School Choice and Segregation in Florida

Elizabeth Martin
ABSTRACT

Although the 1954 case of Brown v. Board of Education of Topeka prohibited de jure racial segregation in American public schools, de facto segregation persists in many schools around the country. There is research to suggest that one of the causes of this segregation is the school choice movement, which includes charter schools, magnet schools, vouchers, and other programs intended to allow parents more choice in the school their child attends. This project examines the effects of the school choice movement on both racial and socioeconomic segregation in Florida, a state that has fully embraced the school choice movement. I used data from the National Center for Education Statistics and the US Census to examine segregation on the school and district levels in order to gain a thorough understanding of the effects of schools of choice. The results indicate that charter and magnet schools are positively correlated with racial unbalance, but not economic unbalance. Overall this research shows that there may be unintended consequences to school choice. This is important for the state of Florida in particular to consider, since the ideological rhetoric surrounding the issue of school choice and education reform often outshines the concrete evidence of its costs.

(Florida, school choice, segregation)
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SCHOOL CHOICE AND SEGREGATION IN FLORIDA

By

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Introduction

Public education has long been referred to as the “great equalizer” of American society. This idea is that students of all racial and socioeconomic backgrounds have the right to a good and equal education, and at the end they all have an equal chance at success. However, this is not the case, and never has been. Students have long been divided into different schools based on factors like race and socioeconomic status through a variety of different mechanisms. Racial segregation in particular has a long and complicated history in the United States.

Although the 1954 case of Brown v. Board of Education of Topeka prohibited de jure racial segregation in American public schools, de facto segregation still exists for a number of reasons. White flight to private schools when public schools started integrating was one way in which segregation was achieved, despite laws to the contrary. Today, school segregation has shifted away from legally separated schools to policies and factors that indirectly shape the racial makeup of schools. Some of these factors include residential segregation, private schools, racial profiling in ability grouping, transportation issues, and economic differences between ethnic groups. Between the 1989-1990 and 1999-2000 school years, school segregation increased despite residential segregation decreasing in the United States over that period (Logan 2002). Clearly, something else is going on.

Students can be segregated by factors other than race as well, namely by socioeconomic status. Family background affects students’ school attendance in several ways. More privileged students are not only more likely to be able to attend private schools, but they also often have greater access to resources and experiences that can make them better students and have parents who are more involved in their education (Lareau 2011). This is an important issue, as research
has demonstrated that the economic composition of the student body has a substantial effect on individual student outcomes, even when controlling for family background (Coleman 1966; 1992; Kahlenberg 2001; Saporito 2007). Socioeconomic status and race are inextricably linked, but the impact of socioeconomic status is a topic that deserves independent consideration.

A number of scholars speculate that this increase in segregation could be the result of the increasing popularity of the school choice movement (Henig 1996; Lankford, Lee, and Wyckhoff 1995; Lankford and Wyckhoff 1999; Saporito 2003; Saporito and Lareau 1998; Smith and Meier 1995; Willms 1996; Witte 2000; Wrinkle, Stewart, and Polinard 1999; Yancey and Saporito 1995a, 1995b; Bifulco and Ladd 2006). School choice describes a number of different policies and programs designed to give parents more choice as to how their child will be educated. These include voucher programs, magnet schools, charter schools, homeschooling, online schools, and options of attending public schools outside of a student’s particular catchment area (Florida Department of Education 2006; 2010; 2012; 2013a; 2013b; 2013c; 2013d). Advocates for school choice believe that parents should have the opportunity to send their children to whatever school they choose, and not necessarily the traditional neighborhood school for which they are zoned. But critics worry about the possible negative effect of these choices that may serve to separate children by race and socioeconomic status. The impacts of school choice differ by state since each state has different laws defining and regulating these options.

This paper will focus on the state of Florida, and will analyze whether racial and economic segregation in schools has been affected by the increase in school choice since the first charter school legislation was approved in 1996. It will begin by summarizing previous research concerning school choice and both racial and economic segregation, then will describe the state of school choice in Florida, and finally present analyses of data for the state. There are six
hypotheses presented to answer the research question: what is the impact of schools of choice on racial and economic segregation in Florida? The hypotheses are tested at the school and district level with data from the most recent year available and the year prior to the advent of school choice in Florida.

**Theories of Racial Segregation**

There are two theories about segregation that lead to very different expectations\(^1\): contact theory and racial threat theory. Contact theory states that increased contact between racial groups should decrease prejudice while increasing tolerance (Goyette et al. 2012). This theory focuses on the majority group, as increased intergroup contact is more likely to affect members of this group than the minority group (Ford 1973; Tropp and Pettigrew 2005; Renzulli et al. 2007). For this effect to take place, the contact needs to take place under certain conditions including the groups having equal status, cooperating towards a goal, and having institutional support (Allport 1958; Pettigrew 1998). Researchers argue that if whites have contact with minorities of a higher socioeconomic status than themselves, they will feel more positively about them (Jackman and Crane 1986). Some scholars suggest that friendships are important to changing prejudice, but others believe that it is easy for whites to disassociate their friends with their overarching group (Bratt 2002; Semyonov and Glikman 2009; Pettigrew 1998; Jackman and Crane, 1986). Proponents of this theory state that this effect is not felt immediately, but over time. As contact becomes more common, whites adjust to the contact and racial hostility decreases (Bratt 2002; Semyonov and Glikman 2009).

\(^1\) Some literature suggests that these theories are not opposing and are both compatible with school choice (Goyette, Farrie and Freely 2012).
Critics of contact theory have some reservations about the applicability of the theory as a general approach to explain the racial attitudes and beliefs of whites (Jackman and Crane 1986). This is where racial threat theory comes in, also known as group position, racial competition, power or conflict theory (Behrens, Uggen, and Manza 2003; Chiricos et al. 2001; Glaser 1994; Pettigrew 1959; Quillian 1996; Taylor 1998). This theory states that racial beliefs and attitudes are the result of dominant and subordinate group positions and power in society (Bobo 1999). The dominant group (in this case white people) views the growing presence of the minority group as a threat to their status as well as their access to and control of resources. Therefore, attitudes are based on the struggle for resources and status between the two groups and all contact might serve to increase prejudice (Goyette et al. 2012).

This effect is especially important when resources are finite or status is involved, in communities, neighborhoods, and schools (Oliver and Mendelberg 2000). When the presence of minorities increases, they also gain power and resources, which threaten white people’s perception that they hold power (Giles and Evans 1986). White families may also feel their status is threatened as more minorities enter their schools, neighborhoods and communities, due to a history of a large social distance between racial groups and a perception of undesirability of minorities as neighbors and schoolmates (Holme 2002; Bobo and Zubrinsky 1996; Charles 2000). This theory is supported by considerable empirical evidence that generally demonstrates that growing numbers of minorities actually increase white hostility towards minority groups (Behrens et al. 2003; Dixon and Rosenbaum 2004; Fossett and Kiecolt 1989; Glaser 1994; Parker, Stults, and Rice 2005; Pettigrew 1959; Quillian 1996; Rocha and Espino 2009; Taylor 1998). This evidence makes racial threat theory the most appropriate one to use when looking at issues of segregation.
Racial Threat Theory & School Choice

Racial threat theory directly speaks to the possibility of increased segregation from widespread use of school choice. If white families are worried about their resources decreasing and status being hurt by the presence of minorities, they might take advantage of school choice options to put their children in a more racially homogeneous school population. Many scholars have speculated that white families will try to maintain their status by increasing distance between themselves and those of lower social status (Taeuber and James 1982; Wells and Crain 1992; Saporito 2006). This has been applied by many researchers to school choice policies (Henig 1996; Saporito and Lareau 1998; Smith and Meier 1995; Yancey and Saporito 1995a, 1995b). White parents might take advantage of school choice policies by sending their children to special schools resulting in populations of white students that are over representative of the district of the school.

However, there is another issue that affects racial choice of charter schools in particular. There are certain types of charter schools that specifically target students of color. According to the National Alliance for Public Charter Schools (2011), in the 2010-2011 school year, black students made up 29.1% of the charter school population as opposed to 15.5% of non-charter schools. One possible reason for this is the location of many charter schools in urban areas with large black populations. For instance, during the 2011-2012 school year, the districts with the highest percentage of students attending charter schools were New Orleans with 76%, and the District of Columbia and Detroit, with 41% each (National Alliance for Public Charter Schools 2012). These three districts have notably large black populations.
Charter schools that serve large proportions of black students have characteristics that are very different from traditional public schools and other charter schools (Almond 2012). The five main characteristics are a defined mission statement emphasizing academic performance, a culture of high expectations, a college-preparatory atmosphere, a focus on standardized tests, and extended instruction time (Almond 2012). For various reasons, these characteristics are attractive to black parents who see these types of schools as a way for their children to escape the failings of inter-city public schools and have a greater chance of success.

Thus white parents acting under racial threat theory want to avoid schools that are heavily minority, and are likely to make choices that favor more homogeneous white schools, whether they are traditional, magnet, or charter. Black parents may choose charter schools targeting minority or black students, especially if they are specifically designed for students of this race. Therefore, school choice might lead to an increase in schools that are more homogeneous, and over-representative of one racial group when compared to the school’s district for these two different reasons.

**Economic Segregation**

But racial segregation is only part of the story. There is evidence to suggest that the expansion of school choice might lead to economic segregation by socioeconomic status. There are three factors that might lead to economic segregation. The first involves the same processes highlighted above; higher status groups distance themselves from lower status groups. This is applicable not only with race, but also with economic class (Wells and Crain 1992; Saporito 2003; Saporito 2006). Those with a higher socioeconomic status will try to maintain their social status by staying away from those of a lower socioeconomic status. This applies to
neighborhoods, communities, and schools, as these all are outwardly indicative of social status. With schools in particular, parents may want to keep their children away from other children whose families are lower class or in poverty, leading to some schools having populations that are over or under representative of either less privileged or more privileged students.

Another important aspect involves the relationship between parental involvement and socioeconomic status. Some researchers find that lower socioeconomic status parents often are not active in their children’s education due to circumstances including low education, low income, and little time (Hoover-Dempsey and Sandler 1997). There is also research that indicates that middle class and working class families have distinctly different strategies for raising their children (Laureau 2011). Middle class families often view raising their child as a project and work to improve them through structured activities and made sure to oversee and intervene in their educational experiences. Working class and poor families are more likely to give their child free time and are less likely to intervene with their school. If a parent is not active in her child’s education, then she may not be sufficiently informed on the school choice options that are available, or be willing to take the extra steps necessary to engage her child in one. This may result in the overrepresentation of lower socioeconomic status students in regular neighborhood schools.

The final factor that might economically segregate students is the number of charter schools marketed towards students from a lower socioeconomic background. There are a number of charter schools designed specifically for students who are underprivileged and of low socioeconomic status (Angrist et. al. 2000; Lacireno-Paquet et.al. 2002). These schools might include a focus of educating less privileged children in their mission and will go out of their way to disseminate information to the parents of their target students (Lacireno-Paquet et.al. 2002).
Higher income parents will have little incentive to send their children to these schools, so they will be successful in attracting a single demographic of students. Through these mechanisms school choice could possibly lead to an increased number of schools that are over or under representative of one particular socioeconomic group.

Despite this, there is very little research that examines the relationship between school choice and economic segregation. Saporito (2003) studied the effects of Philadelphia’s magnet school program on both race and class segregation using a dissimilarity index. He first established a “baseline” level of racial and economic segregation that would exist if all students went to their neighborhood schools, and then compared that to segregation if all magnet school applicants were allowed to exercise their choice. For racial segregation, his results show that while magnet schools would be less segregated than the baseline schools, neighborhood schools after choice would be more segregated. When combined, all magnet and neighborhood schools would be more racially segregated than the baseline. The results for economic segregation show that neighborhood schools after choice are more segregated than the baseline, while magnet schools are less segregated. When combined however, there is no net change in economic segregation after choice. While these results do not show that this school choice program would increase economic segregation, it is possible that a different program might.

**Previous Research in Segregation & School Choice**

The preference of white families to avoid minorities has been studied in the context of neighborhoods as well as schools. The research indicates that white families will try to live in predominantly white neighborhoods, while nonwhite families prefer integrated neighborhoods (Saporito 2006; South and Crowder 1998; Crowder 2000). This is also demonstrated in studies of
private school enrollment, which generally find that as the percentage of nonwhites increases in a neighborhood, the percentage of white children likely to attend a private school increases, even when controlling for social and economic factors (Saporito 2006; Lankford and Wyckoff 2001; Saporito, Yancey, and Louis 2001). Studies of magnet schools have similar findings (Saporito 2003).

A number of studies have addressed the relationship between school choice and segregation. Table 1 lists some of these studies, their units of analysis, variables, and findings. Work by Saporito and Lareau, Bifulco and Ladd, Frankenburg and Lee, and Renzulli and Evans (see Table 1) in particular contribute to the literature surrounding different aspects of school choice and increased segregation. The following studies use different methods to measure the levels of segregation in schools, and they overwhelmingly find that school choice have increased these levels.

Saporito and Lareau (1999) examined the differences in how families from different racial backgrounds made school choices through a public school transfer program located in a densely populated urban area in the Northeastern United States using both quantitative and interview data. The study finds that white families clearly avoid “black” schools, even if they have a large number of affluent and high performing students. Black families on the other hand, do not show this racial bias. Similar findings relate to economic segregation. Students from a higher socioeconomic background were more likely to apply to leave a school in poverty, while lower socioeconomic students’ rates of leaving schools did not vary by a school’s poverty level (Saporito and Lareau 1999). Outside factors like academic quality and school safety did not explain these variations in school preferences (Saporito and Lareau 1999).
Another study examined the racial characteristics of school-aged children living in a school’s catchment area, compared to the racial composition of the school itself. They found that public schools were more segregated than their neighborhood catchment area (Saporito and Sohoni 2006). There was a curvilinear relationship, so that white students in the catchment area of the schools that were the most racially balanced were actually the most underrepresented in the traditional public school, due to their attendance in schools of choice. This is consistent with racial threat theory, as students who had more contact with minorities and were most likely to be zoned for a school where races were in equal proportion, were more likely to avoid them and go to a school of choice. They found that the relationship between the presence of minorities in the neighborhood and the traditional school attendance rates of white students was actually stronger in the case of Hispanic children (Saporito and Sohoni 2006). This is particularly interesting, since they are an often ignored group in this body of research. Additionally, the presence of charter, magnet, and private alternatives increased the differences of racial compositions of neighborhood schools compared to catchment areas, both between Hispanic students and white students, as well as black students and white students (Saporito and Sohoni 2006).

Renzulli and Evans (2005) found that as the level of integration increased in a school district, the percent of white students in charter schools in the district increased as well. This implies that as districts become more integrated, more white students will enroll in charter schools. They also found that academic quality (measured by standardized test scores) did not explain the racial distributions of the enrollment of charter schools (Renzulli and Evans 2005).

Goyette, Farrie and Freely (2012) study the relationship between white residents’ perceived quality of public schools and the change in black representation in predominantly white schools in the Philadelphia metropolitan area. They found that when these schools
experienced up to a 7% increase in black representation over a four to five year period, white residents were more likely to think the quality had declined. This relationship holds true despite the actual conditions of the school including the percent of students receiving free or reduced cost lunch, reading test scores, and the number of violent incidents per 1000 students. The perception of school quality is important to consider, as it might affect which schools a parent might want to send their child to if choice is at play. This particular result is consistent with racial threat theory- and might indicate one reason why choice increases segregation.

Bifulco and Ladd (2006) found that the proliferation of charter schools increased the segregation between black and white students in North Carolina. The data showed that students enrolled in a charter school were two and a half to three times more likely to be in a racially unbalanced school than students in a traditional public school. A black student in a charter school was far more likely to be racially isolated compared to a public school counterpart. The typical black student in a charter attended a school that was more than 70% black, in contrast to a public school which was less than 50% black on average. This pattern held true for white students as well, although the difference was not as large. They also found that more than half of black students transferring from a public to a charter school made a racially segregating change. Transferring black students preferred charter schools that were 40-60% black, while white students preferred schools that were less than 20% black (Bifulco and Ladd 2006).

Finally, there was a study that examined the demographics of students in the sixteen states with charter school enrollment of more than 5,000 in the 2000-2001 school year. Their findings indicate that most states enrolled a disproportionately high number of minority students in their charter schools compared to traditional public schools (Frankenburg and Lee 2003). Additionally, while 34% of black non-charter public school students attended highly segregated
schools with a population of at least 90% minority, that figure was 70% for black charter school students. They also found that white charter school students in every state studied attended charter schools with disproportionally high percentages of white students, but with a higher variation than with minority students.

Table 1: Previous School Choice Research

<table>
<thead>
<tr>
<th>Study</th>
<th>Unit of Analysis</th>
<th>Dependent Variable</th>
<th>Independent Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renzulli and Evans 2005</td>
<td>School</td>
<td>Percentage of white students in a charter school</td>
<td>Integration (Distribution of white and nonwhite students across schools in a district), Contact (Percent of nonwhite students in average white student’s school)</td>
</tr>
<tr>
<td>Saporito and Lareau 1999</td>
<td>School (also supplemented with interview data)</td>
<td>Percent of African American applicants who applied to a school in a choice program, Percent of white applicants who applied to school in a choice program</td>
<td>Percent African American students, percent Asian students, percent Latino students</td>
</tr>
<tr>
<td>Saporito and Sohoni 2006</td>
<td>School</td>
<td>Percentage of white children in public schools</td>
<td>Percentage of white children in a attendance zone</td>
</tr>
<tr>
<td></td>
<td>School</td>
<td>Percentage of white children in public schools</td>
<td>Percentage of black children in attendance zone, percentage of Hispanic students in attendance zone, dummy variables for attendance zones with one private school, two or three private schools, more than three private schools, one or more charter schools, and one or more magnet schools</td>
</tr>
</tbody>
</table>
These studies suggest that increased school choice will in turn increase school segregation. However, there are some limitations in the literature that need to be addressed. One limitation is the lack of studies examining how this school choice affects Hispanic students. Often the literature examines either black students or minorities as a whole instead of considering this large population separately. In this analysis I examine the Hispanic population separately from other minorities when determining racial unbalance.

Another limitation in the literature is the lack of comparisons over time periods. School choice has been around for decades, but only recently have charter schools come into the mix.
and even more recently has choice become popularized by the media and policymakers. Because of the effect that school choice has on districts and states school systems as a whole, it is important to examine the changes that have happened over time.

There is also a lack of research on economic segregation and school choice. While many researchers examine racial segregation, economic segregation is often ignored. Income inequality is a problem in the United States that has garnered considerable attention in recent years. School choice is often seen as a way for parents who cannot afford private school to have a say in their child’s education, but it is possible that school choice is actually perpetuating inequality by stratifying students by class.

Much of the research also fails to examine the effect that school choice has on a district as a whole, in favor of looking at individual schools or students. While it is important to examine those units of analysis, it is also important to look at the bigger picture of districts. Schools of choice attract students who might otherwise be attending a traditional public school, which also affects the racial and economic makeup of that school.

This paper attempts to bridge these gaps in the literature, particularly for the state of Florida. In order to understand the effect of school choice, it is necessary to examine it through multiple lenses, which is what this paper will do.

**School Choice in Florida**

According to the Heritage Foundation (2013), Florida is a leader in the school choice movement. Over the past few decades, the state introduced many programs to increase the number of choices that parents have concerning the education of their children. One is the John McKay Scholarship for Students with Disabilities Program, which offers vouchers to students
with special needs. It provided scholarships for more than 24,000 Florida students to attend private schools during the 2011-12 school year (Florida Department of Education 2012).

To encourage scholarships for low income students, Florida also has the Florida Tax Credit Scholarships Program, which gives tax credits for donations to nonprofit scholarship funding organizations that then give scholarships to students from lower income families (Florida Department of Education 2010). A program offering students attending failing public schools scholarships or vouchers to attend a private school or higher performing public school was found unconstitutional in 2006 by the Florida Supreme Court (Florida Department of Education 2006). The Court ruled that providing state funds for private schools violated a state constitutional provision that prohibits public fund expenditure to aid sectarian institutions (National Education Association 2013).

Florida is a leader in on-line education, allowing K-12 public, private, and homeschool students from all 67 Florida districts to take classes both full time and part time from the Florida Virtual School (Florida Virtual School 2013). The FVS, the largest state virtual school in the county, offers more than 120 online courses, including everything from core academics to Advanced Placement (Florida Department of Education 2013c). This allows students the freedom to take classes that may not be offered at their particular school, with nearly 150,000 students participating in the 2011-2012 school year (Florida Virtual School 2013). However, the school choice provisions affecting the most Florida students are those relating to magnet and charter schools.

Florida has nearly 500 magnet schools, which are public schools that have a particular theme or academic focus and are able to offer a specialized program for some students (Florida
Programs and specialties are very diverse, and include focuses like academically gifted, science, math, performing arts, and foreign language as well as the International Baccalaureate (IB) program. Although it varies by district, students generally apply for magnet schools, and those who meet the requirements of the individual school are either admitted, or put into a lottery if there are more applicants than spaces for students. The requirements vary by school, and can include auditions for performing arts schools and certain GPA minimums for IB and gifted schools. Some districts give priority in the lottery to eligible students from active military families and eligible students with siblings already attending the requested magnet school.

Magnet schools were originally established to desegregate schools by offering desirable programs in inter-city schools with a mainly black population, in order to attract white students living in the suburbs (Dillon 2013). Policies have changed, however, most notably through the 2007 Parents Involved Supreme Court decision that struck down the use of race as a deciding factor for school admissions (Godoy 2007). The focus of many magnet schools has shifted from desegregation and equity to academic excellence and innovation (Siegel-Hawley and Frankenberg 2012; Christensen et al. 2003; Frankenberg and Lee 2009; Steele and Eaton 1996).

One of the most popular types of school choice in recent years in Florida is charter schools. These are publicly funded, privately run schools that are exempt from many of the regulations of traditional public schools. The first charter schools opened in 1996, and currently there are over 200,000 students enrolled in 578 charter schools in the state (Florida Department of Education 2013b). Under Florida law, charter schools are required to open their enrollment to all students in their district. Parents must apply to individual charter schools for their child to be considered. Schools are able limit their enrollments to target certain types of students, like those
considered at-risk for dropping out, those who meet a certain academic or artistic standard as established by the individual school’s charter, and those who live within a certain distance from the school. If there are more applicants than spaces, the schools must hold a lottery to determine which students are admitted. According to the National Alliance for Public Charter Schools, Florida is ranked 5th in a report among states that are “best positioned to support the growth of high quality charter schools.” (Ziebarth 2012).

Clearly, Florida has embraced the school choice movement. Jeb Bush, Florida governor from 1999-2007, is credited by many for pushing these school choice options in the state (State Impact 2013). It is not entirely certain, however, how this movement has affected economic and racial segregation in the Florida public school system. One study did find that in the 1999-2000 school year, Florida charter schools were more racially segregated than traditional public schools (Crew and Anderson 2003).

This is a significant concern because of the widespread impacts that the education system has on the state’s short term and long term economic interests. If public schools are not serving all students equally, there is the risk that schools are replicating social classes and inequality rather than giving all students the chance to succeed. This possibility should be a serious concern to policy makers working on improving education and increasing equality. For Florida, the issue is whether the recent laws making school choice widely available have led to racial and economic segregation.
Hypotheses

The school choice options that affect the most students in Florida are charter schools and magnet schools, so my research will focus on the combined effect of these types of schools on segregation. Charter and magnet schools have different history in the school choice movement and are operated differently, but they both provide alternatives to neighborhood schools without charging tuition. Additionally, if families are considering engaging in school choice, they will likely not differentiate between magnet and charter schools, but will instead look into all the options that are available to them and choose what they think is best. For these reasons this study examines schools of choice, which are both magnet and charter schools, rather than analyzing them separately.

Racial threat theory suggests that the dominant group (whites) will try to distance themselves from the subordinate group (minorities). When this is applied to increased school choice, this can lead to white parents preferring predominantly white schools to those with higher minorities. If racial threat theory is correct, then a larger number of minorities might make parents perceive a school as being low quality. Therefore, if their children are zoned for a school that is high minority parents would be more likely to want to move them to an alternative that is predominantly white. They would be less likely to move their child to an alternative that is high minority, because they would perceive them to be low quality.

Additionally, many charter schools target black students or minorities, leading to schools that are predominantly made up of these populations. Compounded, these factors would lead to charter and magnet schools being more racially segregated than traditional public schools. This leads to my first hypothesis:
**H₁:** Charter and magnet schools are more racially unbalanced than traditional public schools.

It’s important to consider time when looking at this issue, as well as the effect that school choice policies have had on public schools as a whole. If school choice increases segregation, then all public Florida schools will be more racially segregated now than they were before school choice policies, specifically those allowing charter schools, were enacted in Florida in 1996. Therefore,

**H₂:** Florida schools will be more racially unbalanced now than in 1995, before charter schools opened in the state.

While individual schools are important to analyze, it is also necessary to look at the effect that school choice has had on school districts in Florida. Some districts have embraced the school choice movement, and have many magnet and charter schools, while others have not. If charter and magnet schools are more segregated than traditional schools, then districts that have more of these schools of choice will be more racially segregated as a whole than the districts that have fewer. This leads to this hypothesis:

**H₃:** Florida school districts with a larger number of charter and magnet schools will have higher racial unbalance than districts with fewer charter and magnet schools.

The same logic can be applied to economic segregation. If higher status parents wish to keep their status they will try to keep their children away from schools that they perceive as low quality, which are the schools with higher populations of children from a lower socioeconomic status. This in conjunction with the increased likelihood of higher income parents engaging in school choice, and the schools that are meant to attract solely lower socioeconomic students,
might make charter and magnet schools more economically segregated than traditional public schools. Therefore,

\[ H_4: \text{Charter and magnet schools will be more economically unbalanced than traditional public schools.} \]

Time needs to be considered with economic segregation as well. If school choice does increase economic segregation, then Florida schools should be more economically segregated than they were before school choice policies were established. This leads to the following hypothesis:

\[ H_5: \text{Florida schools will be more economically unbalanced now than in 1995, before charter schools opened in the state.} \]

As with racial segregation, individual districts that engage in more school choice should be more economically segregated than those that do not. Therefore,

\[ H_6: \text{Florida school districts with a larger number of charter and magnet schools will have higher economic unbalance than districts with fewer charter and magnet schools.} \]
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Unit of Analysis</th>
<th>Dependent Variable</th>
<th>Main Independent Variable</th>
<th>Type of analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>$H_1$</td>
<td>School</td>
<td>Racial unbalance</td>
<td>Type of school (charter, magnet, traditional)</td>
<td>Cross tab racial unbalance variable with type of school variable Chi-squared statistic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(variable coded 1 for racially unbalanced and 0 for racially balanced)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_2$</td>
<td>School</td>
<td>Racial unbalance</td>
<td>Year (1995-1996, and 2010-2011 school years)</td>
<td>Cross tab racial unbalance with year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(variable coded 1 for racially unbalanced and 0 for racially balanced.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_3$</td>
<td>District</td>
<td>Percent of district schools that are racially unbalanced</td>
<td>Percentage of charter and magnet schools in district</td>
<td>Regression</td>
</tr>
<tr>
<td>$H_4$</td>
<td>School</td>
<td>Economic unbalance</td>
<td>Type of school (charter, magnet, traditional)</td>
<td>Cross tab economic unbalance with type of school chi-squared</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(variable coded 1 for economically unbalanced and 0 for economically balanced)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_5$</td>
<td>Schools</td>
<td>Economic unbalance</td>
<td>Year (1995-1996, and 2010-2011 school years)</td>
<td>Cross tab economic unbalance with year</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(variable coded 1 for economically unbalanced and 0 for economically balanced)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$H_6$</td>
<td>District</td>
<td>Percent of district schools that are economically unbalanced</td>
<td>Percentage charter and magnet schools in district</td>
<td>Regression</td>
</tr>
</tbody>
</table>
**Data**

The data for this study come from the Common Core Data from the National Center for Education Statistics and the US Census. I compiled three separate data sets by merging together National Center for Education Statistics information about schools, and US Census data on demographic makeups and poverty statistics in the districts for 1995-1996 and 2010-2011. Since my hypotheses involve different years and units of analysis, the data are separated into 1995 school level, 2010 school level, and 2010 district level sets. The independent variable is a dummy variable for schools of choice, where charter and magnet schools, as defined by the National Center for Education Statistics, are coded “1” and other schools are coded “0.”

The dependent variable for H1 is a dummy variable called “racial unbalance.” The definition of racial unbalance usually used in court-ordered desegregation plans is a school that has either a representation of a racial group that is 20% higher or 20% lower than the district (Bifulco and Ladd 2006). I created a dummy variable coded “1” for schools in the 2010-2011 school year that have an under-18 population of white, black, or Hispanic that are over or underrepresented by 20% when compared to the district in which the school is located, and coded “0” for those that are not. I chose to compare school populations to the under 18 population because that was the closest subset of ages to school aged that was included in both the demographic and the poverty data. When coding this variable, I examine black, white, and Hispanic populations separately, rather than just looking at the percentage of minorities in a school and a district. This is important to examine in Florida since there is a very large Hispanic population in certain areas, which warrants separate consideration.
For H2, I used the 2010 racial unbalance dummy variable, as well as another variable for racial unbalance in the 1995-1996 school year. I created this variable the same way I created the 2010 unbalance dummy, but using the district populations under 20. While this is slightly different than the under 18 data used in the 2010 dataset, this was the best option with the data constraints of the census data I used. The dependent variable used in H3 is the percentage of schools in each district that were coded racially unbalanced in 2010.

I created a similar dependent variable for H4 called “economic unbalance.” This is a dummy variable, comparing percent poverty in school and the percent of district poverty. To measure poverty in school I used the percentage of students eligible for free lunch. While this is not a perfect measure of student poverty, as students are eligible for free lunch if their household income is less than 130% of the federal poverty line, it is commonly used. For poverty, I used US census bureau data for the percentage of those under 18 in the county in poverty. I mirrored my analyses of racial data, by coding a school economically unbalanced “1” if school poverty is 20% higher or 20% lower than district poverty levels, and “0” if it is not.

The dependent variables for H5 are the 2010 economic unbalance dummy variable, and another dummy variable created the same way but using data from the 1995-1996 school year. Finally, the dependent variable for H6 is the percent of schools in a district that are economically unbalanced.

The first dataset covers 1995-1996, with individual school as the unit of analysis and has 2615 observations. The main variables of interest in this dataset are the dummy variables for racial and economic unbalance (See Table 3). It was necessary to drop observations with missing data for number of students in the school (71 observations deleted), and those schools with fewer
than 20 students (74 observations deleted), since these schools are not representative of public schools.

The second dataset is for 2010-2011 with individual school as the unit of analysis and 3728 observations (See Table 4). The variables of interest are the dummy variables for racial and economic unbalance, and the dummy variable for school of choice. For consistency, I dropped observations that did not report the number of students in the school (213 observations deleted) those schools that had fewer than 20 students (242 observations deleted), and those that did not report the number of students eligible for free lunch (3 observations deleted).

The third dataset is for 2010-2011, with district as the unit of analysis and 67 observations (See Table 5). I created this dataset by collapsing the 2010 school level dataset for the relevant variables by county. Included are variables that correspond to each of the school level variables. The dependent variables are the percent of racially unbalanced schools in the district, and the percent of economically unbalanced schools in the district. The independent variables are the percent of schools of choice in the district.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Frequency of 0</th>
<th>Frequency of 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racial Unbalance</td>
<td>.355</td>
<td>0</td>
<td>.479</td>
<td>1,686</td>
<td>929</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>64.474%</td>
<td>35.526%</td>
</tr>
<tr>
<td>Economic Unbalance</td>
<td>.421</td>
<td>0</td>
<td>.494</td>
<td>1,514</td>
<td>1,101</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>57.897%</td>
<td>42.103%</td>
</tr>
</tbody>
</table>

*Table 3: School Level Descriptive Statistics for All Public Schools in Florida (1995-1996)*
Table 4: School Level Descriptive Statistics for All Public Schools in Florida (2010-2011)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Frequency of 0</th>
<th>Frequency of 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racial Unbalance</td>
<td>.448</td>
<td>0</td>
<td>.497</td>
<td>2,059</td>
<td>1,669</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>55.23%</td>
<td>44.77%</td>
</tr>
<tr>
<td>Economic Unbalance</td>
<td>.631</td>
<td>1</td>
<td>.483</td>
<td>1,377</td>
<td>2,351</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>36.94%</td>
<td>63.06%</td>
</tr>
<tr>
<td>Schools of Choice</td>
<td>.2304</td>
<td>0</td>
<td>.421</td>
<td>2,869</td>
<td>859</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>76.96%</td>
<td>23.04%</td>
</tr>
</tbody>
</table>

Table 5: District Level Descriptive Statistics (2010-2011)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>Std. Dev.</th>
<th>Min.</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Racial Unbalance</td>
<td>27.480</td>
<td>25.000</td>
<td>23.206</td>
<td>0</td>
<td>100</td>
</tr>
<tr>
<td>Percent Economic Unbalance</td>
<td>65.810</td>
<td>63.736</td>
<td>16.710</td>
<td>30.233</td>
<td>100</td>
</tr>
<tr>
<td>Percent Schools of Choice</td>
<td>12.920</td>
<td>9.091</td>
<td>13.385</td>
<td>0</td>
<td>50</td>
</tr>
</tbody>
</table>

Results

The descriptive statistics are very telling. Tables 3 and 4 show clearly that racial and economic unbalance increased between 1995 and 2010. The percent of schools coded economically unbalanced increased by 21% between the two years, from 42.1% to 63.1%. The percent of schools coded racially unbalanced also increased, but at a smaller margin of 13.3%, from 35.5% to 44.8%. Table 4 also indicates that in 2010 nearly a quarter of all Florida public schools were either a charter or a magnet school.

Table 5 shows the large variation between districts’ percentages of racial and economic unbalance. While at least one district has no schools that are racially unbalanced, in another
district all the public schools are unbalanced. The mean district is 27.48% racially unbalanced, and the median is 25%. On the other hand, at least all districts have 30.233% of schools that are economically unbalanced, and the mean and median are quite high at 65.81% and 63.736%, respectively. As with the school-level data, Table 5 indicates that there is much greater economic unbalance than racial unbalance in Florida schools.

The percent of schools of choice is interesting as well. It shows that in at least one district, half of all schools are of choice. A mean of about 13% and median of 9% indicates that there’s a negative skew, probably because a number of districts have 0% schools of choice. The standard deviation is actually higher than the mean, which indicates that the percentage varies quite a bit.

**Racial Unbalance in Individual Schools: Hypothesis 1**

For $H_1$ I compared the percentage of racially unbalanced traditional, charter and magnet schools in the 2010-2011 school year. To test $H_1$ I created a cross-tab comparing the school of choice dummy variable and the racial unbalance dummy variable. It shows that 55.18% of schools of choice and 41.68% of non-charter, non-magnet schools are racially unbalanced with a chi-squared statistic of 48.749, indicating statistical significance. This demonstrates that a higher percent of schools of choice are racially unbalanced than traditional public schools, which confirms $H_1$. 
Table 6: Hypothesis 1

<table>
<thead>
<tr>
<th>School of Choice</th>
<th>Not Unbalanced</th>
<th>Unbalanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>385</td>
<td>474</td>
</tr>
<tr>
<td>Percent</td>
<td>44.82%</td>
<td>55.18%</td>
</tr>
</tbody>
</table>

| Non Magnet, Non Charter School          |                |            |
| Frequency                               | 1,675          | 1,197      |
| Percent                                 | 58.32%         | 41.68%     |

Chi-Squared 48.9298  P-Value 0.000

Racial Unbalance Over Time: Hypothesis 2

To examine the effect of the school choice provision that allowed for charter schools in Florida, I compared the 2010 public school data discussed above to the percentage of racially unbalanced public schools in the 1995-1996 school year. I performed a cross-tabulation for each dataset, which showed the percentage of schools in Florida that are racially unbalanced in each year. In 1995, 35.53% of all schools were racially unbalanced, while in 2010 unbalanced that number grew to 44.79%. This increase of nearly 10% supports my hypothesis that school choice has increased overall racial unbalance of schools in the state.
Table 7: Hypothesis 2

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced</td>
<td>1,686</td>
<td>64.47%</td>
</tr>
<tr>
<td>Unbalanced</td>
<td>929</td>
<td>35.53%</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced</td>
<td>2,060</td>
<td>55.21%</td>
</tr>
<tr>
<td>Unbalanced</td>
<td>1,671</td>
<td>44.79%</td>
</tr>
</tbody>
</table>

School Choice Effects in Districts: Hypothesis 3

To test $H_3$, I performed a regression analysis on the 2010 district level data, using the percent of racially unbalanced schools in a district as the dependent variable, and the percent of schools of choice in a district as the independent variable (Table 8). This analysis found that without any school choice, a district would be 18.979% unbalanced with an adjusted r-squared value of .131. With every percent increase in choice, unbalance increases .658%, with a standard error of .199, a p-value of .002, and a 95% confidence interval of .261-1.055. These results confirm my hypothesis that an increase in schools of choice also increases racial unbalance in a district.
Table 8: Predicting Percent Racial Unbalance with Percent Choice

<table>
<thead>
<tr>
<th>Percent Racial Unbalance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Choice</td>
</tr>
<tr>
<td>0.658**</td>
</tr>
<tr>
<td>(0.199)</td>
</tr>
<tr>
<td>Constant</td>
</tr>
<tr>
<td>18.98***</td>
</tr>
<tr>
<td>(3.687)</td>
</tr>
<tr>
<td>Observations</td>
</tr>
<tr>
<td>67</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
</tr>
<tr>
<td>0.131</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

Economic Unbalance in Individual Schools: Hypothesis 4

For H4 I performed a cross-tab of the 2010 school level data, with the economic unbalance dummy variable as the dependent variable, and the school of choice dummy variable as the independent variable. The results show that about 55% of schools of choice are economically unbalanced, while 65.42% of traditional public schools are economically unbalanced, with a chi-squared statistic of 29.7764 indicating statistical significance. This does not confirm my hypothesis that schools of choice are more economically unbalanced than traditional public schools.

There are a few explanations as to why this might be, other than the possibility that schools of choice do not economically segregate students. The first reason could be that students moving to schools of choice cause neighborhood schools to become more economically segregated, while causing the schools of choice to become less economically segregated. Saporito (2003) found this in his study on the Philadelphia magnet schools, mentioned above.
However, this dataset does not contain information on individual students and their choices, which would be able to confirm this possibility. Another reason could have to do with the fact that free lunch includes student who are 130% of the poverty line, not just those in poverty. Finally, these results could be partially explained by the disproportionate number of affluent students who enroll in private schools. The descriptive statistics show that economic segregation is relatively high, at 63% in 2010. Perhaps it’s so high because many wealthy students do not engage in school choice because their families choose to send them to private schools instead.

**Table 9: Hypothesis 4**

<table>
<thead>
<tr>
<th>School of Choice</th>
<th>Not Unbalanced</th>
<th>Unbalanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>385</td>
<td>474</td>
</tr>
<tr>
<td>Percent</td>
<td>44.82%</td>
<td>55.18%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non Magnet, Non Charter School</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency</td>
<td>992</td>
<td>1,877</td>
</tr>
<tr>
<td>Percent</td>
<td>34.58%</td>
<td>65.42%</td>
</tr>
</tbody>
</table>

| Chi-Squared | 29.7764 |
| P-Value     | 0.000   |
Economic Unbalance Over Time: Hypothesis 5

For this particular hypothesis I compared the percentage of economic unbalance in 1995 and 2010. I found that 42% of schools in 1995 were economically unbalanced, while 63% of schools in 2010 were economically unbalanced. This shows that more public schools in the state were economically unbalanced in 2010 than in 1995 before charter schools were introduced to Florida, confirming my hypothesis.

Table 10: Hypothesis 5

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced</td>
<td>1,686</td>
<td>57.90%</td>
</tr>
<tr>
<td>Unbalanced</td>
<td>929</td>
<td>42.10%</td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Balanced</td>
<td>1,377</td>
<td>36.94%</td>
</tr>
<tr>
<td>Unbalanced</td>
<td>2,351</td>
<td>63.06%</td>
</tr>
</tbody>
</table>

Schools of Choice and Economic Segregation in Districts: Hypothesis 6

I regressed the percent of schools that are economically unbalanced with percent of schools of choice in the district. The results are contradictory to my hypothesis, indicating that school districts without any choice would be 66.60% unbalanced, and with every percent increase in choice, percent unbalance actually decreases -0.061%. However, the results are not statistically significant, with a standard error of 0.155, a p-value of 0.693, and a 95% confidence
interval of -.370 to .248. This model does not indicate that there is any significant relationship between percent choice in a district and percent economic unbalance.

The possible reasons why the model did not confirm my hypothesis are similar to those for H4. The descriptive statistics show that the total percentage of schools that are economically unbalanced is quite high. This could either indicate that the economic unbalance measure I used was flawed or that all Florida school district have a problem with economic unbalance since at least 30% of schools in all district were unbalanced.

**Table 11: Predicting Percent Economic Unbalance with Percent Choice**

<table>
<thead>
<tr>
<th></th>
<th>Percent Ec~d</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percent Choice</td>
<td>-0.0613</td>
</tr>
<tr>
<td></td>
<td>(0.155)</td>
</tr>
<tr>
<td>Constant</td>
<td>66.60***</td>
</tr>
<tr>
<td></td>
<td>(2.866)</td>
</tr>
<tr>
<td>Observations</td>
<td>67</td>
</tr>
<tr>
<td>Adjusted R-squared</td>
<td>-0.013</td>
</tr>
</tbody>
</table>

Standard errors in parentheses
* p<0.05, ** p<0.01, *** p<0.001

**Conclusion**

There is a long history in the United States of unequal educational opportunities for students due to their race and class. The evidence presented in this paper suggests that school choice might serve as yet another practice that segregates children. Racial threat theory suggests that white families will try to separate themselves from minorities by making choices that put children in more homogeneous schools. This compounded with the high numbers of charter
schools that cater to children of color, means that schools of choice could lead to an overall trend of more racially unbalanced schools.

The results of this research show that there is indeed a relationship between a higher percent of schools of choice in a district and higher percent of racial unbalance. The analyses also show that schools of choice are more racially unbalanced than traditional public schools, and that a higher percent of Florida public schools were unbalanced in the 2010-2011 school year than in the 1995-1996 school year, before charter schools were opened in Florida. This important finding illustrates one of the consequences of the proliferation of charter and magnet school options.

While there is evidence to suggest that the same pattern would hold for economic segregation, the results of this research are mixed. They show that all Florida schools have become more economically unbalanced since charter schools opened in 1996. However, they also show that schools of choice are less economically unbalanced than traditional schools, and there is no statistically significant relationship between percent schools of choice in a district and percent economically unbalanced schools. Further research is necessary in order to determine if there is a relationship between school choice and economic segregation.

There are some limitations with this study that should be studied further in order to increase the understanding of the effects of school choice on segregation. One limitation is the use of districts to determine racial unbalance rather than school catchment areas.\(^2\) Districts are often very large and diverse, and it would be much more precise to compare the racial and economic makeup of a school to that of its catchment area rather than the entire district.

\(^2\) A catchment area is the area of a county from which a school’s students are drawn.
Unfortunately, these data are not readily available, but analyzing this information would add a great deal to the knowledge to the actual impact of schools of choice on school segregation.

Information about individual students and their actual choices would also be beneficial, as it would allow researchers to examine the changes that have occurred due to school choice. This research was able to look at the big picture, but it is unable to discern if these changes and effects are actually due to school choice or if they are due in part to other causes. Having information on individual students’ choices and catchment areas would remedy this uncertainty.

Another limitation is that these data do not account for in-school segregation. Students can be divided into different tracks and classes, which is effected by race for many reasons (Tyson 2011). It is possible that a school considered balanced using the district populations would have very little actual interaction between students of different classes and races. For instance, some magnet schools might look balanced on paper, but have programs that are over representative of one race or class and a general population over representative of another. Although this is an area that needs further research, it is difficult to study and beyond the scope of this research.

For economic segregation, having a better measure of socioeconomic status than poverty level and free-lunch would be beneficial. A measurement that includes aspects such as parents’ highest level of education, occupation and income would be hard to come by for such a large population, but could ultimately provide a more accurate depiction of socioeconomic status of students and the surrounding catchment area. Future studies could also utilize other measures for segregation, such as a dissimilarity index or a segregation index. For this study I chose to use an unbalance variable, but these indices would provide new information that might be beneficial.
Despite these limitations, this study contributes to the literature surrounding the relationship between school choice and segregation in Florida. This research suggests that if Florida continues down the road of encouraging free market based solutions to public education issues, it might come at the consequence of greater racial unbalance in schools. This is an important implication for policymakers in Florida to consider when deciding whether school choice policies are indeed the best path for Florida schools. School choice is supposed to encourage innovation and excellence, but does it need to come at the cost of equality?
References


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