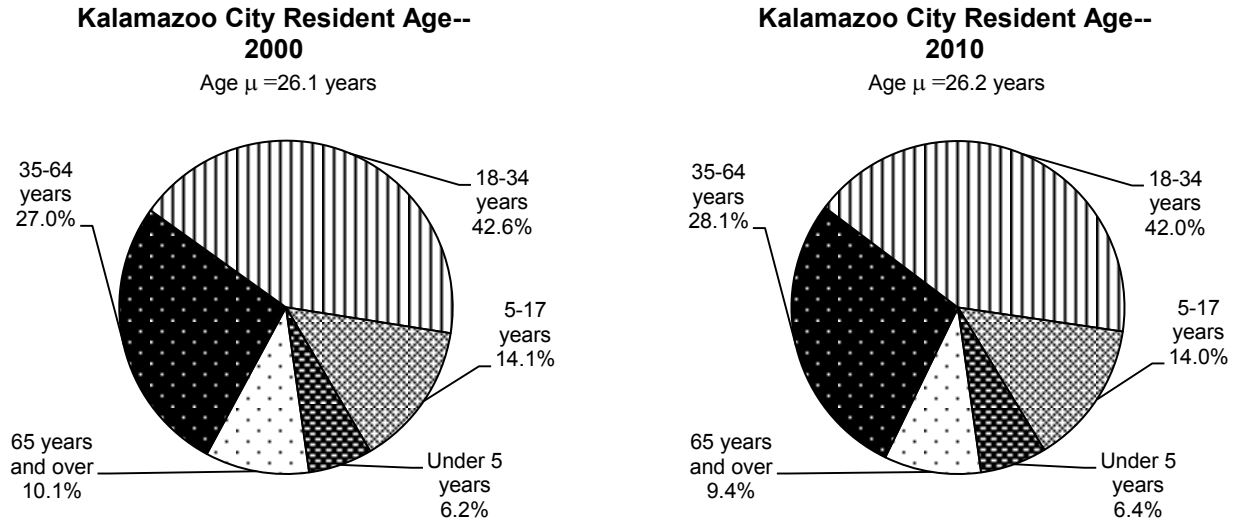


Figure 8. Kalamazoo City population by age—2000 and 2010.

Sources: U.S. Census Factfinder Table—Kalamazoo City, MI: 2000 <http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=bkmk>
 Census Geography-Kalamazoo city, Michigan: Profile of General Population and Housing Characteristics: 2010. http://www.census.gov/prod/cen2010/DEC_10_DP_DPDP1.htm

Examining the racial/ethnic composition of age groups (Figure 9) exposed sizable differences, most noticeably among school-age residents. The black, Hispanic, and two or more races subgroups, contributed a larger proportion to the school age group than their relative shares of the population overall.

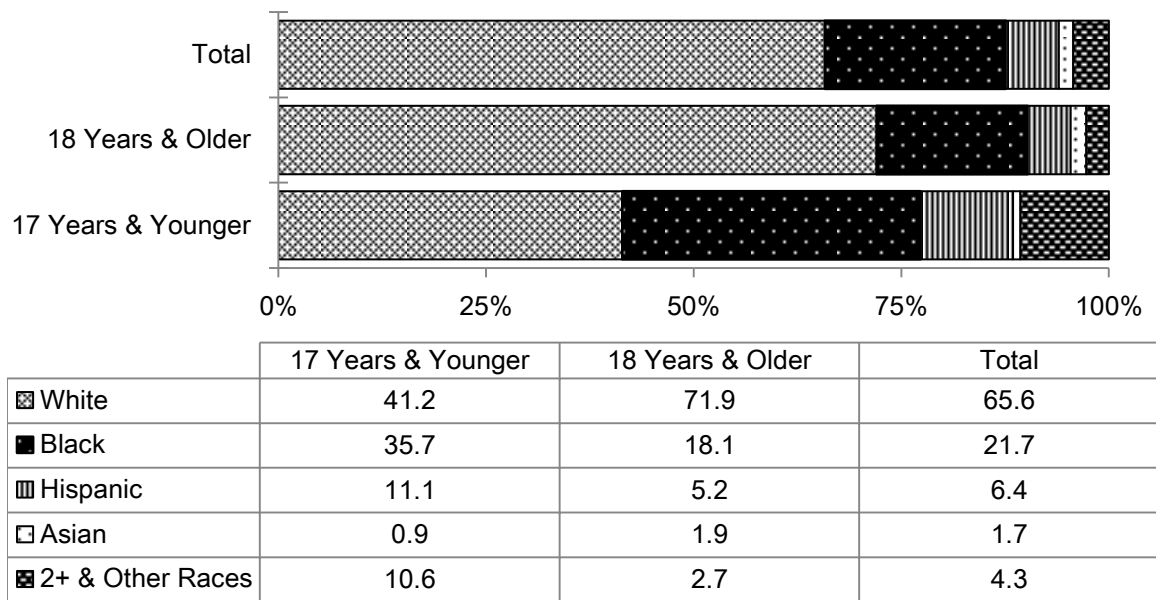


Figure 9. Kalamazoo City residents: Racial composition of age ranges (2010).

Source: Census Geography-Kalamazoo city, Michigan: Profile of General Population and Housing Characteristics: 2010. http://www.census.gov/prod/cen2010/DEC_10_DP_DPDP1.htm

While whites were a clear majority of the total population in the city, they accounted for approximately two-fifths (41.2 percent) of the school age population. In the same period, the proportion of white school-aged children in Kalamazoo County neared 83 percent. School aged blacks represented more than one-third (35.7 percent) of that age group compared to just over one-fifth (21.7 percent) of the total population. In stark contrast, the percent of children ages five through 17 in Kalamazoo County who identified as black accounted for only 7.3 percent of the total. The Hispanic and two or more race subgroups contributed shares to the school age category that were approximately double the amount that they contributed to the total population. That is to say, the Hispanic subgroup comprised 6.4 percent of the total population and 11.1 percent of those younger than 18 years and the two or more races subgroup ballooned from under

four percent of the total population to over 10 percent of those younger than 18 years. In the county, those children represented 6.0 percent of the population.

The racial/ethnic distribution of the school-aged population was significantly different from those of the population 18 years and older and the total population (Figure 9). The school-aged subset was the only group where the non-white subgroups constituted the majority of the population. The difference between the shares of white compared to black students was only 5.5 percentage points whereas the difference between the shares of white compared to black adults was 53.8 percentage points. This distribution helps to explain why the city was majority white while the public schools were majority minority.

Summary: Population demographics. A declining population was a key condition that prompted the introduction of the KPSP. Between 1970 and 2010, Kalamazoo City's population tumbled more than 13 percent to 74,262. Despite an increase since the introduction of the KPSP, Kalamazoo City remains smaller than in 2000. Population declines affected 81 percent of the city census tracts. Only four tracts saw a rise in the number of residents since 2000. The four census tracts that comprise the urban core experienced the largest population declines losing between 15 and 30 percent of their residents. While the city population remains majority white, minority groups continue to gain share. With only 41.2 percent of the population younger than 18 years identifying as white, this age category is the first to transition to majority minority designation.

Racial segregation: Spatial analyses.

Mapping the Kalamazoo City population. Mapping the changes in the city by census tract revealed more meaningful patterns and guided more robust analyses, by providing tangible visual representations of the context. At the most basic level, maps revealed population shifts

across Kalamazoo neighborhoods (Figure 10). For example, four census tracts attracted new residents. The census tracts that experienced the largest growth were two contiguous tracts, 15.06 and 15.07, located in the northwest corner of the city. The other tracts that recorded increases each grew by less than five percent and were located in the northeastern corner of the city. The largest reductions were uncovered in a cluster of four tracts (1, 9, 10, and 11) located in the center of the eastern border. The losses ranged between -15 and -30 percent compared to increases that spanned between one and 15 percent (Table 4).

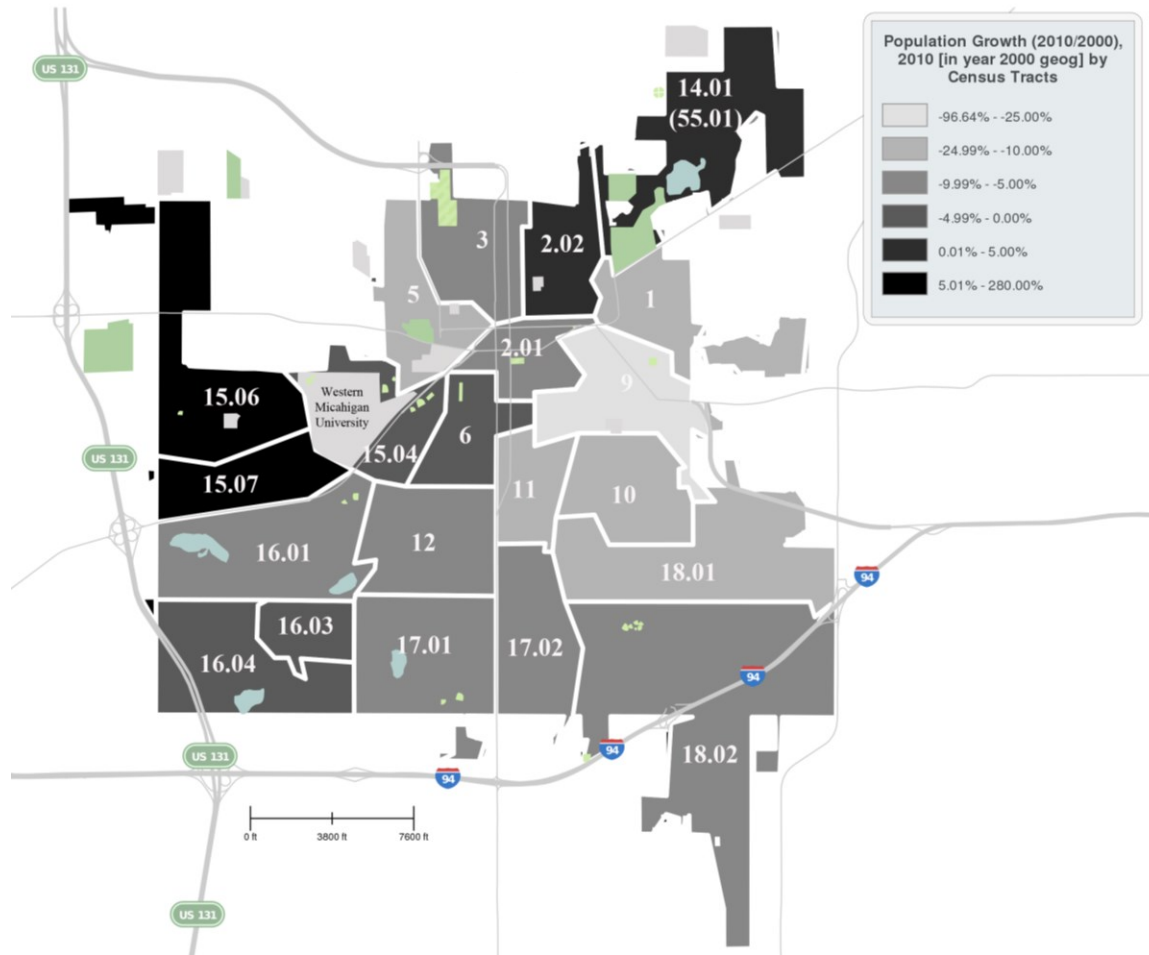


Figure 10. Population changes in Kalamazoo City between 2000 and 2010 by census tract.⁴

Source: SimplyMaps 3.0 using U.S. Census Bureau decennial census data from 2000 and 2010

Segregation typologies. To get a clearer picture of the dispersion of the different racial subgroups of the population among the census tracts, the tracts were categorized using a two-tier structure (Figure 11). First, the tracts were categorized using a typology adopted for analysis of metropolitan areas (Orfield, M. & Luce, 2012, p. 8). Orfield and Luce use four designations; in this study I will apply three of the four. Their fourth designation, exurbs, which they defined as areas where less than 10 percent of the land area was categorized as urban in 2000, was not

⁴ The percent change in the number of residents was calculated and associated with the tract geography from 2000.

relevant in this report. The designations used included: Predominantly white (PW) areas where more than 80 percent of the population was white; Diverse (D) areas where non-white residents represented between 20 and 60 percent of the population; and Predominantly non-white (PNW) areas where more than 60 percent of the population was non-white.

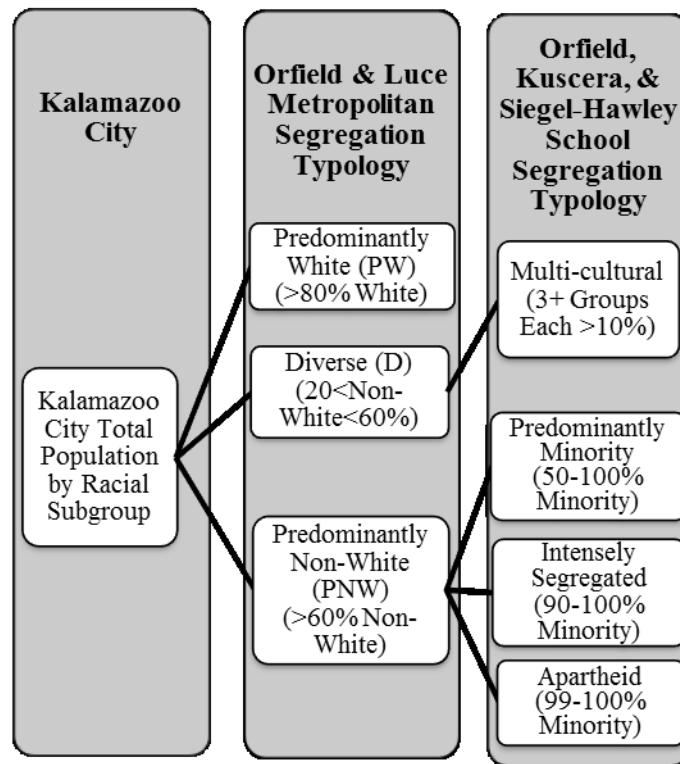


Figure 11. Segregation typology diagram.

Sources: Orfield, M. & Luce, T. (2012) and Orfield, G., Kuscera, J. & Siegel-Hawley, G. (2012)

However, to provide a more precise description for segregation, particularly at the small scale of a census tract, I overlaid a second set of categories on the Orfield and Luce typology.

This scale contains four designations—multiracial, predominantly minority, intensely segregated, and apartheid—that subdivide the D and PNW categories and described the conditions in more detail. Often used in school desegregation research (e.g. Orfield, G., Kuscera, & Siegel-Hawley, 2012), these designations were used to describe segregation levels in Kalamazoo City. This practice provided consistency between the analyses of the context and its

schools. Moreover, KPS used magnet schools as a strategy to promote desegregation for decades. Using the school segregation typology to describe the census tracts provided a means to compare the segregation designation that would likely manifest in the neighborhood school given the segregation designation that characterized the neighborhood. These categories were calculated for two population sets within the census tracts: the school-aged residents and the total tract population. The characterizations of the school-aged population were not used for the final analyses, as their absolute size and share of the total population were inconsistent among the tracts. In some cases the sample sizes were too small to rule out the influences of confounding factors or random chance. However, those results were considered and used as red flags to identify situations where the validity of the conclusions might be called into question and warrant more extensive examinations in future studies.

To determine a tract's racial typology designation, the share of the total population of the tract that each racial subgroup comprised was calculated. These analyses identified the number and percent of tracts that fell into different categories of segregation. These data were also used to determine whether a tract could be characterized as multi-racial, predominantly minority, or apartheid. In 2000, whites accounted close to three-quarters or more of the population in all but six of the 21 census tracts (Figure 12). In 2010 the population within the census tracts was more diverse. While a majority of the tracts remained predominantly white, they constituted smaller shares of the population in every tract in the city (Figure 13).

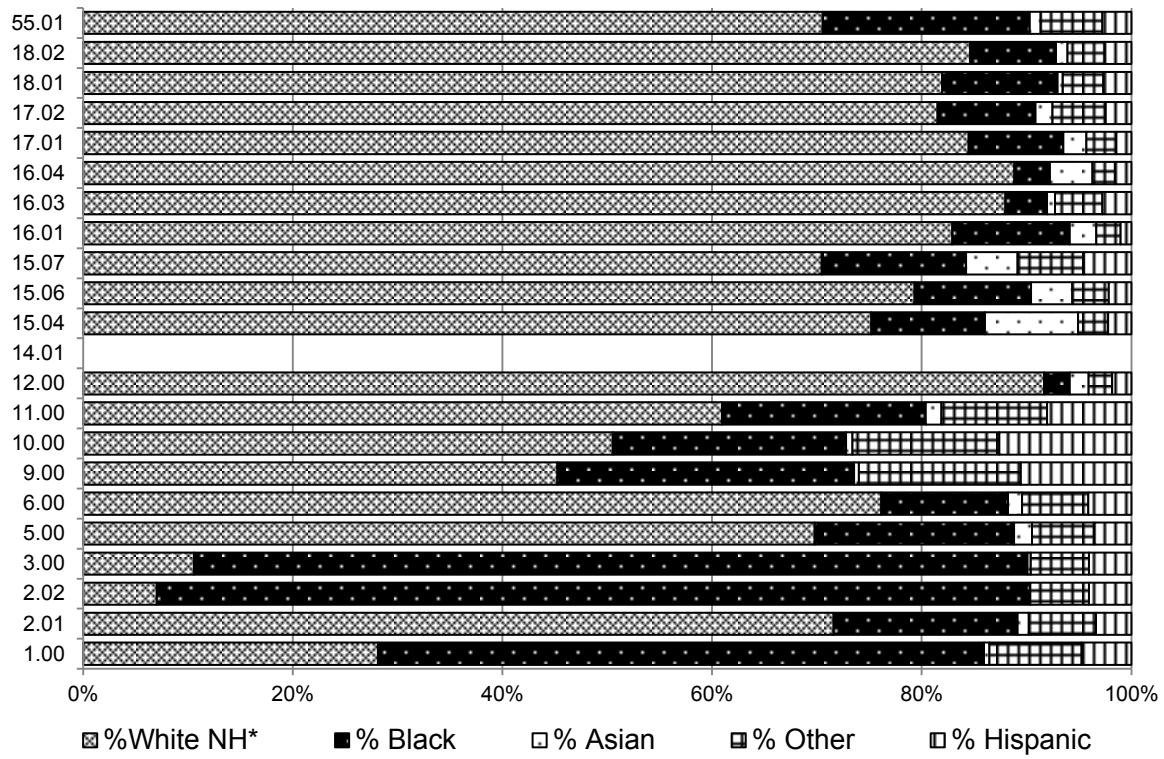


Figure 12. Kalamazoo City racial composition by census tract (2000).

Source: SimplyMaps 3.0, U.S. Census Bureau decennial census 2000

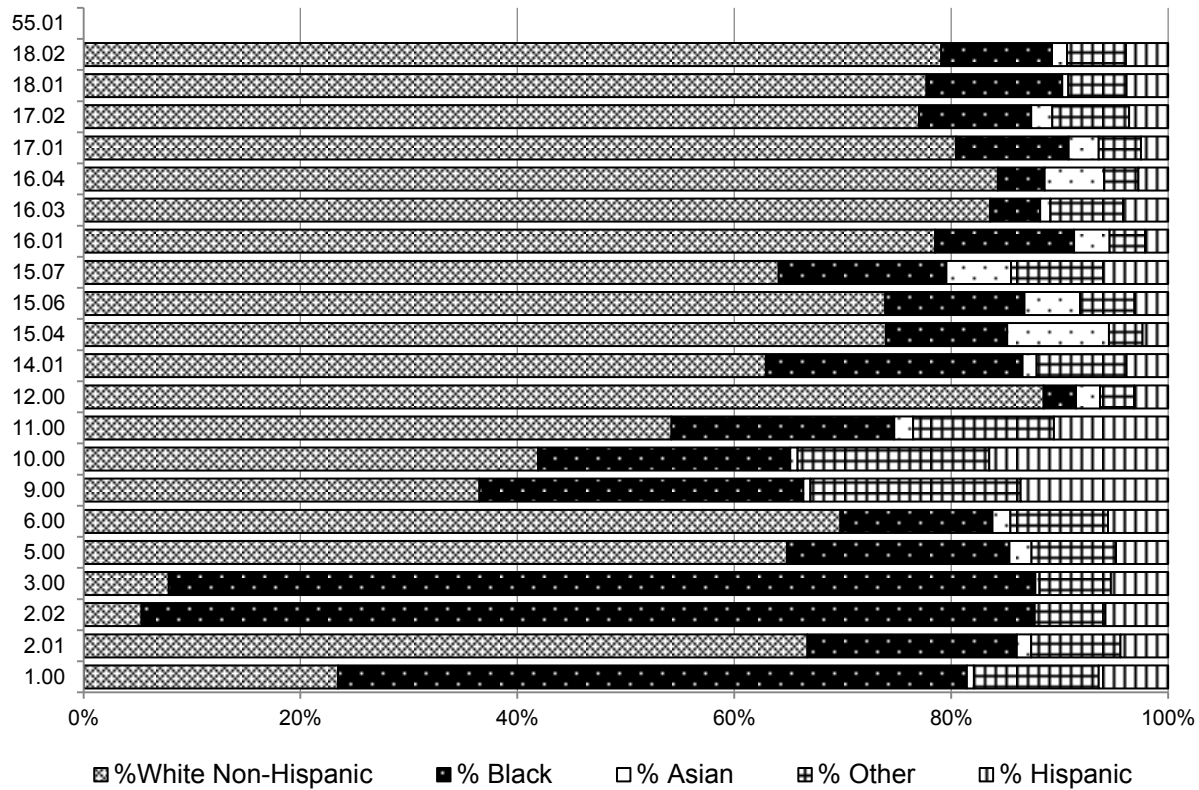


Figure 13. Kalamazoo City racial composition by census tract (2010).

Sources: SimplyMaps 3.0, U.S. Census Bureau decennial census 2010

Based on the three level metropolitan categories, the city became more diverse between 2000 and 2010 with a majority of the tracts moving into the diverse (D) category. The city overall was diverse (Table 6) and a portion of the census tracts shifted from predominantly white (PW) to diverse (D). In both periods the three predominantly non-white (PNW) tracts, 1, 2.02, and 3 maintained that designation. The number of PW tracts shrunk to seven tracts in 2010 from nine in 2000, comprising one-third of Kalamazoo’s tracts. Tracts 17.02 and 18.02 became diverse as a result of increases in groups identifying as black, other, or two or more races. The share of whites dropped between six and nine percentage points and the share of Asians inched down. The proportion of D tracts grew by almost five percentage points to 52.5 percent, constituting a majority of the tracts. Over the last couple of decades Kalamazoo City’s

demographic profile shifted from two dominant racial groups, white and black, to a more diverse population composed of white and many non-white groups. This pattern mirrors the changes occurring in the nation overall; however, most of the area surrounding the city remained predominantly white.

Table 6. Segregation trends in Kalamazoo City between 2000 and 2010.

Designation	2000		2010	
	# Of Tracts	% Of Total	# Of Tracts	% Of Total
Predominantly White (PW)	9	40.9	7	33.3
Diverse (D)	10	45.5	11	52.4
Predominantly Non-White (PNW)	3	13.6	3	14.3

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>⁵

Maps revealed the geographic pattern of segregation. Both maps (Figure 14 and Figure 15) reveal that minority residents consistently clustered in a handful of tracts along the eastern and northeastern boundaries of the city. In 2000, tract 2.02 was the single intensely segregated tract. Tracts 1 and 3 were PNW and tract 9 was PM. There was a slight shift in 2010 with the three northeastern tracts (1, 2.02, and 3) falling into the PNW category and census tract 10 moving from the D category to join tract 9 in PM status. Overall the PNW and PM categories expanded further down the eastern border. Four of the five minority tracts experienced an outflow of residents. Moreover, tracts 1, 9, and 10, experienced population losses of more than 15 percent. Census tract 2.02 was the only minority track that saw a net inflow of residents and it moved from the IS category into the PNW category. In 2000 nine of the tracts were PW and these tracts were clustered on the western and southwestern borders of the city leaving eight of

⁵ Between 2000 and 2010 two tracts were eliminated, 14.01 and 29.03, and one track was added, 55.01. A small portion of 29.03 is in the KPS district but it is not included in the segregation analysis for the city.

the centrally located tracts in the D category. In 2010, the number of D tracts grew by 50 percent encompassing 12 tracts including those on the southwestern border and a few tracts along the western border. In 2000, the PW category, composed of nine tracts, accounted for the largest share of the tracts. By 2010, the category shrunk by 55.6 percent with only four tracts remaining along the western border.

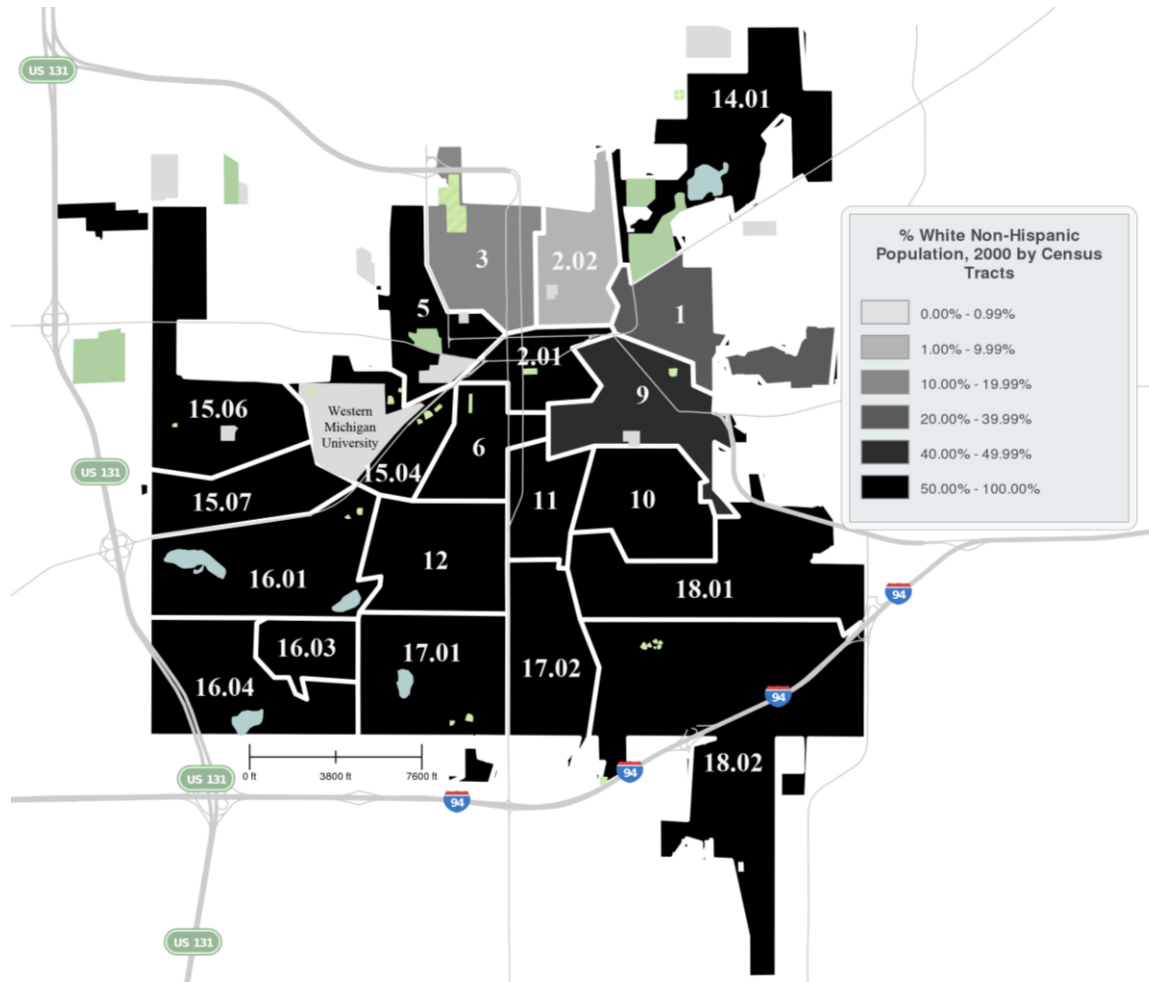


Figure 14. Percent of white population in each Kalamazoo City census tract (2000).

Source: SimplyMaps 3.0 using U.S. Census Bureau decennial census data from 2000

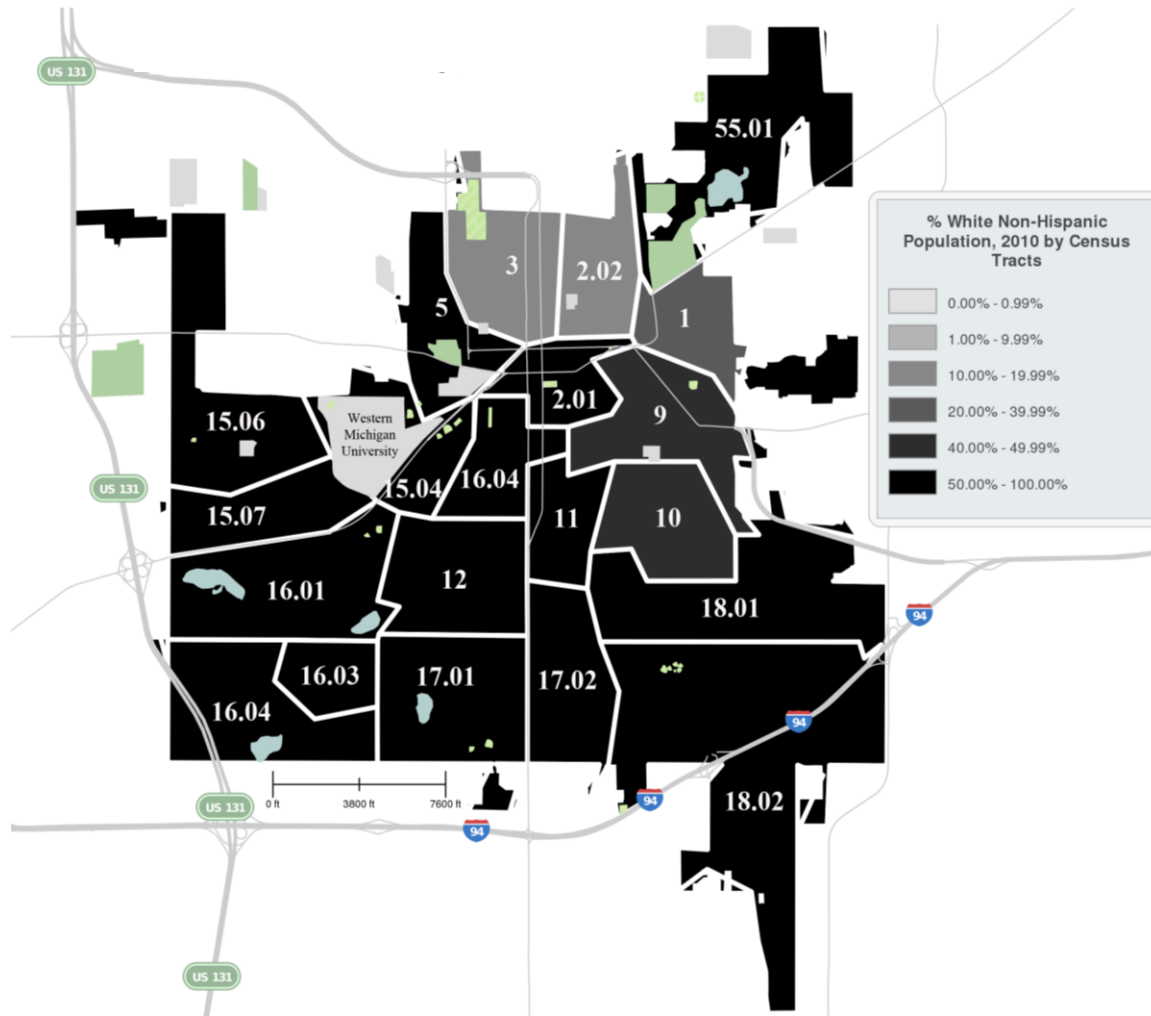


Figure 15. Percent of white population in each Kalamazoo City census tract (2010).

Source: SimplyMaps 3.0 using U.S. Census Bureau decennial census data from 2010

In 2010, more than half of the Asian residents (53.71 percent) lived in three contiguous tracts in the far western portion of the city, which contained and surrounded Western Michigan University. These tracts, 15.04, 15.06, and 15.07 were also home to 27.9 percent of Kalamazoo’s white residents. Only 13.7 percent of black residents were in these tracts. Tract 15.06 had the highest concentration of whites (11.24 percent) of any one tract in the city. Close to one in four (23.6 percent) Asians called tract 15.07 their home. The only multi-cultural tract in the city was census tract nine, which was located in eastern Kalamazoo. This tract accounted

for 1.7 percent of the city's population. Five in ten (51.4 percent) residents were white, almost three in ten (28.0 percent) were black, and two in ten (20.1 percent) were two or more or other races.

According to the second stage of the segregation analysis model (Figure 11) multi-racial tracts were those where at least three racial subgroups each comprises at least 10 percent of the tract population. None of the tracts fit that description in 2000 (Table 7). One decade later, 4.5 percent of the tracts were multi-racial. Predominantly minority tracts were those in which minority residents comprised 50-100% of the population. In 2000, close to one in seven residents or 14.3 percent of the population lived in a predominantly minority tract. That number fell to 13.6 percent in 2010. In just one decade, the share of predominantly minority tracts fell by 4.9 percent. Tracts where 90 to 100 percent of residents are minorities are categorized as intensely segregated and those where 99 to 100 percent of residents are minorities are identified as apartheid. In both time periods there were neither intensely segregated nor apartheid census tracts in Kalamazoo City.

Table 7. Number and percentage of multi-racial and minority tracts in Kalamazoo City (2000 and 2010)

Year	Total Tracts	% Multi-Racial Tracts	% Predominantly Minority Tracts (50-100% Minority)	% Intensely Segregated Tracts (90-100% Minority)	% Apartheid Tracts (99-100% Minority)
2000	21	NT	14.3	NT	NT
2010	22	4.5	13.6	NT	NT

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

The shares of the different racial subgroups in predominantly minority tracts varied modestly over the decade. In 2010, one in three black Kalamazoo residents lived in these tracts,

a decrease of just over five percent from the prior decade. In 2010, one in four people who identified as “two or more races” or “other” resided in these Kalamazoo tracts; an increase of just over two percent (Figure 16). Approximately 2.5 percent of white residents and 0.61 percent of Asian residents lived in predominantly minority tracts.

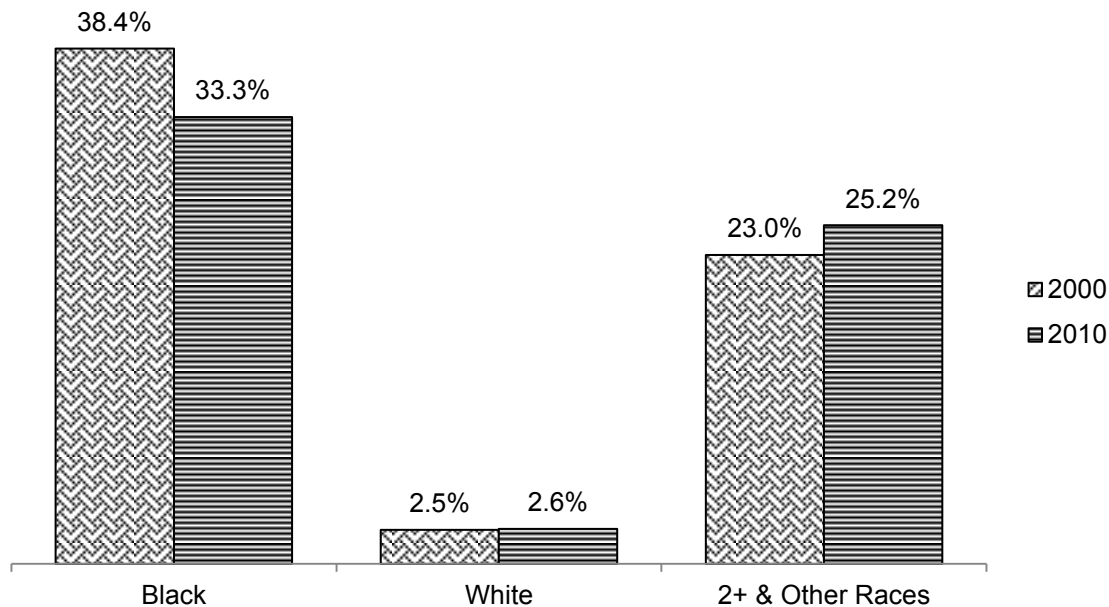


Figure 16. Percentage of Kalamazoo City residents in predominantly minority census tracts by racial subgroup.

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

Dimensions of segregation.

Evenness measures. The dissimilarity index is the most common measure of segregation. As mentioned earlier in the Methods section, this index measures the evenness of the distribution of subgroups across the different census tracts and is not affected by the relative size of the groups being compared. The dissimilarity index ranges from zero to 100 where the higher values indicate higher levels of segregation. Values of 30.0 or below describe an area with fairly low levels of segregation. Moderate segregation is characterized by values of 40 or 50 and values of 60 or greater indicate very high levels of segregation. Two comparisons were made: the total

population of each race to the white population of the city, and the population of school-aged residents of each race tract to the total school-aged white population in the city as a whole (Figure 17).

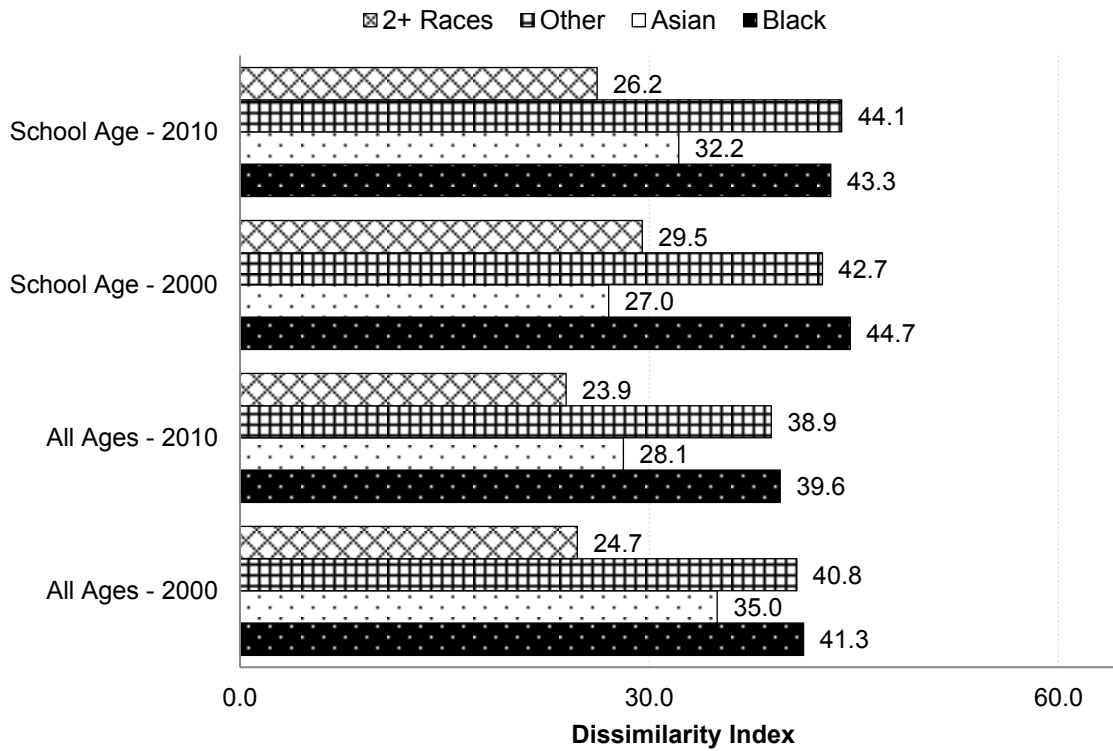


Figure 17. Dissimilarity indices—racial subgroups to white population of Kalamazoo City, 2000 and 2010.

Note: Segregation level descriptors— Fairly Low ≤ 30 , Moderate $40 < \text{Moderate} < 50$, High ≥ 60

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

Overall, none of the races experienced high levels of segregation in 2000 or 2010. In 2000, the dissimilarity indices for all races except “two or more races” fell close to or within the moderate level. In 2010 both blacks and “others” experienced segregation levels just below the cusp of moderate, while the other groups fell into the fairly low category. Black and “other” students experienced moderate levels of segregation from whites in both time periods. The dissimilarity indices for blacks to whites dropped 1.4 percentage points between 2000 and 2010

while the dissimilarity indices for “others” to whites increased by 1.4 percentage points. Asian students saw a small increase in the segregation levels over time and those who identified as “two or more races” saw a decrease of 3.3 percentage points.

Exposure measures. Exposure measures, which measure the level of interracial contact among city residents, provide a key approach to determine the levels of segregation since they show the actual level of diversity in the census tract where the average member of a given group lives. The interaction and isolation indices are measures of exposure and offer insights into how the average member of a minority group experiences segregation. Unlike evenness measures, these measures are influenced by the relative sizes of the groups being compared. The interaction rates for the two dominant racial groups were examined as these two groups—white and black residents—comprised 90 percent or more of the population. The first column of the graph (Figure 18) depicts the overall share of white residents in Kalamazoo City during the time period noted. The next three columns reflect the percent of white residents in the census tract where the typical white, black, and Hispanic residents live. In other words, these columns represent the rate of interaction to whites associated with each of the different racial/ethnic groups.

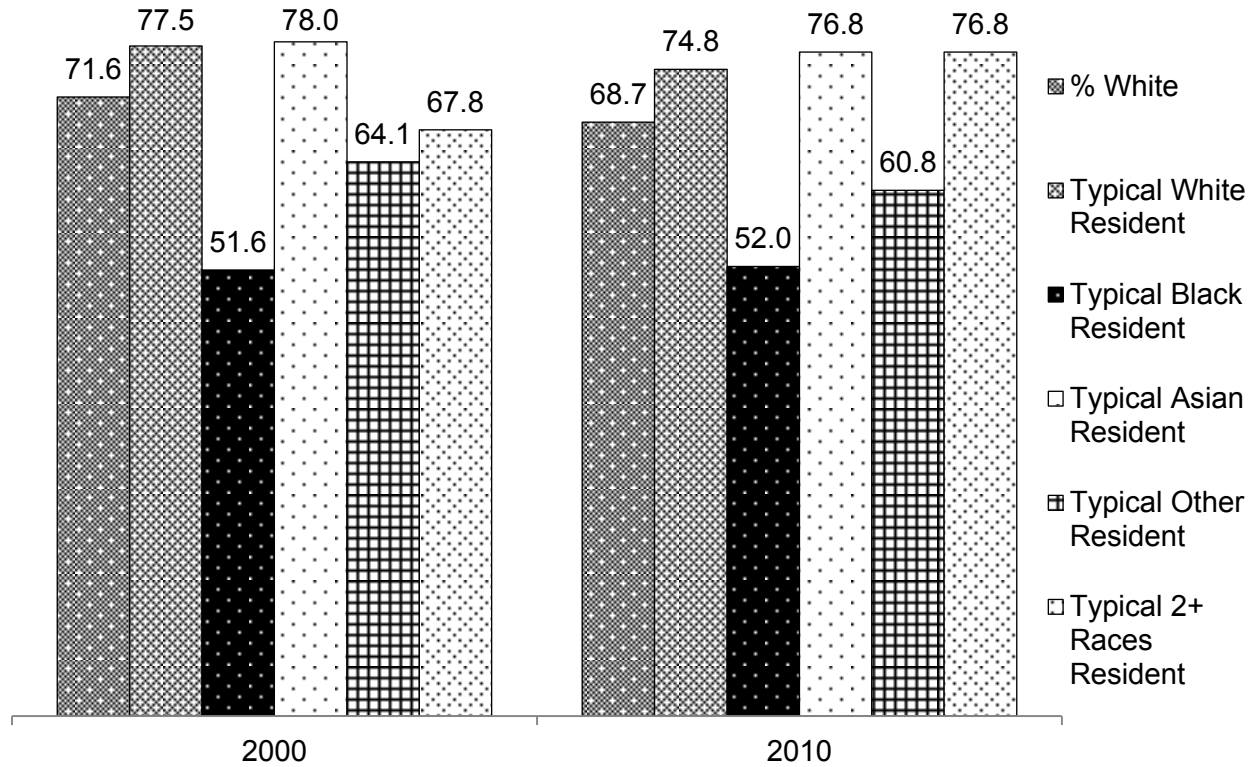


Figure 18. Interaction indices to whites (2000 and 2010)—exposure to white residents in Kalamazoo City for different racial groups.⁶

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

Between 2000 and 2010, white residents continued as the majority despite a 2.9 percentage point drop from 71.6 percent to 68.7 percent of Kalamazoo City’s population (Figure 18). This pattern reflects population trends in the state where the share of non-Hispanic whites dropped from 78.6 percent in 2000 to 76.6 percent in 2010 (U.S. FactFinder DP-1 Tables retrieved 18-Sep-2014). While directionally consistent, the share of white residents in Kalamazoo City was lower and dropped more quickly than the proportion of whites in the state.

⁶ The absolute population numbers and the share of the total population are different from those in Figure 7. The numbers from that figure are for the entire “place” and they came from the decennial census. The numbers in Figure 13 came from a different source although the decennial census numbers were used. These numbers represent the totals in each of the census tracts. Given the shifts of tracts over the period there are minor differences in the numbers.

In conjunction with demographic trends, there was a noteworthy decline in the exposure to white residents, for the typical resident of each race. In both decades, the typical white lived in a tract where the large majority of her/his neighbors were other whites. This share of the tract's population was greater than what would be expected based on the percent of white residents in the city as a whole. For example in 2010, whites comprised 68.7 percent of the city's population; however, typical white residents lived in tracts where whites accounted for 74.8 percent of the population of the tract. In each decade, the gap between the overall share of whites in Kalamazoo and the share of white residents in the tract of a typical white has remained fairly stable moving only 0.2 percentage points from 5.9 percentage points in 2000 (77.5 percent minus 71.6 percent) to 6.1 percentage points in 2010 (74.8 percent minus 68.7 percent).

Over the same period, the typical black resident lived in tracts where they were underexposed to whites. However, the gap closed slightly (3.3 percentage points) as there was a 20.0-percentage point difference in 2000 compared to a 16.7-percentage point difference in 2010. A 2.9 percentage point reduction in the share of the white population coupled with an overall increase in non-white populations accounted for the narrowing gap. Asian residents were overexposed to whites in both periods with fairly consistent gaps that hovered just over six percentage points. Those who identified as "other" experienced an increase of less than one-half of a percentage point (0.4) in the gap by which they were underexposed to whites. In 2000, there was a spread of 7.5 percentage points, which grew to 7.9 percentage points in 2010. Dramatic shifts occurred for residents of two or more races. Their overall share of the population almost doubled, growing by 43.8 percent, during the decade growing from 3.2 percent in 2000 (U.S. FactFinder Census 2000 SF-1 Table retrieved 10-Feb-2015) to 4.6 percent in 2010. Moreover,

they were underexposed to whites by 3.8 percentage points in 2000 and overexposed to whites by 8.1 percentage points in 2010.

Between 2000 and 2010, approximately two in ten Kalamazoo residents were black. Their share of the city’s population grew by 1.7 percentage points from 20.4 percent to 22.1 percent (Figure 19). In the state, the share of blacks remained constant at 14.2 percent in both census reports (U.S. FactFinder DP-1 Tables retrieved 18-Sep-2014). The proportion of black residents in the city exceeded that in the state in both periods and the gap grew from 6.2 percentage points in 2000 to 7.9 percentage points by 2010.

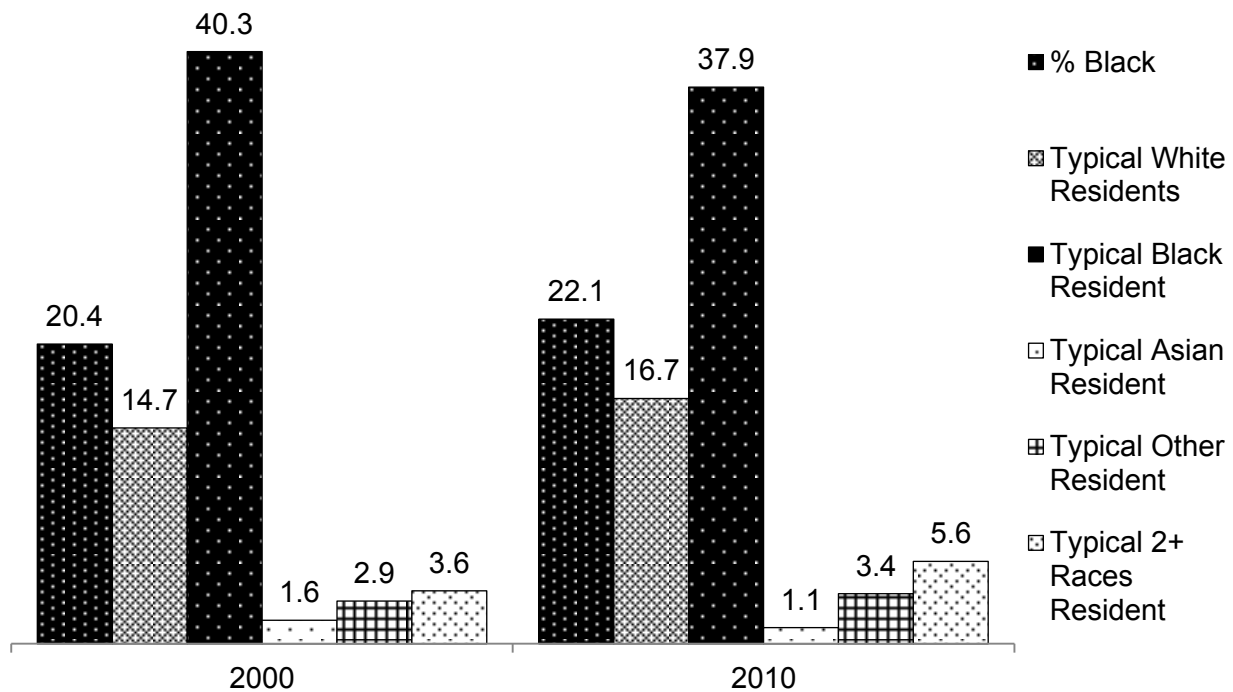


Figure 19. Interaction indices to blacks (2000 and 2010)—exposure to black residents in Kalamazoo City for different racial groups.

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

The graphs of the indices that describe the interaction rates of different racial subgroups with blacks (Figure 19) show the percentage of black residents in Kalamazoo City compared to

the share of blacks in the tract where the average member of different racial groups live. In both 2000 and 2010, the typical black resident in Kalamazoo City lived in tracts where they were overexposed to blacks. In 2000, blacks were overexposed to blacks by approximately 20 percentage points. The overexposure to blacks, while still high, fell from 19.9 percentage points in 2000 to 15.8 percentage points in 2010. White residents were underexposed to blacks in both time periods; however, the gap decreased by nearly five percent moving from 5.7 percent in 2000 to 5.4 percent in 2010. Asian and “other” residents were underexposed to blacks in both time periods with double-digit gaps that grew slightly reaching 21.0 and 18.7 percentage points respectively in 2010. Residents of two or more races were underexposed to blacks in both periods; however, the gap declined 0.3 points from 16.8 percentage points in 2000 to 16.5 percentage points in 2010.

Isolation indices. Isolation indices indicate the percentage of same-group population in the census tract where the average member of a racial group lives. It explains “the extent to which minority members are exposed only to one another,” (Massey & Denton, p. 288). This index is affected by the size of a group so the value is likely to decline as groups shrink. Between 2000 and 2010 the population of Kalamazoo City declined by 6,637 (Table 8) and the number of white and black residents fell by 6,897 and 90 respectively. The size of the loss of white residents (-6,897 or -11.9 percent) exceeded that of residents overall (-6,637 or -8.2 percent). Given the difference in the orders of magnitude of the population losses among whites (-11.9 percent) and blacks (-0.5 percent), reductions in the isolation indices were expected.

Table 8. Trends in population counts and isolation indices for Kalamazoo City's white and black residents (2000 and 2010).

	2000	2010	Change	% Change
Population: All	81,099	74,462	-6,637	-8.2%
Population: Whites	58,064	51,167	-6,897	-11.9%
Population: Blacks	16,577	16,487	-90	-0.5%
Isolation Index: Whites	.78	.75	-.03	-3.7%
Isolation Index: Blacks	.40	.38	-.02	-6.0%

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

Summary: Racial segregation. Changes in the dispersion of Kalamazoo City population were not uniformly distributed across the different tracts. Maps revealed that significant growth was confined to two tracts in the city's northwest while the urban core bore the brunt of the most significant population declines. The tracts that saw growth were majority white and the shares of white residents grew. On the other hand, the four tracts that absorbed the largest losses saw significant outflows of white residents. For example in 2000, census tract ten was 60.02 percent white. However by 2010, whites constituted only 49.34 percent of that tract's population.

The segregation typologies relayed consistent pictures of a city that, like the rest of the county, was growing more diverse. The numbers of predominantly white and diverse tracts each changed by less than 10 percent with the share of predominantly white tracks falling by slightly more than the proportion of diverse tracts increased. Identifying tracts as multi-racial or predominantly minority offered similar findings. There were no multi-racial tracts in 2000; however, by 2010 just under five percent (4.5 percent) of the tracts fell into that category. There was a marginal decline in the percent of tracts categorized as predominantly minority; however, the combined total of multi-racial and minority tracts in 2010 exceeded the total share of minority tracts in 2000. The dimensions of segregation told a story of an area with low to

moderate levels of dissimilarity, falling levels of segregation for all subgroups except whites, and exposure indices that were moderating as the population grew more diverse.

Kalamazoo City continues to lose white residents and those who remain or migrate into the city tend to cluster in predominantly white census tracts. In general the population is becoming more diverse and the urban core continues to shrink and show higher concentrations of people of color.

Class segregation: Spatial analysis. My study of poverty in Kalamazoo City focused on the intersection of poverty and place because, poverty influences and is influenced by place. Access to the resources and opportunities that are necessary to achieve upward economic mobility are not distributed equally among or within communities/places. Poverty is multi-faceted and the KPSP was designed to reduce poverty and change the city's socio-economic mix using a blend of people- and place-based elements. Based on the premise that building a skilled workforce will stimulate economic development, this program focuses on by improving the public schools to ensure KPS students are college-ready, increasing the high school graduation rate among all students, and prompting students to attend and complete post-secondary programs. KPSP supporters want to build a "good place" and believe that quality schools will start a virtuous cycle that will attract middle class families and help to reduce overall poverty in the area. A skilled workforce is expected draw employers, well-paying jobs, and new residents. These changes will stimulate improvements to the housing stock and support public services that are more robust.

In this section I investigated the incidence and distribution of high-poverty neighborhoods (the people side) as well as the concentration of poverty (the place side) to uncover changes that emerged after the implementation of the KPSP. Acknowledging the

intersectionality of poverty, people, and place, I analyzed the changes in the spatial distribution and socioeconomic characteristics of the people living in poverty areas. First, the residential poverty designations were defined. Then, poor and high poverty census tracts were identified, quantified, and situated to reveal the patterns of poverty within the city. Next, the levels of concentrated poverty were computed. Concentrated poverty, the number and percent of people in poverty who lived in high-poverty census tracts, amplifies the burdens of individual poverty for the residents of very poor neighborhoods and illustrates residential segregation by class. It is often associated with many of the conditions that affected Kalamazoo City: de-industrialization, economic decline, middle-class flight, and an increase in migration. The last subheading summarizes the findings regarding the incidence, distribution, and concentration of poverty and analyzes them in relation to racial segregation reported earlier.

Residential poverty designations. The impacts of poverty on both the individual and the community are not fully understood by simply tabulating the number of people whose incomes fall at or below a certain level. To appreciate the many effects and the patterns of poverty in the community, the distribution and density were examined at the census tract level. The U.S. Census Bureau defined the poverty categories 45 years ago (Figure 20). Census tracts where 40 percent or more of the residents had incomes below the federal poverty threshold were designated as high-poverty, those where 20 percent of the residents had incomes below the federal poverty threshold were designated as poor, and all others were considered low-poverty.

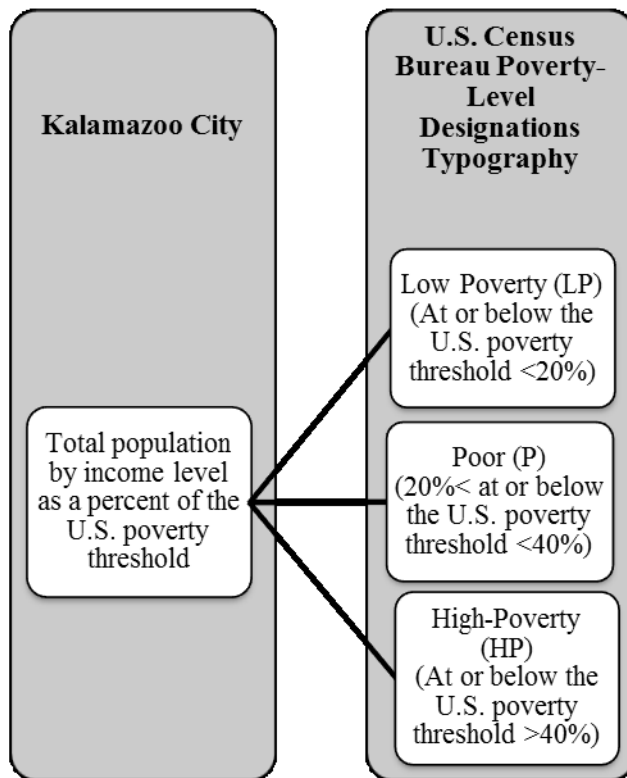


Figure 20. U.S. Census Bureau poverty-level designations typography.

Source: U.S. Census Bureau

At the country, state, county, and even city levels, poverty appears less pervasive and more benign than the way it is experienced at the neighborhood/census tract level. In 2000, approximately 10 percent of the residents of Kalamazoo County and the State of Michigan lived in poverty (Figure 21). By 2005, the year that the KPSP was announced, only 13.1 percent of Michigan residents and 15.2 percent of Kalamazoo County residents were living in poverty.

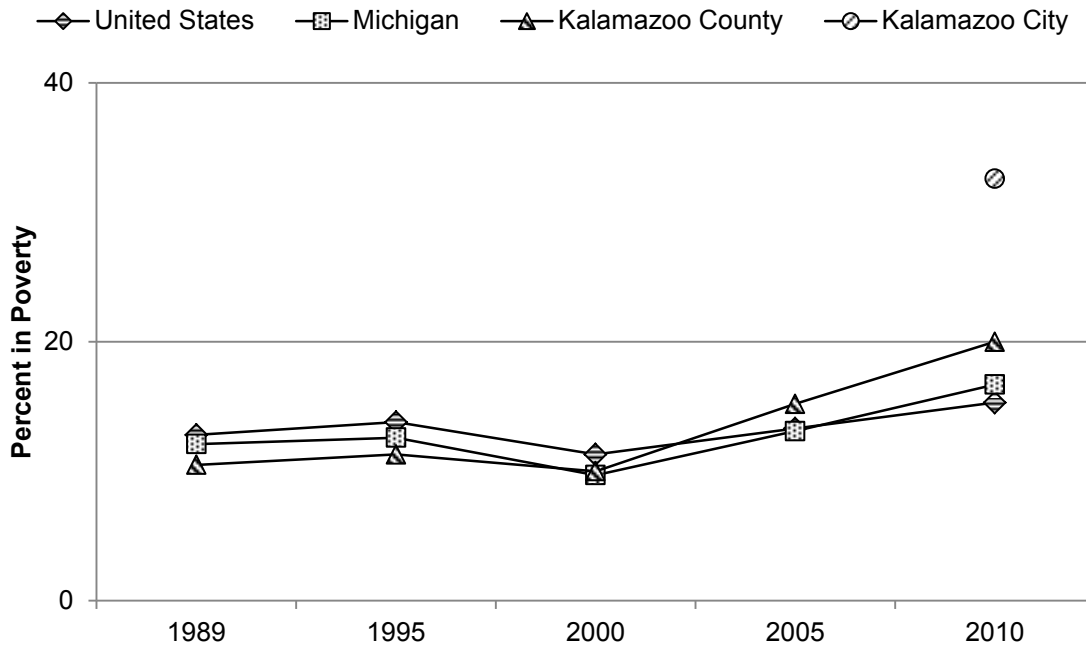


Figure 21. Poverty trends in Kalamazoo City, county, state and country 1989-2010.

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates. Retrieved: <http://www.census.gov/did/www/saie/data/interactive/-view=StateAndCounty&utilBtn=&yLB=2,7,12>.

By 2010, the percent of residents in the county who were living in poverty doubled reaching, 20.5 percent (Table 9). The share of Kalamazoo City/Portage metropolitan area residents in poverty was slightly lower than that in the county as a whole. However, poverty in Kalamazoo City was far worse than its surrounding areas. In 2010, 38.8 percent of the city's residents lived at or below the poverty threshold, more than 30 percentage point higher than Portage City and almost 20 percentage points higher than in the county.

Table 9. Percent of total and child populations in Kalamazoo City, county, state, and country below the U.S. poverty threshold (2010).

	% Total Population	% Children
U.S.	15.9	21.6
MI	16.8	23.5
Kalamazoo County	20.5	26.7
Kalamazoo City/Portage	19.1	25.3
Kalamazoo City	38.8	53.3

Source: U.S. Census Bureau, 2010 American Community Survey 1-Year Estimates

The median income in Kalamazoo City was \$27,344, less than one-quarter (23.7 percent) above or 123.7 percent of, the weighted average poverty threshold of \$22,315 (retrieved from <http://www.census.gov/hhes/www/poverty/data/threshld/thresh10.xlsx>, 05-Jan-2015).

Households⁷ with an annual income up to 130 percent of the poverty threshold are eligible for the Supplemental Nutrition Assistance Program (SNAP), the successor to the Food Stamp program. More than one-half of Kalamazoo City residents qualified for SNAP in 2010. In 2010, the median income in one-fifth of the city's census tracts was less than \$20,000 and in half of the tracts it was less than \$30,000. Another quarter of the tracts had median incomes below \$40,000.

The situation for children was grim. In the U.S., poverty affected 21.6 percent of the children. The gap between poverty rates for adults and children was close to 6 percentage points. That spread was fairly consistent across all other geographic areas except for Kalamazoo City where the gap of 14.5 percentage points was more than double. In the city, more than half of all children (53.3 percent) lived in poverty, up from close to one-third (27 percent) one decade earlier. Child poverty in Kalamazoo City in 2010 was among the highest in the U.S. and in Kalamazoo County (data retrieved from <http://factfinder2.census.gov>). The county consists of

⁷ According to federal guidelines, for the purpose of determining SNAP eligibility, "a household is defined as a person or a group of people living together, but not necessarily related, who purchase and prepare food together" (retrieved from <http://www.fns.usda.gov/snap/eligibility#Income>, 2015-Jan-05).

22 townships and cities. According to the American Community Study (2005-2009), fifteen of those entities (Figure 22)—68 percent of the county—had child poverty rates of five percent or lower. Examining the geography revealed that, other than Oshtemo Township, Parchment City and a few entities tangential to Kalamazoo, the city was isolated within the affluent county.

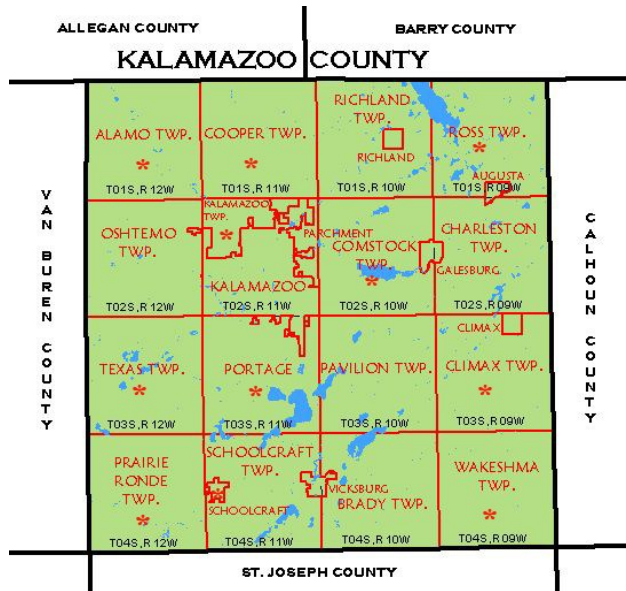


Figure 22. Townships/cities within Kalamazoo County with child poverty rates equal to or less than five percent (2005-2009).

Source: Map from Michigan Department of Natural Resources. Retrieved 10-Mar-2015 from http://www.midnr.com/Publications/pdfs/ForestsLandWater/Commercial_Forest/kalamazoo.htm
Census information from U.S. Census Bureau, American Community Survey, 2005-2009.

According to U.S. Census reports, poverty also affected blacks disproportionately. The proportion of American blacks living in poverty remained constant at 25 percent in 2000 and 2005-07. However, during that same period, the shares of blacks living in poverty increased six percentage points from 25 percent to 31 percent in Michigan. In both Kalamazoo County and Kalamazoo City the share of blacks living in poverty started from higher levels than in the state, at 29 percent and 33 percent respectively, and grew more rapidly. Black children suffered poverty at even higher levels. In 2000, approximately one-third of black children in the U.S. lived in poverty. That grew by two percentage points to 35 percent by 2005-07. Poverty among

black children in Michigan grew by nine percentage points from just over one third (34 percent) in 2000 to 43 percent in 2005-2007. Poverty among black children in the county grew more slowly but reached 45 percent in 2005-2007. The situation in the city was direr. While just over four in ten black children lived in poverty in 2000 as compared to just over one in ten (12 percent) white children. By 2010 almost six in ten (57 percent) black children and four in ten (43 percent) white children in Kalamazoo City lived in poverty.

Neighborhood poverty was determined by comparing the number of tract residents who lived in poverty, i.e. those whose household incomes were at or below the annual poverty threshold, relative to the total population of the census tract. These calculations revealed the number and proportion of the census tracts that fell into the different poverty categories (Table 10). Between 2000 and 2010 the number high-poverty (HP) tracts tripled and the number of poor (P) tracts declined by one. Put another way, a majority of the tracts (54.5 percent) moved into the HP category, an increase of 36.3 percentage points. In 2010 the share of city tracts that were designated as low-poverty (LP) was three and one-half times smaller than in 2000 tumbling almost 32 percentage points to 9.1 percent. In 2000, 59.1 percent of Kalamazoo City residents lived below the poverty threshold compared to 90.9 percent in 2010.

Table 10. Trends in Kalamazoo City poverty between 2000 and 2010.

Designation	2000		2010	
	# Of Tracts	% Of Total	# Of Tracts	% Of Total
Low Poverty (LP)	9	40.9%	2	9.1%
Poor (P)	9	40.9%	8	36.4%
High Poverty (HP)	4	18.2%	12	54.5%

Sources: Data for 2000 was retrieved from: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. ds_151_2000_tract and data for 2010 was retrieved from: American FactFinder 2010 ACS 5-year B19081

The census tract with the lowest median incomes in both periods was 15.04, where Western Michigan University is located (Figure 23 and Figure 24). The high student population might explain median incomes that fell from \$12,533 to \$12,035. The median incomes in three of the four HP tracts (15.07, 2.02, and 3.00) from 2000 rose about 21 percent between 2000 and 2010. Even so, two of the tracts continued to be designated HP and the other (2.02) earned a P designation. Income in the other 2010 HP tracts decreased from the prior decade. Tracts that dropped from LP or remained in the P category saw small increases in income. The tract with the highest median income in both time periods experienced income growth of close to 20%. The two LP tracts, 16.01 and 12.00, are located in the western portion of the city just below the centerline. The HP tracts expanded into a swathe across the center of the city. Poverty radiated out into the tracts that encircled the HP urban core. Poverty levels were high in most tracts and those areas of poverty were clustered together away from the low poverty tracts.

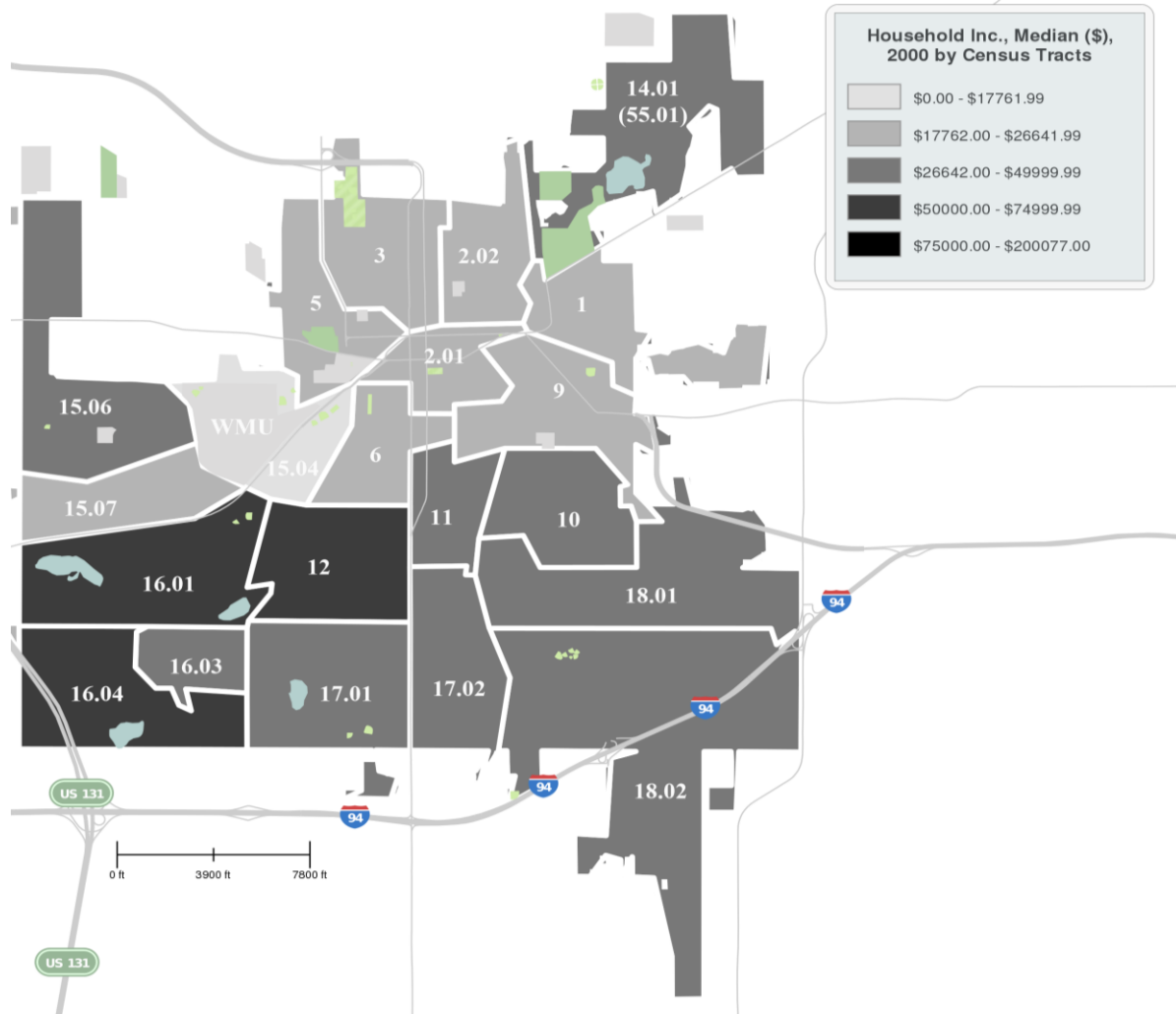


Figure 23. Kalamazoo City household median income by tract (2000).

Source: SimplyMaps 3.0 using U.S. Census Bureau decennial census data from 2000

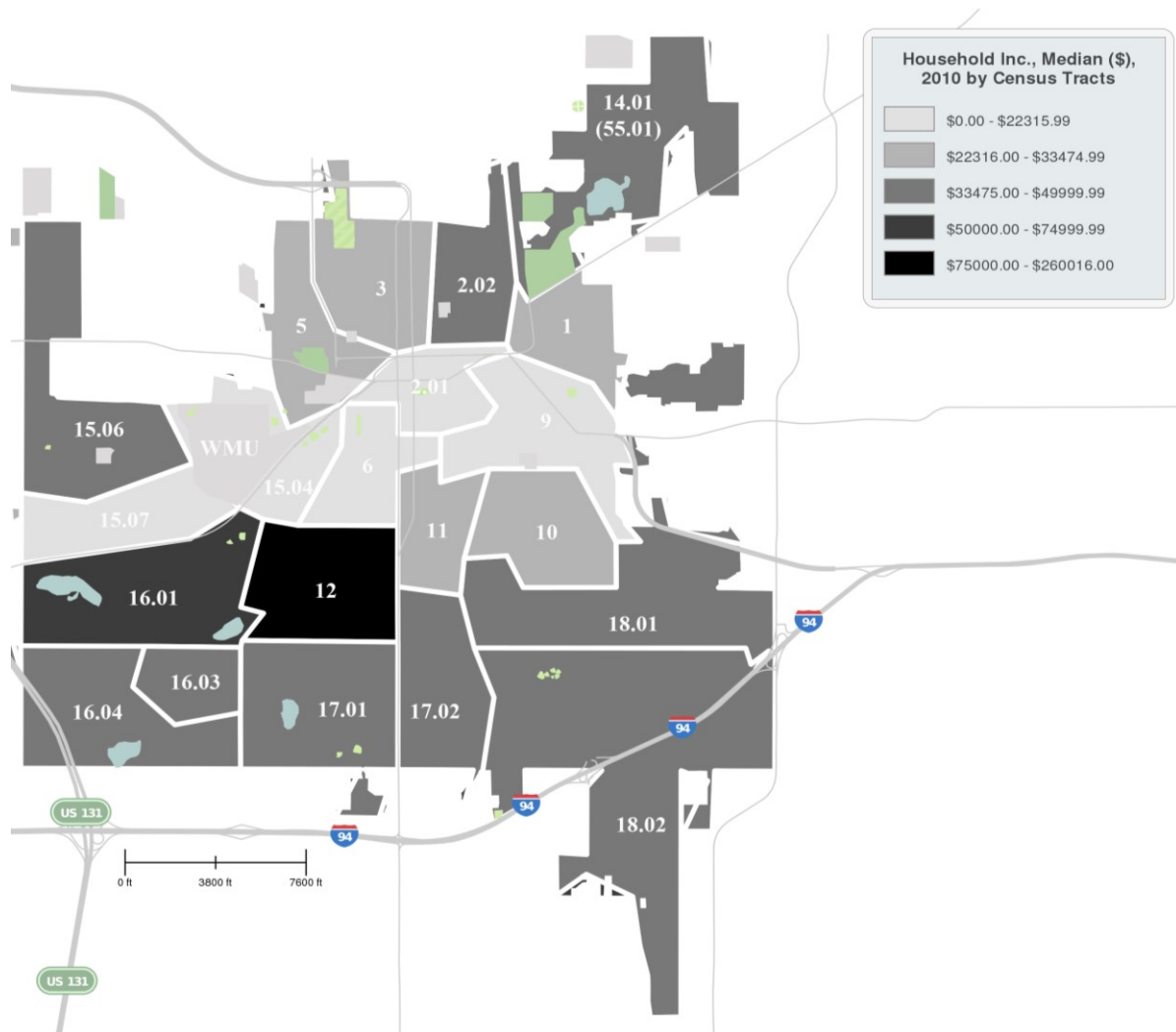


Figure 24. Kalamazoo City household median income by tract (2010).

Source: SimplyMaps 3.0 using U.S. Census Bureau decennial census data from 2010

Concentrated poverty. Concentrated poverty puts whole neighborhoods and all their residents at risk. High-poverty neighborhoods are much more likely than others to have high rates of crime, poor health, and unemployment. As neighborhood poverty rates increase, opportunities for success diminish. The effects of concentrated poverty begin to appear when neighborhood poverty rates rise above 20 percent (P neighborhoods) and grow as the rates reach the 40 percent threshold (HP neighborhoods). The second stage of the poverty analysis examined

the scope of concentrated poverty by determining the proportion of city residents who lived in HP tracts and examining how those shares changed between 2000 and 2010. In 2010 in the U.S. more than one-half of the people in poverty lived in poverty areas and the concentration of poverty surpassed the record high levels that existed during the 1990s. Moreover, those residents, like the U.S. population as a whole, were demographically more diverse (Jargowsky, 2013).

By 2010, concentrated poverty described the city of Kalamazoo. Nine out of ten (90.4 percent, specifically 31.4 + 59.0) Kalamazoo City residents lived in poor or high poverty census tracts in 2010 compared to six in ten (63.4 percent, specifically 45.8 + 17.6) in 2000. Nearly six in ten (59.0 percent) city residents lived in concentrated poverty in 2010 compared to fewer than two in ten (17.6 percent) in 2000 (Figure 25). By 2010, the city of Kalamazoo exceeded the criteria for the HP designation by nearly 20 percentage points. This was a stark contrast from some neighboring localities like Cooper or Texas townships where during the same time period, the percent of their residents who lived below the poverty level were 4.4 and 3.8 percent respectively. The percent of residents living below the poverty level in its sister city Portage was 8.6 percent.

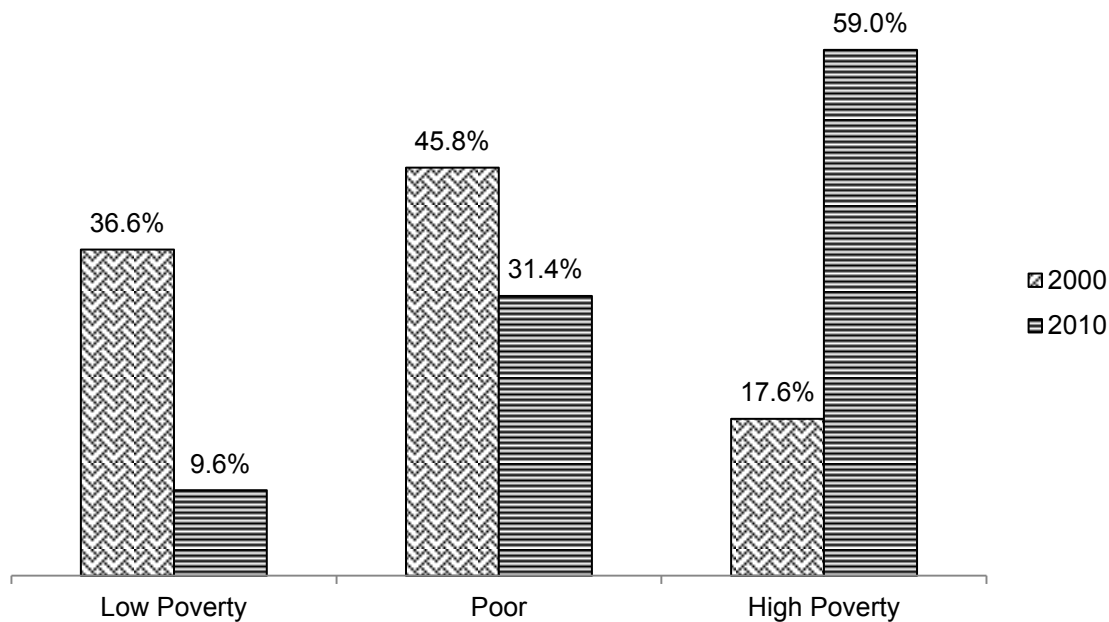


Figure 25. Percent of Kalamazoo City residents living in poor and high poverty census tracts (2000 and 2010).

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

Summary: Class segregation. Between 2000 and 2010 poverty overtook Kalamazoo City. High levels of poverty prompted the development of the KPSP; however, the incidence and dispersion rose after its implementation. More people in more areas of the city experienced poverty. By 2010, 20 percent of the county's population lived in poverty while 38.8 percent of the city's population lived in poverty. In addition, more than half of Kalamazoo City residents were eligible for SNAP benefits. Children and people of color faced even higher levels of poverty. More than half of the children in the city lived in areas of poverty.

Poverty was so pervasive in Kalamazoo that the only places for people in poverty to live were poverty areas. Close to 60 percent of residents lived in high poverty areas and had to deal with both the personal burdens imposed by poverty and the challenges associated with the lack of resources in high-poverty neighborhoods.

Finally, decades of census data reveal a strong correlation between racial breakdowns and poverty. The burden of poverty in America does not fall equally among all races and ethnicities. This proved to be the case in Kalamazoo. These figures reveal that black children were surrounded by poverty to a degree that was virtually nonexistent for whites.

Income Inequality

In this section, which addresses the second research question, I studied income inequality in Kalamazoo after the implementation of the KPSP by examining how income by quintile was distributed among the Kalamazoo census tracts and the city as a whole. Gini coefficients, which were used by Chetty et. al. (2014), were calculated using data from the U.S. Census Bureau, 2006-2010 American Community Survey report B19080: Household Income Quintile Upper Limits. Census tract level Gini coefficients could not be calculated for 2000 or 2005 because the ACS report used to calculate the 2010 coefficients was not produced prior to 2006. As a result, period over period comparisons could be made only at the city level.

The Gini index is less sensitive to the small income changes of the poorest group. Thus, a decrease in the Gini may not necessarily indicate an improvement for low-income groups. Moreover, city-level ratios were less effective than tract-level ratios in measuring small variations. The short timeframe over which changes could be measured further exacerbated the weakness in the high-level ratio. For these reasons I based my analyses on data from the period post implementation. I studied the distribution of the coefficients and the Lorenz curves associated with these data, which revealed the differences in the levels of income inequality across tracts and a significant amount of variation between the high and low coefficients for the various census tracts (Figure 26). Kalamazoo City's Gini coefficient of .437 was very close to

the 2010 U.S. Gini coefficient of .440 (retrieved from

<http://www.census.gov/hhes/www/income/data/historical/inequality/>).

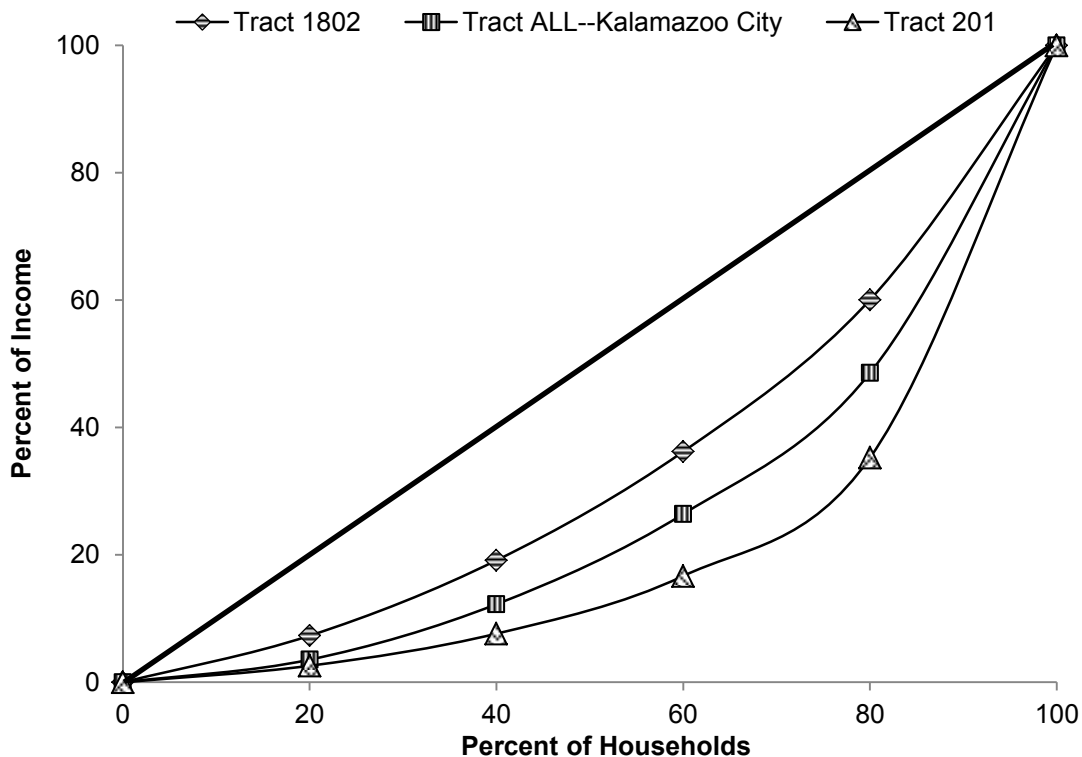


Figure 26. Lorenz curve illustrating income inequality in Kalamazoo City based on median household income, and hi (tract 201) and low (tract 1802) inequality census tracts (2010).

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

An examination of the indices by tract (Table 11) revealed that the more affluent tracts had coefficients closest to the levels of the U.S. and city. In addition, tracts with higher median incomes (identified in the section entitled “**Class segregation: Spatial analysis.**” and illustrated in Figure 24) appeared to be more homogeneous than the less affluent tracts. Moreover, sixty percent of the census tracts were above the city average and fifty percent were above the national average. This suggests that Kalamazoo City had a significant amount of income inequality in 2010. For that same year, Pew Research determined that the U.S. had the second highest level of income inequality compared to 31 of the OECD highly developed countries. (Retrieved 24-Sep-

2014 from: <http://www.pewresearch.org/fact-tank/2013/12/19/global-inequality-how-the-u-s-compares/>). The pervasiveness of high levels of income inequality, particularly among those living in the less affluent tracts, cultivated a context that was not conducive to upward economic mobility.

Table 11: Gini coefficients for Kalamazoo City census tracts (2010).

Kalamazoo census tract	2010 Gini coefficient
201	0.5513
600	0.5299
1504	0.5105
1100	0.4888
1604	0.4820
500	0.4801
1601	0.4746
100	0.4593
300	0.4467
2903	0.4457
1701	0.4390
1200	0.4386
1506	0.4256
5501	0.4065
1000	0.4049
1702	0.3963
1801	0.3801
1507	0.3604
1603	0.3332
1802	0.3090

Census tracts with Gini coefficients above the U.S. average

Census tracts with Gini coefficients above the Kalamazoo City average

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

Kalamazoo Public Schools (KPS)—Elementary School Quality

Racially and socioeconomically isolated schools are related to a number of factors that constrain educational opportunities and outcomes. A strong teacher in elementary grades has been shown to increase levels of college-going, and raise job earnings (Chetty, R., Friedman, J.

N., & Rockoff, J. E., 2011). Social science evidence also reveals the harms of segregation and the benefits of well-designed diverse schools and indicates that separate remains extremely unequal. Persistent problems are associated with racially isolated schools, while education that supports social justice can only emerge in integrated contexts that offer significant benefits to all students.

The following section addresses the third research question pertaining to elementary school quality. First, enrollments were examined—district size as well as enrollment and poverty concentration patterns. The degree and types of racial transitions occurring in Kalamazoo’s districts were also presented. Finally, student achievement was analyzed using test score trends and patterns at the district and school levels.

KPS enrollments.

District size. Before the introduction of the Kalamazoo Promise Program in 2006, the student enrollments in the Kalamazoo Public School district were falling (Figure 27). In 2000 the total district enrollment hovered at 11,284 students but declined 9.1 percent to 10,313 students by the 2005 academic year. In 2006, the first year the Promise program was in place, enrollments jumped 12.5 percent to 11,597. For the decade ending in 2010, the district reported enrollment growth of 18.0 percent to 12,168, which was 4.5 percent lower than the 2009 enrollments.

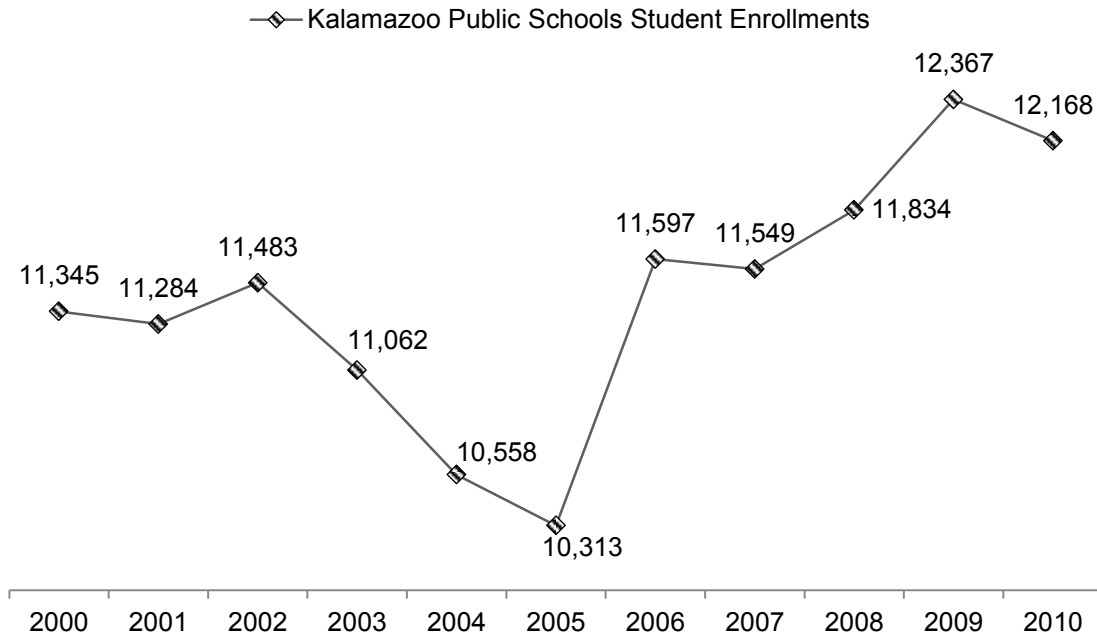


Figure 27. KPS district student enrollments 2000-2010.

Sources: U.S. Department of Education, National Center for Education Statistics (NCES), Common Core of Data (CCD), "Local Education Agency (School District) Universe Survey", 2010-11 v.2a, 2011-12 v.1a; "Public Elementary/Secondary School Universe Survey", 2000-01 v.1a, 2001-02 v.1a, 2002-03 v.1a, 2003-04 v.1a, 2004-05 v.1b, 2005-06 v.1a, 2006-07 v.1c, 2007-08 v.1b, 2008-09 v.1b, 2009-10 v.2a, 2010-11 v.2a.

Enrollment patterns: Race/ethnicity. In 2000, KPS district schools were majority minority (Figure 28) with 53.9 percent of enrollments provided by non-white students. Black students contributed 45.0 percent, Hispanic students provided 6.9 percent, and Asian students accounted for 2.0 percent of the enrollments. While white residents comprised 69.5 percent of the city population in 2000, white students comprised only 46.1 percent of the district enrollments.

In 2010, the school population (Figure 28) remained majority minority (60.8 percent). The share of white students fell by almost six percentage points to 40.2 percent although the white share of the population fell by 3.9 percent. The shares of black and Hispanic students increased. Black students comprised 47.5 percent of the student body up from 45.0 percent a

decade earlier. The share of Hispanic students grew by 53.6 percent during that same period and reached 10.6 percent of KPS enrollments. That same year, the population of the city (Table 5

Table 5) was predominantly white (65.6 percent) with black (22.2 percent) and Hispanic (6.4 percent) residents accounting for less than 30 percent of the total (28.6 percent). The non-white residents' share of the population of the city stands in stark comparison to the non-white students' share of enrollments: less than 30 percent compared to more than 60 percent.

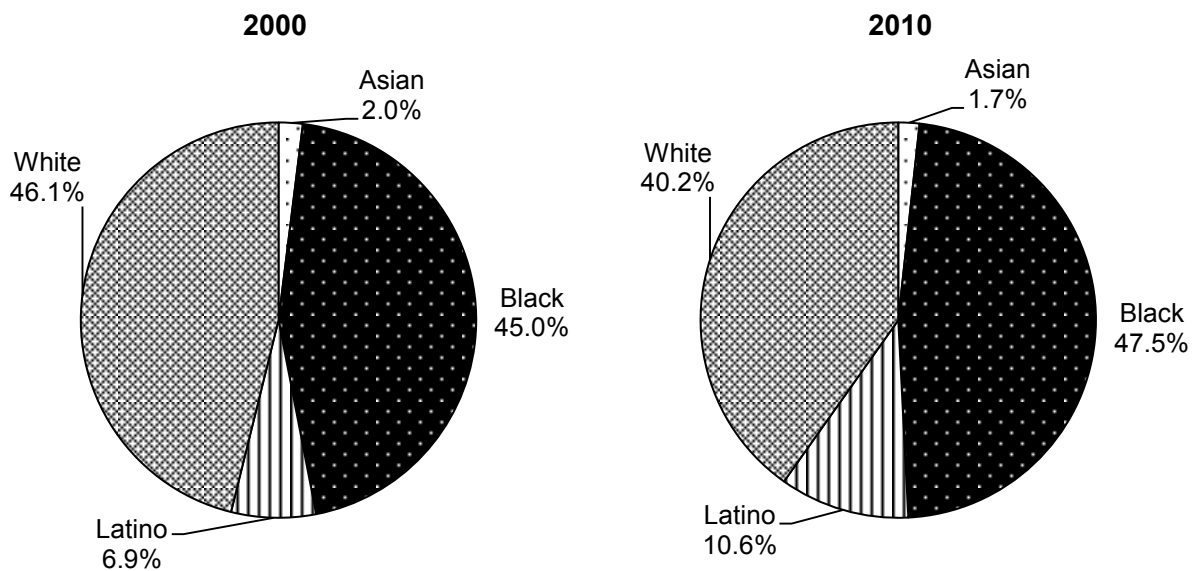


Figure 28. KPS district student enrollments by race, 2000 and 2010.

Sources: School District Data Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey", 2010-11 v.2a

City Data Source: 2010 Census, SF 1a - P & H Tables [Blocks & Larger Areas] nhgis0006_ts_2010_tract.csv from <https://www.nhgis.org/documentation/tabular-data>

The proportion of white Kalamazoo residents younger than 18-years, although not a majority (45.4 percent), was larger than that of other racial groups (Figure 9). Even so, the share of white students enrolled in Kalamazoo's public schools was smaller than the share of white residents younger than 18 years. Moreover, it is important to note that the growth of public school enrollment did not exactly mirror the growth of the school-age population because some

children were not enrolled in school, some children attended private schools, and some adults were enrolled in public schools.

According to Miller-Adams (2009), the Kalamazoo Public Schools became predominantly minority due, in part, to the Civil Rights movement and school desegregation. In 1966, Michigan state officials required that all districts develop a desegregation plan. The plan, which called for mandatory busing, was introduced in 1969. Between 1968 and 1970 racial incidents prompted school closures for several days. In 1970, all KPS District schools were closed for a full week. As many as 20 racial group fights were reported by a junior high school principal whose school's minority enrollment was 40 percent (Steiner, 1977, p. 1). Opponents were able to delay the implementation until 1971 when the court ruled in *Michelle Oliver v. Kalamazoo Board of Education* 346 F. Supp. 766. Anticipation of and reaction to the court order invoking mandatory busing were believed to have provoked the "white flight" of the 1960s and 1970s. "Between 1968 and 1970, prior to the beginning of desegregation, white enrollment declined by 1,328 students, a drop of 8.5 percent from the white enrollment in 1968. During the first two years of desegregation, 1971-73, white student enrollment declined by 2,099 students, or a drop of 15 percent from the white enrollment in 1970. ...Minority enrollment has increased an average of 4.9 percent annually since 1970" (Steiner, 1977, p. 15).

A review of the census data shows that Kalamazoo City population increased steadily from 1950 through 1970. However, the flight that began in the 1960s continued through the remaining decades of the twentieth century. While the entire shift may not be attributable to the desegregation order, in 1970 the population of Kalamazoo City was 89.4 percent white and 10.0 percent black and within two decades the proportion of white residents fell 12.1 percentage points (Table 12).

Table 12. Racial composition of Kalamazoo City after the desegregation order (1970-1990).

Year	% White	% Black	% Asian
1970	89.4%	10.0%	0.0%
1980	82.7%	15.7%	1.1%
1990	77.3%	18.8%	3.4%
Percentage point change	-12.1%	8.8%	3.4%

Source: Minnesota Population Center. National Historical Geographic Information System: Version 2.0. Minneapolis, MN: University of Minnesota 2011. <https://www.nhgis.org/>

This flight resulted in a black-white/urban-suburban divide whose vestiges remain today (Miller-Adams, 2009). In addition, the Supreme Court's decision in *Milliken v. Bradley*, 418 U.S. 717 (1974) protected the divide holding that school systems were not responsible for desegregation across district lines. Twenty years later, after numerous federal court decisions weakened busing⁸, *Oliver* was amended to allow the district to use a magnet school program to address desegregation.

While desegregation may have accelerated the white flight that led to changes in the racial composition in the public schools, more recent trends can be attributed to changing immigration and birth rate patterns. Hispanics account for 20 percent of public school students in the U.S.; however, their share of enrollment varies by region and state (Figure 29). The share of Hispanic students grew four percentage points from 2000 to 2010 in the Middle West, the region where Michigan is located. Using data from the 2006 ACS, Pew identified Michigan as one of 12 states where Hispanics comprised between five and ten percent of public school students.

⁸ E.g. *Freeman v. Pitts*, 503 U.S. 467 (1992); *Keyes v. Congress of Hispanic Educators*, 902 F. Supp. 1274 (D. Colo. 1995); *Coalition to Save Our Children v. State Bd. of Educ.*, 901 F. Supp. 784 (D. Del. 1995)

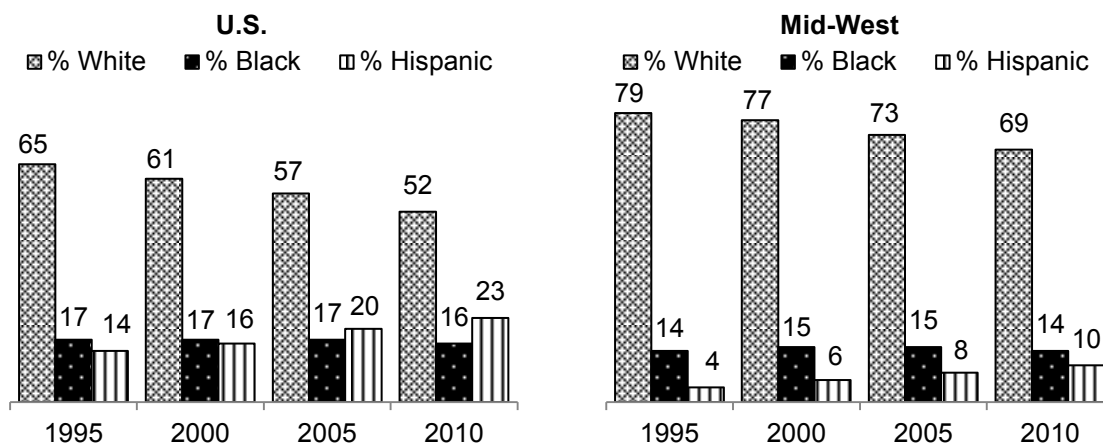


Figure 29. Percent distribution of enrollment in public elementary and secondary schools, by race/ethnicity⁹ in the United States and Mid-West region (1995-2010).

Source: U.S. Chart—U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “State Nonfiscal Survey of Public Elementary and Secondary Education,” 2001–02 and 2011–12. *Digest of Education Statistics 2013*, table 203.50.

Mid-West Region Chart—U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), “State Nonfiscal Survey of Public Elementary and Secondary Education,” 1995-96 through 2011-12; and National Elementary and Secondary Enrollment Projection Model, 1972 through 2023. (This table was prepared December 2013 for *Digest 2013*.)

The national media as well as in U.S. government and think tank sources has discussed this development, which is manifest across the U.S. and more pronounced in urban areas. For example, at the onset of the 2014 academic year CBS news and the Associated Press (AP) reported “non-Hispanic white students are still expected to be the largest racial group in the public schools this year at 49.8 percent. But according to the National Center for Education Statistics, minority students, when added together, will now make up the majority” (retrieved 12-Sep-2014 from <http://www.cbsnews.com/news/white-students-to-no-longer-be-majority-in-us-public-schools/>). According to the Pew Hispanic Trends research project

⁹ Race categories exclude persons of Hispanic ethnicity. Prior to 2008, separate data on students of two or more races were not collected. Detail may not sum to totals because of rounding and exclusion of categories contributing less than five percent to the total (Asian data was excluded). Data for 2023 are projected.

(<http://www.pewhispanic.org/2008/08/26/one-in-five-and-growing-fast-a-profile-of-hispanic-public-school-students/#fn-92-1>), Hispanic students accounted for 60 percent of the total growth in the number of students enrolled in U.S. public schools from 1990 to 2006. Between 2001 and 2011 the shares of white and black students shrank while those of Hispanic and Asian students grew. Data on students of two or more races were not collected in 2001; however, these students accounted for approximately three percent of public school enrollments in 2006. The Census Bureau projects that by 2050 the number of Hispanic students will grow by 166 percent compared to a paltry four percent growth rate for non-Hispanic school age children.

The share of Hispanic students KPS district schools grew by 3.5 percentage points while that of black students grew by 2.5 percentage points (Figure 28). It is important to note that examining changes in the number of students by racial subgroup reveal larger fluctuations than the shift in shares suggests. Although there were large swings in enrollment during decade ending in 2010, overall the number of students attending the district schools during that period grew by a net of 7.3 percent (change calculation is based on enrollment figures of 11,345 for 2000 and 12,168 for 2010). During that same period, the number of white students fell by 15.1 percent and the number of non-white students increased by 8.2 percent while their respective shares of enrollments shifted by 12.8 percent. While the slope of change among the different minority groups varied, they were all positive as they reflected growth (Figure 30). On the other hand, the slope of change for white students was negative: This was the only subgroup whose absolute number and proportion of enrollments declined.

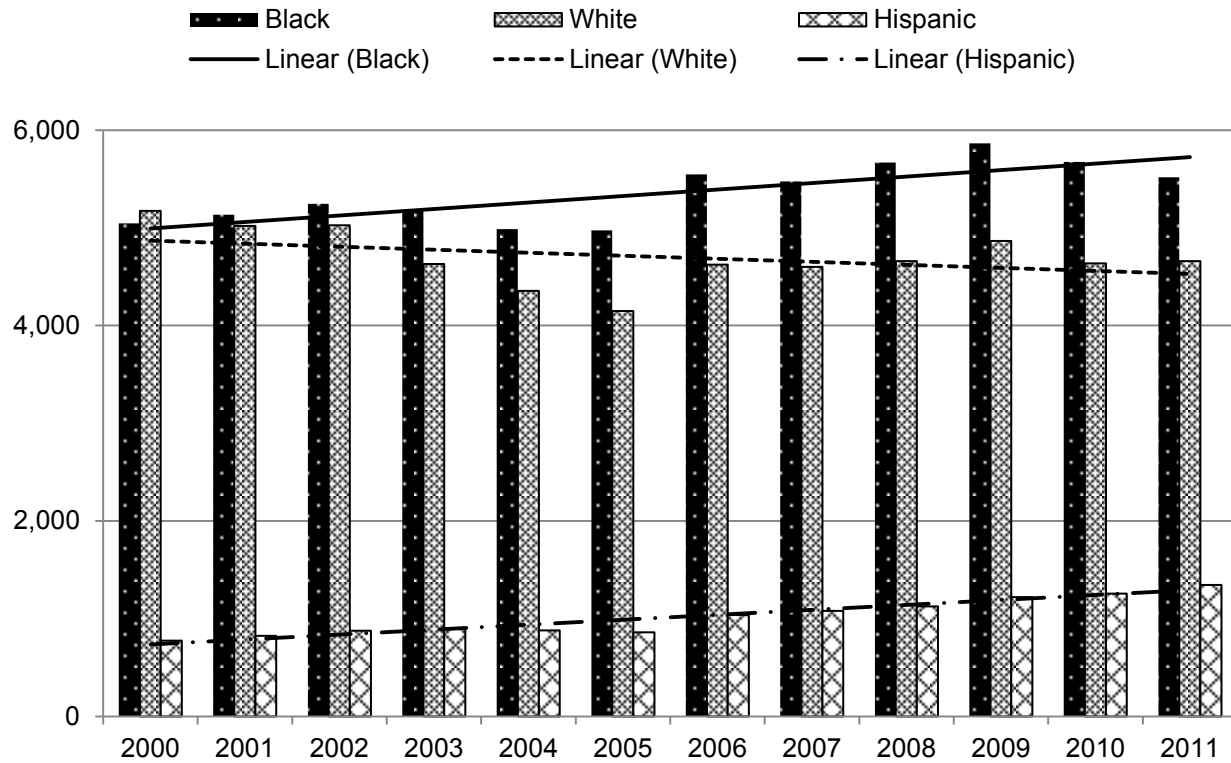


Figure 30. Distribution of enrollment in the Kalamazoo Public School district, by race/ethnicity 2000-2011.

Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey", 2000-01 through 2011-12.

In 1968, KPS had 29 public elementary schools. Five schools accounted for more than 90 percent of all black KPS enrollments and five schools reported zero percent minority enrollments. Black enrollments at Northglade and Lincoln elementary schools were 88 and 96 percent respectively. Both Northglade and Lincoln became magnet schools since desegregation; however, the black student’s share of total enrollment was 68 percent in 2000 (Figure 31). Northglade’s black attendance accounted for 79.2 percent and Lincoln’s black students accounted for 70.9 percent of the 2010 racial composition of the schools (Figure 32). Two other elementary schools, Roosevelt and Woodward had black enrollments of 41 percent and 49 percent respectively. Roosevelt was closed by 1976 and Woodward became a magnet school.

Like Northglade and Lincoln, Woodward was a majority black school in both 2000 and 2010. In 2010, Woodward's black students accounted for 75.9 percent of the enrollments. In Edison, the fifth school, the share of black students was 17 percent in 1968 and rose to 24 percent by 1976. In 2010, Edison was a magnet school where representing 66.5 percent of the enrollments, black students comprised the majority.

In 2000, KPS had 19 elementary schools and nine had enrollments where white students were in the majority and six where black students were in the majority. In 2010, KPS had 18 elementary schools. At that time, seven elementary schools had enrollments where black students were in the majority. In five of those schools, black students accounted for 70 percent or more of the enrollments. And one school, El Sol Elementary, minority students accounted for 83 percent of their enrollments: 65.5 percent were Hispanic students and 17.5 percent were black students.

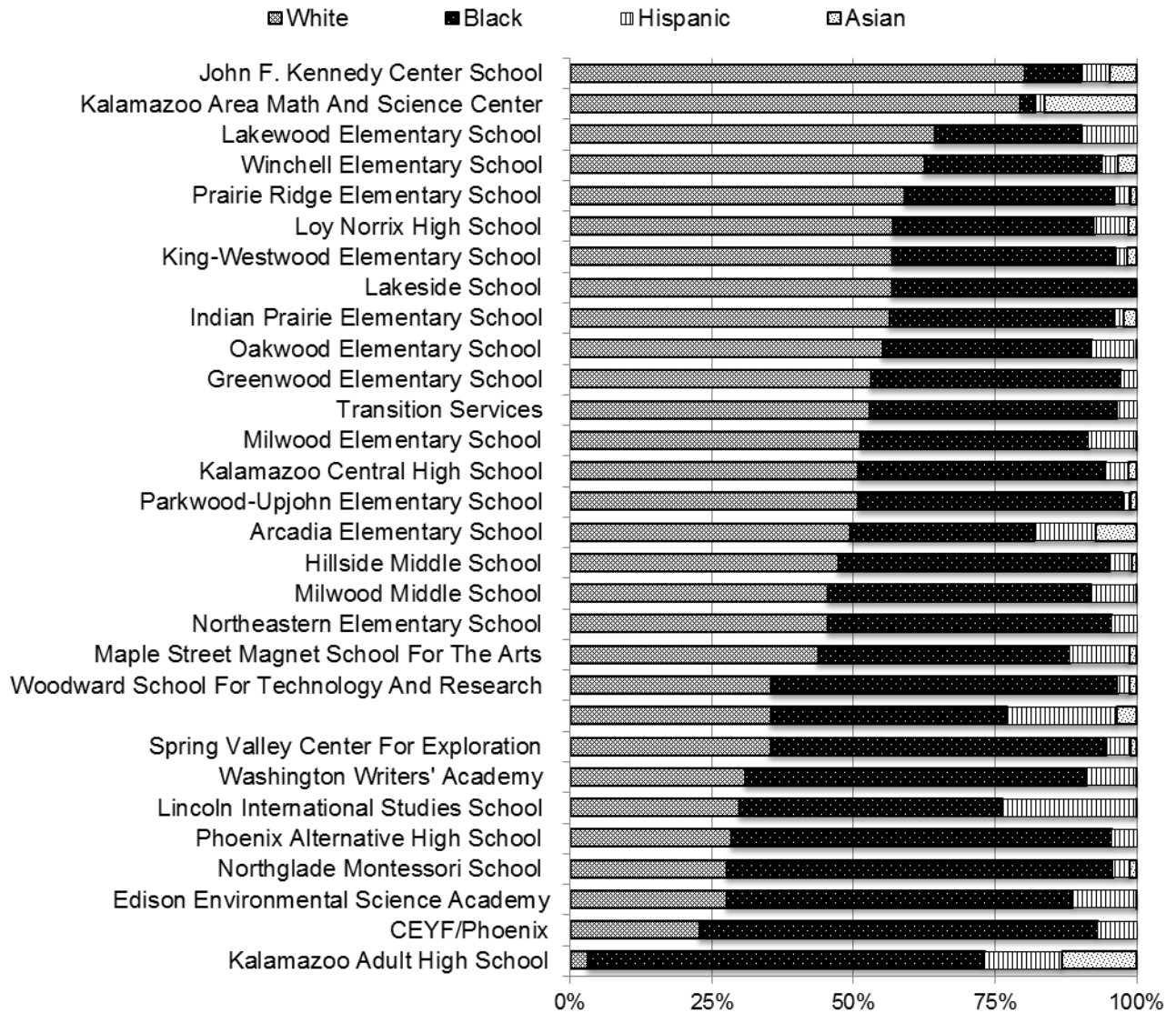


Figure 31. Racial composition of KPS district schools (2000).

Data Source: U.S. Department of Education, National Center for Education Statistics – ELSI Export, Public School Enrollments by Race/Ethnicity 2000-01, <http://nces.ed.gov/ccd/elsi/>

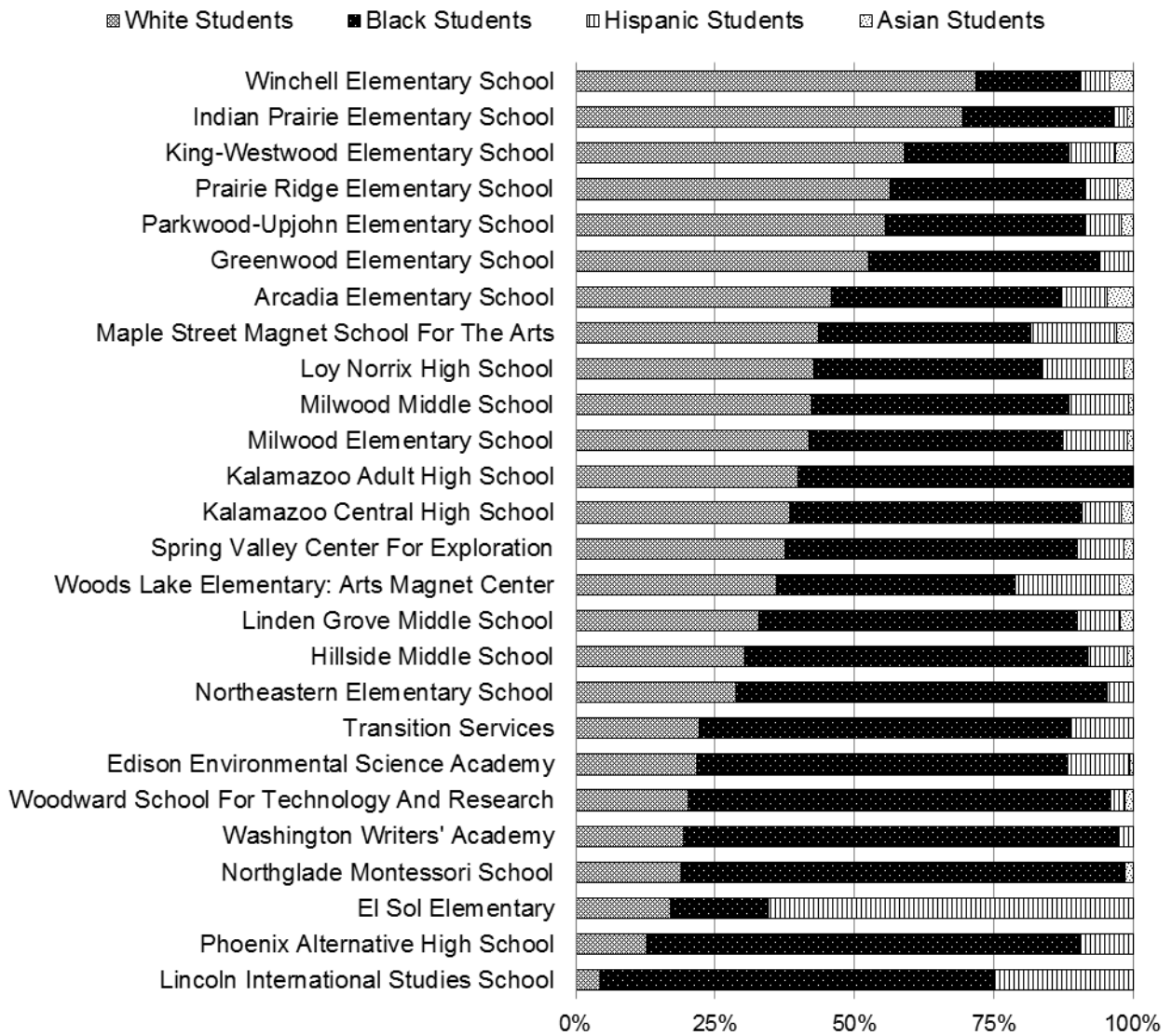


Figure 32. Racial composition of KPS district schools (2010).

Data Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey", 2011-12 v.1a.

In 1968, more than 95 percent of the black students at the middle school level attended three of the five KPS middle schools. In addition, 18 percent of the students at Kalamazoo Central High School were black while only three percent of those who attended Loy Norrix High School were black. In 2010, the district had three middle schools and three high schools and the racial subgroups were balanced across all but one of the schools (Figure 33). Enrollments at

Phoenix Alternative High School were predominantly minority (87.2 percent). Close to one in eight students (77.6 percent) was black and one in ten was (9.6 percent) Hispanic. This high school offered specialized programs for at-risk students and accounted for only 4.2 percent of the KPS high school enrollments.

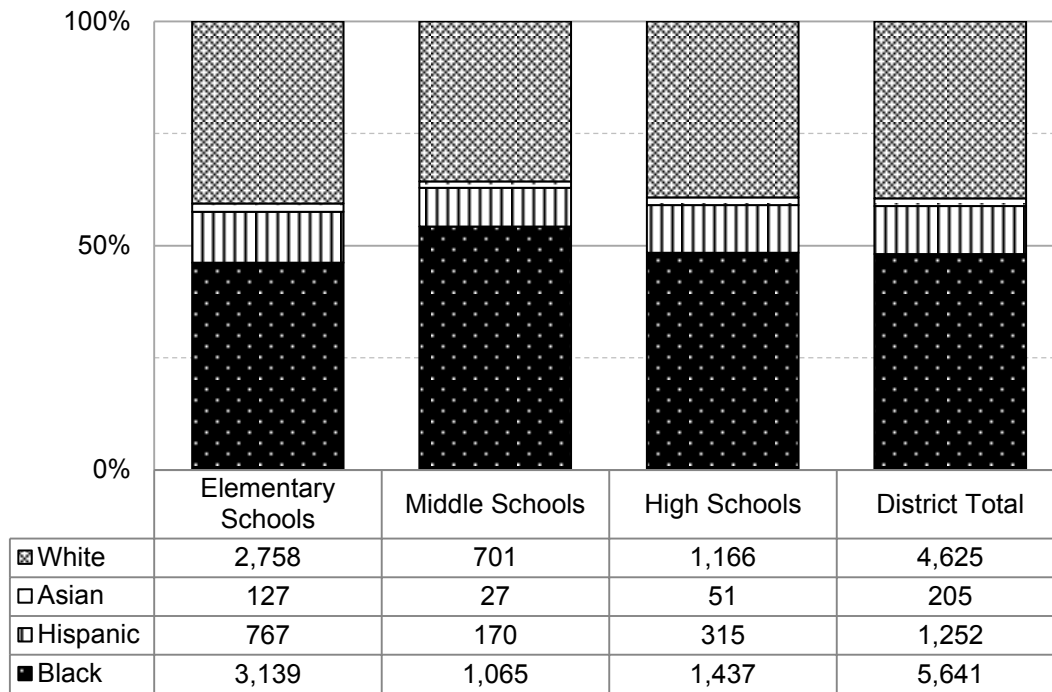


Figure 33. KPS district enrollments by racial subgroup and school level (2010).

Data Source: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey", 2010-11 v.2a. ELSI Export, National Center for Education Statistics - <http://nces.ed.gov/ccd/elsi/>

The percentage of multi-racial (schools in which at least one-tenth of the students represent at least three racial groups), predominantly minority, and intensely segregated schools in Kalamazoo have increased over the last decade (Table 13). The percentage of multi-racial schools increased since the implementation of the KPSP in 2005; even so, the share of multi-racial schools in 2010 was 6.4 percentage points lower than in 2000. Multi-racial schools decreased 22.4 percent from 28.6 percent of all schools in 2000 to 22.2 percent in 2010. Two-thirds of KPS elementary schools were predominantly minority schools—those in which 50-

100% of the student enrollment is comprised of minority students—an increase of 40.1 percent since 2000.

Table 13. Number and percent of multi-racial and minority segregated¹⁰ elementary schools in Kalamazoo City/the KPS district.

	Total elementary schools	% multi-racial schools	% 50-100% minority schools	% 90-100% minority schools	% 99-100% minority schools
Kalamazoo City KPS district					
1968	29	NS	◊10.3	◊3.4	NS
2000	21	28.6	47.6	NS	NS
†2005	17	17.6	64.7	NS	NS
2010	18	22.2	66.7	5.6	NS

◊ One school with a minority population of 49 percent was included in the count for 50-100% minority. Two schools fell close to or within the 90-100% minority population range; however, only the school with a minority population of 96 percent was included in the count. The other school, although close, reported a minority population of 88 percent and was excluded from the count for 90-100% minority. † 2005 is the year in which the KPSP was announced. It is included to document whether and how quickly changes emerged in the KPS Schools.

Sources: Kalamazoo Public Schools, Department of Research and Development, Child Accounting Department, February and November, 1976 and *Report of the Racial Balance Committee*, 18-Aug-1969.

U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), Public Elementary/Secondary School Universe Survey Data

In 1968 before the court ordered desegregation plan was implemented, 15 percent of the KPS students were black. While there were neither multi-racial nor apartheid schools (those where 99-100% of the student enrollment is comprised of minority students), 3.4 percent of Kalamazoo City's public elementary schools were intensely segregated schools (those that are 90-100% minority). By 2000, more than one-quarter (28.6 percent) of elementary schools were multi-racial and just under one-half (47.6 percent) were predominantly minority. Within a

¹⁰Minority school represents black, Hispanic, American Indian, and Asian students. Multi-racial schools are those with any three races representing 10 percent or more of the total student enrollment respectively.

decade a disturbing two-thirds (66.7 percent) of elementary schools were predominantly minority—a 40 percent increase—and almost six in ten (5.6 percent) were intensely segregated.

Enrollment patterns: Poverty. Since 1995 the portion of school age children in poverty was higher in Kalamazoo City than in the county, state, or country (Figure 34). The percent in poverty in the city grew faster than in other locales. While more than one third of the city's children lived in poverty, that proportion pales in comparison to the percent of students enrolled in the public schools who qualified for FRPL. Some of the difference could be attributed different criteria associated with the poverty threshold and the FRPL eligibility standards. Another portion of the difference resulted from the portion of the city school age population that were enrolled in private schools. Those children were more likely to come from households with median incomes far above the poverty threshold.

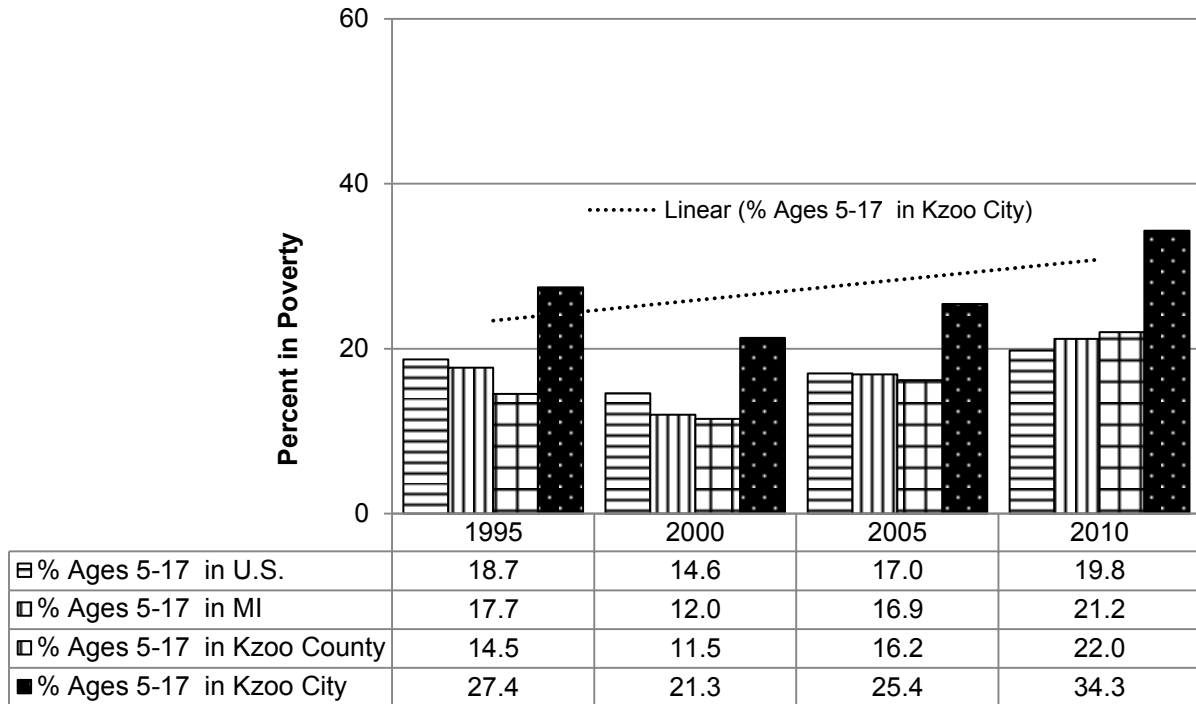


Figure 34. School age children in poverty¹¹ in the U.S., Michigan, Kalamazoo County, and KPS (1995-2010).

Source: U.S. Census Bureau, Small Area Income and Poverty Estimates. Retrieved: http://www.census.gov/did/www/saipe/data/interactive/#view=SchoolDistricts&utilBtn=CSV&yLB=2,7,12,17,19&stLB=23&cLB=39&dLB=1,284,433&gLB=0&usSts_cbSelected=false&usTot_cbSelected=true&stateTot_cbSelected=true&pLB=0&multiYearSelected=true&multiYearAlertFlag=true&prStateFlag=false&invalidSDYearsFlag=false and http://www.census.gov/did/www/saipe/data/interactive/#view=StateAndCounty&utilBtn=&yLB=2,7,12,17,19&stLB=23&cLB=39&dLB=0&gLB=0&usSts_cbSelected=false&usTot_cbSelected=true&stateTot_cbSelected=true&pLB=0&multiYearSelected=true&multiYearAlertFlag=true&prStateFlag=false&invalidSDYearsFlag=false

According to the NCES Common Core Data, in 2010, seven out of every ten KPS students (69.7 percent) qualified for free or reduced-price lunch (FRPL). Indian Prairie Elementary School ranked number one in the district with only one-quarter (25.1 percent) of its students receiving FRPL. Winchell Elementary was next in the rankings with just over one-third (33.9 percent) of its students participating in the program. Nearly one-half (47.4 percent) of the

¹¹ Poverty designations: Low Poverty < 20% 20% < Poor < 40% High Poverty ≥ 40%

students attending King-Westwood Elementary School, the third place school, were eligible. More than one-half of students in the remaining 22 KPS schools qualified for FRPL in 2010. In 20 percent of the district's schools—all of which were elementary schools—nine out of ten students (90.5 percent to 97.8 percent) participated in the program.

In 2000, fewer than six in ten (57.4 percent) students participated in the FRPL program. Moreover, more than one-quarter (27.6 percent) of schools had less than half of their students receiving FRPL and only ten percent of the schools had 90 percent or more of their students in need. The three schools with the highest levels of FRPL were all elementary schools. As in 2010, Indian Prairie and Winchell Elementary Schools were among the top ranked schools; however, both schools had larger shares of students receiving FRPL in 2000 than in 2010. Edison and Washington Elementary Schools had the highest shares of students in poverty and the highest levels of minority enrollments in both 2000 and 2010. In 2010, white students composed approximately one-fifth of the enrollments in each of these two magnet schools.

Summary: KPS enrollments. The number of students attending KPS district schools grew rapidly after the Kalamazoo Promise was announced. In the first year enrollments jumped 12.5 percent and by 2010 they had grown by 18.0 percent.

The district population in both 2000 and 2010 was majority minority and white students accounted for approximately four out of every ten students. There were no multi-racial schools in 1968; however, in 2010 just over one fifth of the schools fell into that category. In addition, more than two thirds of KPS schools were minority-segregated schools; a 19.1 percentage point increase from 2000 and a 56.4 percentage point increase from 1968. In 2010, the first time since 1968, KPS had schools that were characterized as intensely segregated. They accounted for almost six percent (5.6 percent) of the district's schools.

In the decade between 2000 and 2010, the student population grew more diverse, schools became more segregated, and the share of students who qualified for FRPL soared to almost 70 percent. Even more ominous, nine out of ten students qualified for FRPL in one fifth of the school in the KPS district.

Student achievement. Student achievement in Kalamazoo followed a pattern consistent with many older U.S. central cities where racial prejudice shaped growth patterns. The fragmented local governments, which were created to thwart school integration, severely limited the city's ability to adapt to social and economic changes. Unable to capture suburban growth, the city actually contributed to it.

The focus of this research question was to assess changes in the quality of the elementary schools, as measured by standardized test scores. The quality of elementary schools lays the foundation for a strong education that will equip students to be “college ready” when they graduate from high school. Moreover, middle-class parents demand access to quality schools and would not move to an area if the schools were not good. KPSP designers and supporters believed that early notification of the scholarship benefits would engage students early in the education process, drive school improvement, and engender persistence.

Even so, it is important to acknowledge that graduation rates play a role in the success of the KPSP. As of 2010 more than half of all KPS students and two-thirds of black student were not on course to take advantage of the KPSP because a large number leave high school without a diploma. The four-year graduation rate in 2010 in the Kalamazoo Public Schools was 64.2 percent compared to 85.0 percent in the Portage Public Schools district, a predominantly white middle-class suburban district contiguous to Kalamazoo. Similarly, in 2010 the dropout rate in KPS was 13.5 percent compared to 9.1 percent in Portage. The introduction of the KPSP has had

minimal effect on the graduation rates for low-income and minority students (Ready, T., 2008; Ready, T., Johnson, J., & McBride, M., 2008).

Examining student achievement using the cumulative promotion index (CPI), a high school completion measure that compares the number of students who graduate to the number of students in the ninth grade four years earlier, the Upjohn Institute found that only about half of ninth graders enrolled in KPS go on to graduate. Moreover, KPS has been stalled at this level of performance, for more than ten years. The implementation of the KPSP has not produced significant changes in the promotion index. Although factors such as student mobility and students being retained in grade confound the index, it clearly illustrates where KPS is situated and its performance trend (W.E. UpJohn Institute Learning Network Scorecard, at <http://research.upjohn.org/projects/96/>).

Test scores. The percentage of KPS students who meet the achievement standards on the Michigan Educational Assessment Program (MEAP) is below the average scores of the state and Portage Public School (PPS)—a neighboring district with a higher proportion of affluent students. However, students made significant progress in all subject areas since 2005. The pass rates for students in third grade continued to be higher than for those in the eighth grade (Figure 35 and Figure 36). Disparities in pass rates also deteriorated as students progressed from third to eighth grade. For example, the gap in the MEAP reading exam pass rates between KPS and the Michigan average in 2010 increased from 4.8 percentage points in third grade to 9.0 percentage points in eighth grade. The disparity between KPS and more affluent districts such as neighboring Portage grew even wider.

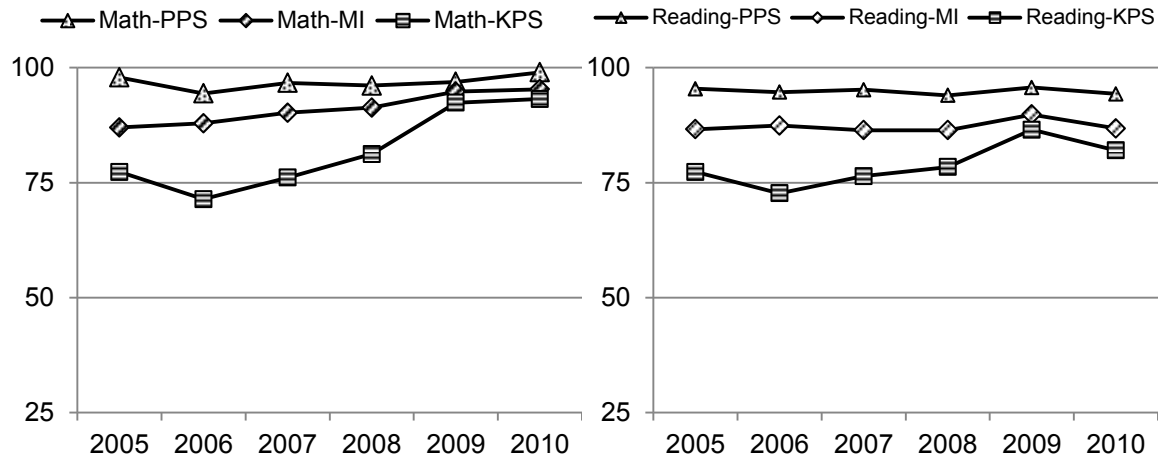


Figure 35. Percent of KPS, PPS, and MI¹² students who met or exceeded standards on the third grade math and reading MEAP exams (2005-2010).

Source: Michigan Department of Education, MI School Data 2005-2010, retrieved from <https://www.mischooldata.org/DistrictSchoolProfiles/AssessmentResults/AssessmentSummary.aspx>

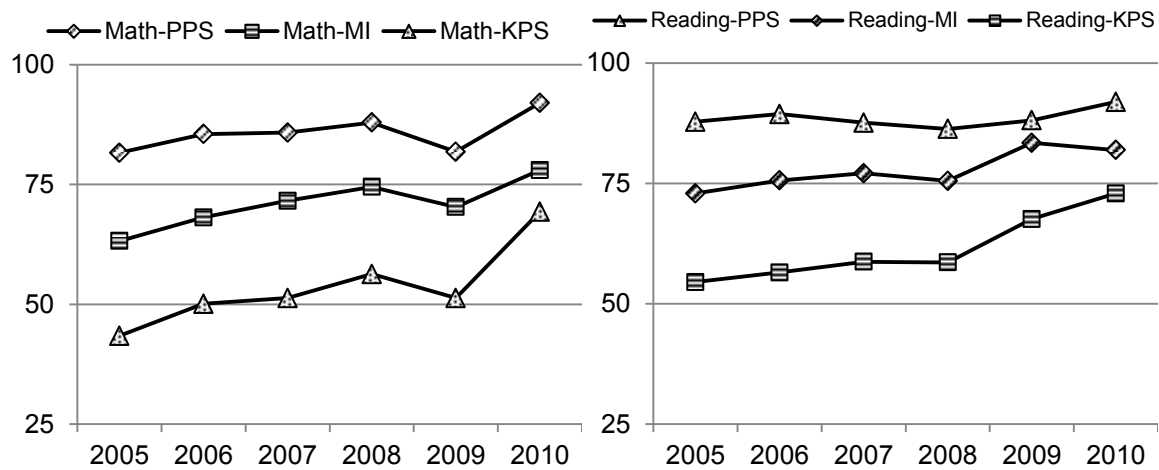


Figure 36. Percent of KPS, PPS, and MI students who met or exceeded standards on the eighth grade math and reading MEAP exams (2005-2010).

Source: Michigan Department of Education, MI School Data 2005-2010, retrieved from <https://www.mischooldata.org/DistrictSchoolProfiles/AssessmentResults/AssessmentSummary.aspx>

12 Note: KPS—Kalamazoo Public Schools, PPS—Portage Public Schools, and MI—Average for all schools in the State of Michigan

Achievement by school and district. Michigan initiated a new evaluation program to measure school and district performance. The KPS district was rated at the midpoint of a three-point scale. This rating, which takes into account whether the district achieved its Adequate Yearly Progress (AYP) goals, does not link directly to the perceived quality of the schools and the district. Some high performing districts were given lower overall scores because they did not achieve AYP. This likely occurs in schools and districts where virtually every student passes the MEAP exams. Extraordinarily high pass rates can limit the ability to improve or increase pass rates.

The new evaluation program uses a four-point scale—green, yellow, orange, and red—to grade schools on student achievement and pass rates. In addition, schools that are performing in the bottom five percent are identified as “priority” schools. Further, despite adequate pass rates on the MAEP exams, schools may be categorized as “focus” schools if they have large performance gaps between students from different income groups. Of the district’s 17 elementary schools, two (Washington and Woodward) are “priority schools” and three (Winchell, Parkwood-Upjohn, and Northglade) are “focus schools.” Greenwood Elementary was awarded the only green rating for the district. Lincoln Writers Academy got an orange rating. The remaining ten schools are simply rated yellow.

The middle schools did not deliver stellar performances. Milwood Middle received a red rating and was labeled a “priority” school. The remaining three schools were assigned yellow ratings and Linden Middle was identified as a “focus” school. The three high schools received low ratings. Loy Norrix and Kalamazoo Central both received an orange rating. A red rating was assigned to Phoenix Alternative.

Summary: KPS student achievement. Pass rates on MAEP tests improved steadily in both math and reading in third and eighth grades since 2005. Even so, KPS pass rates lagged below the statewide rates and those of the neighboring city in every instance. Moreover, the district and its schools received mediocre ratings in the most recent state scorecard. In addition to receiving below average grades, seven schools were also given special designations that highlighted either performance in the bottom five percent of the state or significant gaps in pass rates between low and high income students. One elementary school, whose enrollment was majority white, received a green rating; however 29.4 percent of the elementary schools received poor grades and special designations. Two of the three “focus” elementary schools had enrollments that were majority white and Northglade’s enrollment was more than 75 percent black. The middle and high schools performed at lower levels overall. Fifty percent of the middle schools received problem designations and one schools received a failing grade. Finally, none of the high schools performed well. Two thirds received below average grades and one school failed. While not directly within the scope of this analysis, consistently low graduation rates coupled with low cumulative promotion rates were significant factors related to the efficacy of the KPSP.

Family Stability

To determine how family stability in Kalamazoo changed after the implementation of the KPSP, and answer the fourth research question, I examined the U.S. Census DP-1 reports from the decennial census in 2000 and 2010. During the decade, the share of families with children dropped 2.6 percentage points to 46.2 percent (Table 14). Of families with children, the proportion with married heads of household (HH) dropped by almost ten percent (9.9 percent) from 62.7 percent in 2000 to 56.5 percent in 2010. In addition, in 2010 slightly more than one in

three (33.8 percent) households with children was headed by a female, an increase of 12.7 percent. The number of male HHs grew by one-third, accounting for 9.7 percent of families with children. The types and scope of changes reduced family stability as defined by Chetty et. al. (2014).

Table 14. Changes in family stability, 2000 - 2010

	Family with children	Married HH [†] with children	Female HH [†] with children	Male HH [†] with children
2000	48.8	62.7	30.0	7.3
2010	46.2	56.5	33.8	9.7
Percentage point change	-2.6	-6.2	3.8	2.4
Change	-5.3%	-9.9%	12.7%	32.9%

Source: U.S. Census Bureau, Decennial Census 2000 and 2010, DP-1 reports. Retrieved from American FactFinder.

[†] HH is Head of Household

To answer the fourth question, my analyses uncovered significant changes in family structure that posed threats to family stability. Studies produced by the Census Bureau have shown that children fare better in married-couple families in part because poverty in female-headed families is four or five times greater than poverty in married-couple families. These reports corroborate Chetty et. al.'s finding that reduced stability endangers upward mobility.

VI. Conclusions and Recommendations

Conclusions

Measuring the impact of college scholarships on places and people. The Kalamazoo Promise Scholarship Program (KPSP), which was introduced in 2005 and implemented in 2006, is one component of Kalamazoo City's comprehensive economic development strategy. A defining feature of this program is its use of place as the primary basis by which an individual's

eligibility for a scholarship is determined. As the first place-based scholarship in the U.S., the KPSP produced data when studied could uncover how this *place-based initiative*—a program initiated to improve the economic viability of the city and its public school district—influenced *people-based outcomes*—upward economic mobility derived from completing secondary and post-secondary programs. My study examined changes, which emerged in the first five years after the Kalamazoo Promise was adopted, in four Kalamazoo City characteristics that describe how well a place/context supports upward economic mobility.

Property values, tax revenues, as well as employment and poverty rates are commonly used to measure the economic viability of a place/context. In some way, all of these variables are related to, and measures of, poverty. Healthy places (e.g. cities) are characterized by low poverty levels overall and few or no areas of concentrated poverty. They manifest an abundance of well-paying jobs, low unemployment rates, adequate tax revenues, and robust services including high-performing schools. When constructing economic development plans, ailing places/cities face a quandary akin to that describing the chicken and the egg. There is not a general algorithm to determine which issue should be addressed first to launch the recovery cycle or how resources should be allocated across initiatives. Kalamazoo chose to target poverty by providing college scholarships, which research has shown, are a key way to reduce poverty.

Scholarships produce meaningful impacts to poverty reduction in the long-term. Using scholarships to improve an individual's economic position requires time to earn the degree and the ability to sustain the opportunity costs of lost income incurred while going to school. In this scenario, high school and even college graduation rates are leading indicators rather than outcome measures. They may eventually lead to upward economic mobility, but they do not equate to it. From that perspective, a scholarship produces a person-based outcome. Eligible

students who avail themselves of the program and graduate from a post-secondary program have the potential to accrue significant personal benefit. Place-based effects are unlikely to accrue unless the scholarship recipients commit to return after graduation and well-paying jobs are available for those post-secondary degree holders. Although not explicitly stated, it seems likely that in the short-run, Kalamazoo Promise planners hoped to see economic improvements through an influx of middle-class residents rather than by lifting current residents out of poverty. The local economy would improve quickly if new employers, who find the KPSP an immediate benefit for their current employees as well as a way to develop and identify local talent in the longer-term, and/or middle-class families from surrounding areas, were attracted to the city.

To assess how the KPSP affected Kalamazoo City—how well it achieved the place-based program objectives—I considered context characteristics (Chetty et. al., 2014) that described the relationship between the place and the likelihood that an individual can improve her/his economic condition and maintain residence there. I was interested in whether characteristics of the city allowed the program to serve as a tool of social justice, and elevate long-time residents out of poverty, or stifled upward mobility and conquered poverty through displacement. Previous research examined whether KPSP impacted school enrollments and student achievement; however, it did not investigate how the program affected economic change in the city or for its inhabitants. It did not consider whether Kalamazoo’s environment proved hospitable for low-income students who completed post-secondary programs to return and flourish. In other words, no consideration was given to whether the conditions of the city might thwart poverty reduction through upward economic mobility. Increasing access to post-secondary programs by providing scholarships has been shown to reduce poverty for those individuals who pursue and complete

the programs. Moreover, the KPSP design, which provided first-dollar funding¹³ and universal eligibility¹⁴, made the program more attractive to and attainable by low-income, under-represented minority, and first-generation college students. Nevertheless, the context was not evaluated to see how it affected the level of poverty in the city either by promoting a rising tide able to lift all boats or producing a current so strong that it pushed new graduates away from its shores.

Reviewing the changes in the KPSP context. Large amounts of research, much coming from the Upjohn Institute in Kalamazoo, examined KPS enrollments, test scores, and high school and college enrollment and persistence/ graduation rates. Findings indicate that the KPSP initially increased enrollment in the district although that trend began to reverse. In response, the KPSP directors added private colleges to the list of eligible institutions hoping to lure middle class families to the city. Results also revealed that scholarships have been used by a significant number of KPS students. However, many of those students would have attended college even without the scholarship. On the other hand, the program has not made significant gains with low-income and minority students. To date, few studies have examined the economic development impacts associated with the place.

My research focused on the intersection of program design and context—the characteristics of the community—in order to assess whether this location-based program is an appropriate and effective instrument to reduce poverty. Acknowledging that the KPSP program design was well suited to help low-income and minority students, I examined four

¹³ First dollar funding means that students did not have to apply for and accept other scholarship dollars before they received their dollars from the KPSP.

¹⁴ Universal eligibility means that all students that started at and graduated from a KPS high school were eligible for the scholarship regardless of merit or financial need.

community/context characteristics that correlate with intergenerational mobility (Chetty et. al., 2014) to determine how these factors changed after the Kalamazoo Promise program launch. These context features are associated with and describe poverty at both the personal and place levels.

As discussed in the results section, I saw no significant improvement in any of these context factors. Racial and socioeconomic segregation grew more intense despite an increase in the diversity of the population overall. Intense income inequality, which was more prevalent in and debilitating to the low-income census tracts, characterized the city. The quality of the public elementary schools did not improve significantly. Segregation by race/ethnicity and class increased in the public elementary schools. Even though district test scores improved, KPS performance still lagged behind neighboring communities and the state averages. Academic gains were restricted to non-minority low poverty schools making achievement gaps, across race and class, seem inviolable. Further, high school graduation rates languished and the percent of graduates who were not college-ready did not diminish significantly. Enrollment dipped after an initial bump. School and Promise program leaders cited the district's lackluster academics as an impediment to attracting middle class and non-Hispanic white students. Lastly, family stability was compromised. The number of families with children declined. Married couples accounted for a smaller portion of that group, replaced by single heads of households.

While virtually all of the changes in the context characteristics were negative, the influence that the program could wield may have been confounded the U.S. faced one of the most severe economic downturns in its history fewer than two years after its inception. Universal eligibility and first dollar program features were intentionally selected to take aim at poverty. The recession offered a worst-case environment where the poverty-reducing design

components could be tested to assess whether they could generate significant pressure to mitigate its intense and deleterious effects. Unfortunately my research design and subsequent results neither identified the factors that caused these changes nor revealed whether the magnitude of the changes would have been worse if not for the KPSP.

Making sense of the results. Projecting the outcomes and evaluating the efficacy of a scholarship program requires an examination of the context in which a scholarship is offered. Context measures, like those used in this study, are actually leading indicators for place-based outcomes. They offer insight about long-term outcomes like college completion. Context significantly affects who will be able to avail themselves of the scholarship, the likelihood that the recipient will complete her degree, and whether the new college graduate will accrue economic benefits. More importantly, understanding of the context offers guidance about how to best allocate resources. For example, returns on the investment of resources may prove higher if some of the scholarship funds are directed toward job training/work experience and financial initiatives in conjunction with tuition payments. If students cannot afford the opportunity costs of lost income, directing resources to provide internships or work-study opportunities that pay a living wage in addition to tuition could increase both matriculation and graduation.

Limitations. Three limitations must be acknowledged. First, this research looked at a single promise scholarship program, the Kalamazoo Promise Scholarship Program, which is one of many place-based scholarships in the U.S. As such, it focused exclusively on how the KPSP affected Kalamazoo City. The impacts of this program on contiguous counties or the region as a whole were not examined. Second, the data, while plentiful, bore no identifiers, which made it impossible to perform a longitudinal study. Third, the timeframe was limited. The KPSP had been in place fewer than ten years and that timeframe did not offer long-term impacts on

economic growth. In addition, the ten-year award availability window for the first class eligible for the scholarship had not yet closed. Complete data from the full cycle of the first cohort will not be available for at least two years. Even then, additional time will be necessary for the impact from the college graduates to be fully realized.

Recommendations

Promise scholarship programs are sprouting up across the country. They may share a name—promise—but they do not necessarily share the reasons the program was introduced or the wished-for goals. To improve the likelihood of achieving program goals and receiving the highest return on the resources allocated, scholarship design should account for the context of the program. In addition to design adjustments, context features should be calibrated and policy changes to moderate context/community characteristics, which inhibit upward mobility, should be identified and implemented.

Research recommendations. Future research should assess context features to determine which are most influential and important to the success of the program. In addition, studies need to uncover the points in the theoretical framework/virtuous cycle at which leaks will disrupt the cycle and degrade the outcomes. For example, scholarships that pay for an entire college degree are valuable only if there is a high probability that the student will graduate from both high school and college. If a potential recipient faces life challenges that prohibit her from using the scholarship, the program goal of increasing the number of college graduates will be negatively affected. If too many potential recipients face similar challenges, achieving that goal is unlikely and program success will be diminished. The old adage “build it and they will come” does not hold true if one lacks not only the resources to come, but more importantly, the resources to subsist.

To address some of the proposed scenarios described above, broad areas for future study might include investigations to learn more about:

1. The relationship between school quality and promise program success. It is important to understand the quality baseline that supports student readiness to matriculate and persist in college. In addition, future research should investigate the relationship between school quality and the willingness of middle class families to move. The attraction that the scholarship exerts is determined in part by the quality of the schools and their impact on the probability that a student will be accepted and successful at their first-choice college.
2. The intersections of context and employment quality, accessibility, and availability for both heads of households and future graduates. Programs in different localities should be examined to see how the locale (e.g. urban, rural, or suburban), size, and proximity impact students and families. For example, people may be more willing to move to a city or suburb with a large commuting range to robust employment opportunities than a rural area with access to only one or two large employers.
3. The impact of concentrated poverty. Future studies should work to reveal how poverty features affect individuals and inhibit their ability and motivation to complete a post-secondary program.

In addition, longitudinal research should be emphasized as the KPSP moves into its second decade. Detailed analyses of income differences in academic achievement and educational attainment require longitudinal data with identifiers. These data would support correlational analyses to identify factors that affect persistence and completion in the low-income

subgroup. A more detailed study of college attendance and credit hours earned would better measure the efficacy of the aid. Considering college completion as an outcome achieved over time offers an approach to evaluate the impacts of a particular curriculum, school, or scholarship design feature or program. Quantitative, qualitative, and mixed method studies would add richness to our understanding of both the people and the places linked to these types of place-based initiatives.

Program and policy recommendations. The program and policy recommendations that emerge from this study have the potential to produce significant increases in benefits with small, focused changes. These recommendations can be applied in the Kalamazoo Promise and other place-based scholarship programs. They require that program designers and leaders acknowledge and act on the systemic nature of context, recognize the influence of processes and organizations at the periphery of the promise program, and enroll and engage the associated policy makers and administrators. My initial recommendations are targeted and the scope is limited because of the defining characteristics of the Kalamazoo Promise program—it's private funding, singular focus on offering college scholarships, and stated objective of improving the economic viability of Kalamazoo (as opposed to improving educational and/or economic equity)—and, more importantly, its short duration. Even so, the impacts of high and increasing levels of residential segregation, below average schools, and income inequality coupled with extraordinarily high levels of poverty and concentrated poverty can be mitigated with changes to school assignment policies, modifications to the promise program design, and adjustments to employer recruitment/enticement programs.

First, an examination of the outcomes from and adjustments to the current magnet and neighborhood school assignment practices is warranted. The adoption of a comprehensive

controlled choice policy or meaningful changes in catchment zones could reduce the increasing levels of segregation among the elementary schools. Decades of research underscores the power desegregation has toward improving academic performance and building social capital.

Reductions in segregation by class should be addressed among and within schools. These efforts would reduce the achievement gaps that landed some of the KPS schools in the “focus” rating category. Moreover, extending the study of and changes to assignment practices to the middle schools should also be considered. The perceived (and actual) quality of the schools at different grade levels can have a dramatic impact on student achievement and enrollment size/student retention, as well as the size and success of the place-based promise program. Poor quality in middle schools may deter some families from moving to or staying in the KPS district despite high quality elementary schools. Depending on the amount of the scholarship that is earned at each grade level, new residents may choose to come only for high school as students who are likely to attend and complete college are also likely to take AP or IB classes, which are consistent across schools.

Second, modifications to the promise guidelines could be made to require students to participate in paid service learning, assistantships, internships, or private jobs. College students could be offered service learning and assistantship assignments that provide a living wage—funded either by the scholarship, partner universities, or community—and promote public school improvement or assist families. For example, students could tutor or work in pre-and post-care school settings. School-based community centers could be established and students could work in support functions. These public service jobs could help the individual student while boosting some of the Chetty measures. Alternatively or in addition, partnerships with businesses could generate paid internships or jobs that would prepare the student for the workplace, establish a

pipeline of skilled employees, and even culminate in a job placement after graduation. This modification to the scholarship program design could improve elementary school quality, mitigate some of the negative consequences of family instability, and reduce poverty among the students, their families, and community members who avail themselves of free/reduced-price tutoring and child-care. Another place where place and people and program design intersect concerns keeping the new college grads in Kalamazoo. Eligibility criteria could be modified to require students to come back or pay back (a portion of the scholarship). This change would require partnerships with the community and businesses to ensure that well-paying, entry-level professional jobs were plentiful.

Third, the intersection of employment and context introduces opportunities for improvements in both school and work programs and practices. Consideration of the locale and recognition of its impact on commuting practices can suggest changes that would leverage the broader context and expand the reach and increase the likelihood of success of place-based initiatives. Allowing students from surrounding areas (the commuting region) to enroll in KPS magnet programs and qualify for the scholarship or even a portion of the scholarship could change KPS and its schools significantly. Expanding the context from the city to the region could increase KPS enrollments and introduce high performing students into the district. This would increase funding and improve student achievement. It would also provide an opportunity to reduce segregation among and within the schools. The city could capitalize on the presence of local employers, even though they might initially fall outside the city. This would not only improve the schools, it would increase the human capital in the area and potentially create a stronger attraction to the city for potential employers. Another way to improve place outcomes might be to use resources to bring employers to the city even before students begin to graduate.

If every eligible student used the scholarship and earned a degree or certificate but then faced limited employment opportunities, they would be forced to relocate. Thus, the personal goal would be met; however, the place goal of economic development would not. Enticing new employers to the city with significant incentives could draw a baseline of non-poverty residents that would improve the health of the city, make employment accessible to current residents, and eventually provide an incentive for graduates to stay or return to the place. The incentive packages could consist of tax abatements or student-worker salaries funded by a partnership between the city and the Promise program. Increases in the employment base would not only reduce poverty in the city, it would increase tax revenues and lessen income inequality.

Knowledge of, and appreciation for, the characteristics of the community will help people design and implement programs that would leverage and complement the context. Sensitivity to context factors can also guide necessary improvement initiatives. Using context measures and acting on the information they provide would improve social justice and individual well-being. After all, context matters!

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Vita

Arielle F. Niemeyer, SPHR, M.Ed.5300 Matoaka Road
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afniemeyer@gmail.com**PROFESSIONAL SUMMARY**

Researcher focusing on equity in education, higher education, and education policy. An executive with a record of accomplishment in leading both line and staff organizations. Expertise in policy analysis and forecasting, adult learning and development, technology-enhanced learning, workforce planning, analytics, and organizational design and development. Demonstrated leadership in directing and managing corporate universities and designing and implementing practices to assess the efficacy of instructional design and evaluate learning outcomes; culture change and management; employee and stakeholder engagement and communications; and executive compensation.

PROFESSIONAL EXPERIENCE

VIRGINIA COMMONWEALTH UNIVERSITY (School of Education) **2009-present**
A leading research university whose School of Education is ranked as 1 of the top 30 Education schools in the US.

Research Assistant & Doctoral Student — Richmond, VA **2009-present**
Research

- Built a research agenda focused on how school choice, de-/re-segregation, and place-based scholarships affect educational opportunity, equity, and economic justice. Publications and presentations include:
 - *The Courts, the Legislature, and Delaware's Resegregation: A Report on School Segregation in Delaware, 1989-2010*, (2014-Dec), Civil Rights Project/Proyecto Derechos Civiles. Findings presented at AERA (2014)
 - Co-authored "African American Principals: Heeding the Call to Serve as Conduits for Transforming Urban School Communities," (2014), *International Journal of Urban Educational Leadership (IJUEL)*. Findings presented at AASA/WELV (2013) and UCEA (2013)
 - "Location Matters: Examining Context Changes After Place-Based Scholarships are Implemented" Discussant at SOE Annual Research Colloquium (2014)
 - "Is School Choice the Panacea?" 1st place poster presentation at SOE Annual Research Colloquium (2013)
- Supported faculty research: Analyzed education policies and programs, wrote policy papers/briefs, prepared literature reviews, updated data for book chapters, and assisted in the development of a web-based simulation to prepare prospective educational leaders. Areas of focus included: identity issues, single-gender education, bullying and harassment, and educator sexual misconduct
- Supported consulting and research efforts at the Metropolitan Educational Research Consortium (MERC)

Academic Honors and Awards

- Phi Kappa Phi honor society - Maintained a 4.0 average for all masters and doctoral coursework
- Selected as mentee in the William Boyd National Politics in Education Workshop (2014)
- Awarded the Seyfarth Family Scholarship and the School of Education Faculty Organization Scholarship

Service

- President of two student organizations (2013-2014): Educational Leadership Doctoral Student Association (ELDSA) and Association for Aspiring Leaders in Education (A2LE) and treasurer for ELDSA (2012-2013)
- Student member of the School of Education Policy Board
- Student member on a faculty search committee, a faculty tenure and promotion committee, the Ruch Award committee, and student representative as part of the SACSCOC reaffirmation of accreditation process

JPMORGAN CHASE & CO. (Chase Student Loans)

2004-2009

A leading global financial services firm with assets of \$2.2 trillion and operations in more than 60 countries.

Vice President, Planning & Analysis — Madison, MS

Built the Strategic & Operations Planning functional unit to establish and execute the business strategies for the 250+ employee Loan Servicing Center. Worked with the senior executive team to provide strategic thought leadership and identify process and human capital requirements

- Integrated talent management and leadership development practices across 3 functional units and increased the number of “ready now” candidates by 80%, reduced key talent / HIPO development costs by 65%, increased employee satisfaction, and reduced turnover of key talent by >50% from the prior 2 years
- Designed and implemented new operating models for customer call and loan servicing centers to create the optimal post-acquisition business architecture. In less than 1 year, customer satisfaction improved by 62%, average employee productivity increased by > 30%, and revenue per employee exceeded the annual target
- Transformed a cost center into a cost-recovery center in < 2 years and achieved payback of 1-time costs in < 1 year.

Vice President, Human Capital Strategy — Madison, MS

Worked with senior executives to develop the Human Capital strategies and initiatives to address the organization’s changing talent requirements. Directed the work group that identified anticipated human capital, system, and process gaps and devised solutions to close gaps

- Developed and implemented interdepartmental performance objectives that reduced processing errors by > 50% and the time required to resolve complex customer problems by 70% from an average of 20 days to 6 days
- Led and managed the change process supporting the Company's integration into Chase. The employee engagement index rose 46% from pre-acquisition levels
- Designed and put into practice a development strategy using blended learning, which was featured in *Chief Learning Officer (CLO)* magazine. Product knowledge increased 45%, customer satisfaction grew by 32%, employees were cross-trained to cover all critical functions, and the time required for the core processing activity was reduced by 11%

Director, Organizational Effectiveness — *Fredericksburg, VA*

Matrix reported to the COO and SVP of HR at CFS, Inc., which in 2005 was acquired by JPMorgan Chase & Co. Developed the HR strategy to build a performance driven culture in this start-up company

- Constructed and applied interdepartmental performance objectives that reduced processing errors by > 50% and the time required to resolve complex customer problems by 70% from an average of 20 days to 6 days
- Conceived and executed the Employee Engagement Strategy. Designed and launched an employee engagement / satisfaction survey, training, change management, and employee communication programs

CAPITAL ONE FINANCIAL

2002 - 2004

A diversified financial services company with \$250 billion in assets and operations in 3 countries.

Senior Function Leader - Leadership & Executive Development — *Richmond, VA*

Reported to the Chief Learning Officer. Translated the firm's "leadership brand" into a set of desired leadership actions, developed and implemented the strategy to integrate those leadership behaviors into the corporate culture. Devised the strategy for leadership & executive development programs, built differentiated development paths for general manager talent and functional business leaders, and oversaw the talent brokering and job rotation processes

- Devised the strategy for leadership and executive development programs, built differentiated development paths for general manager talent and functional business leaders, and oversaw the talent brokering and job rotation processes
- Introduced protocol to measure impact of coaching which resulted in an increase of >15% in the number of candidates in the succession pool and a 25% increase in the number of critical positions that had a "ready now" successor

ALCATEL – LUCENT (formerly LUCENT TECHNOLOGIES)

1998 – 2002

With operations in more than 130 countries, Alcatel-Lucent offers broadband access and carrier and enterprise IP technologies

Senior Business Partner, Learning & Development — *Murray Hill, NJ*

Reported to the Vice President of Workforce Effectiveness. Built and executed the employee development strategy

- Led the transition from face-to-face instruction, which was used in 100% of programs, to technology-enhanced instruction and blended learning. Less than 3% of the programs remained entirely leader-led
- Introduced vendor management practices that improved training impact and currency, reduced regular headcount by >30%, and cut costs by close to 50%
- Developed and delivered a blended learning program to lead and sustain culture change. This program included an on-line game-based simulation, which centered on the Balanced Scorecard and was developed in partnership with the Harvard Business School. Recognized by Kaplan and Norton as a "Best Practice" and highlighted in an article published by the Harvard Business School

Chief of Staff and Business Operations — Murray Hill, NJ

Reported to the Vice President of Workforce Effectiveness whose organization spanned Labor Relations, Learning, HR Business Partners, and Recruiting. Advised the senior HR Officer on current and future corporate and business unit issues and plans affecting organization operation. Composed reports and presentations for the VP. Oversaw the work of the leaders of the different functional units and managed the office operations and staff

- Supported the Chief Labor Officer to develop and execute the labor strategy to divest of 6 Union manufacturing facilities and develop supply contracts. This project was completed on time, within budget and without work stoppage
- Collaborated on the redesign of the Corporate HR function including the introduction of "direct access" shared services

AT&T

1982 – 1998

The largest communications holding company in the world by revenue.

Worldwide Curriculum (Product Line) Manager (AT&T School of Business) — Somerset, NJ 1995 - 1998

Reported to the Director of Business Education Worldwide. Managed Accounting, Finance, and Business Case curricula

- Established a consulting and training division to serve external customers. Generated >\$1.8mm income in first year
- Managed training curricula that grew 80% in 1 year, generating \$4.8mm or 13% of the total school revenue
- Developed and taught graduate level business courses to support continuing education requirements for certified professionals in accounting, finance, and business. These courses were articulated into many AACSB programs
- Negotiated agreements with key Universities - including the Wharton School - to offer certificate and MBA programs to AT&T associates. One program delivered returns of > \$14.5 mm on loaded costs of \$2.1 mm
- Garnered articulation agreements and ACE / PONS accreditation for business programs developed by and delivered to AT&T employees, which reduced annual Tuition Assistance Program costs by > \$6mm
- Delivered presentations at profession conferences (e.g. ISPI) and co-authored an article on how to capture business impact (value added) in training evaluation

Marketing Manager (State of Florida, AT&T General Business Systems) — *Fort Lauderdale, FL*
Territory Sales Manager (AT&T General Business Systems) — *Fort Lauderdale, FL*
Training Manager and Instructor (AT&T Sales & Marketing Education Center) — *Cincinnati, OH*
National Account Executive – Industry Consultant (AT&T Long Lines) — *Southfield, MI*

EDUCATION

Virginia Commonwealth University — *Richmond, VA*

The School of Education, *Ph. D. in Education (anticipated 2015)*, Educational Leadership and Policy

The School of Education, *Masters in Education (M.Ed.)*, Educational Leadership, Administration, and Supervision – Leadership Studies

Georgia Institute of Technology — *Atlanta, GA*

Center for Distance Learning, Professional Certificate in Multimedia Development

The University of Pennsylvania — *Philadelphia, PA*

The Wharton School, Executive Certificate in Finance

Northwestern University — *Evanston, IL*

The Graduate School, *Doctoral Program*, Accounting and Information Systems

College of Arts and Sciences, *Bachelor of Arts*, Economics

CERTIFICATIONS AND PROFESSIONAL ASSOCIATIONS

Senior Professional in Human Resources (SPHR) — *The HR Certification Institute*

The American Educational Research Association (AERA)

The Society for Human Resource Management (SHRM)

The International Society for Performance Improvement (ISPI)

