ACADEMIC REDSHIRTING: IMPLICATIONS ON EQUITY

by

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(Under the Direction of Sally J. Zepeda)

ABSTRACT

This study examined academic redshirting in kindergarten—the practice of postponing formal entrance into school for age-eligible children to allow extra time for socio-emotional, intellectual, or physical growth and its influence on referral for and placement into gifted education services. The current study investigated inequity as a function of age, ethnicity, and socioeconomic status and analyzed the extent to which students who were redshirted were at an unfair advantage over their younger peers. The findings suggest redshirts differed considerably from non-redshirts in terms of their composition and educational services received. Specifically, redshirts were considerably more likely to be male and more likely to receive special education services than were their non-redshirt peers. They were slightly more likely to be economically disadvantaged, an English Language Learner, or White or Hispanic. Redshirts were referred for gifted evaluation at lower rates than other students, although their placement rates were not particularly distinguishable from non-redshirts. There does not appear to be significant differences in the method used to place students in gifted between redshirts and non-redshirts. Implications and broader findings were discussed.

INDEX WORDS: Academic Redshirting; Gifted Referral; Gifted Eligibility; Kindergarten Entrance Age; Relative Age Effects

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CHAPTER 1

INTRODUCTION

The trend of postponing kindergarten enrollment, for parents and educators seeking to avoid the harmful effects of potential retention or social promotion following a child's kindergarten year, has emerged as an issue in early childhood education (Bassok & Reardon, 2013). Over the last decade, parents of a growing number of young children have enrolled their children a year or more after their child's fifth birthday, the normative point of school entry, as a perceived opportunity to help children develop early literacy behaviors (Dougan & Pijanowski, 2011). The parents of these children have cited two principle reasons for doing so - either the child's birthday occurs late in the year, making the child younger than his or her entering-kindergarten peers, or the child has exhibited less mature behavior (academic or social) than other children of the same age (Dougan & Pijanowski, 2011). For both reasons, parents have hoped their child will benefit from another year of growth and development before entering kindergarten.

Although Dougan and Pijanowski (2011) found these main parental explanations, another rationale advanced by parents is the reluctance to admit a competitive component to the decision - a hope their child's physical, emotional, and academic growth may give him or her an advantage over classmates who may be up to a year younger. The purposeful delay of entry into kindergarten to improve future performance has been called "academic redshirting," after the practice of benching college athletes for a year to allow such athletes additional time to refine skills and build physical prowess.

The prevalence of academic redshirting has primarily been predominant in middle-class, White, suburban communities (Bassok & Reardon, 2013) with evidence children from higher income households were more likely to experience delayed kindergarten entry (Dhuey & Lipscomb, 2010; Frey, 2005). Research has suggested families of low socio-economic means often were not able to afford to wait to send their children to school and had to do so as soon as they were eligible resulting in this redshirting trend to be more common in affluent communities (Graue & DiPerna 2000). Delaying enrollment in school might have been considered burdensome for many families as early school attendance served as child care as well as education allowing a primary caregiver to return to paid employment. The economic impact of an extra year of child care in the home might be unaffordable, and, therefore, families from lower-income homes were less likely to delay such enrollment (Dhuey & Lipscomb, 2010).

The purpose of this study was to provide a focused examination of academic redshirting and its impact on academic performance—specifically examining referral to elementary gifted programs and eligibility for such programs. Using the theoretical framework of equity perspective, issues involving social inequities and exclusion based on economic class, ethnicity, age, or other social characteristics were examined (Jordan, 2010). This research investigated inequity as a result of age, ethnicity, and socioeconomic status.

The present research further assessed if redshirted students had a seemingly unfair advantage over their younger peers including higher rates of referral to gifted programs because of their age and perceived achievement level compared to peers at the time of the identification process. The study was designed to fill a gap in the literature and to uncover more areas to investigate surrounding the practice of redshirting.

Statement of the Problem

In kindergarten classrooms, as a result of the natural variation in children's dates of birth, there has always been an oldest and a youngest student. In a synthesis of birthdate effect studies, Shepard and Smith (1986) stated "regardless of the entrance age requirements . . . the youngest children are always at a slight disadvantage" (p. 80). Within the same grade level, younger students have faced higher risks of grade retention (Huang, 2014) and a higher likelihood of being diagnosed with a learning disability (Dhuey & Lipscomb, 2010). Conversely, older students have been shown to have better soft skills (e.g., team work, leadership skills, sociability) compared with younger students and were more likely to be student leaders, team captains, or club presidents in high school (Dhuey & Lipscomb, 2008). Even though early age effects may dissipate or lessen over the years (Huang & Invernizzi, 2012), early advantages or disadvantages may compound over time forming a viscous cycle. As a result, small initial advantages may result in big differences over time.

One early advantage from which an older child might benefit was having a higher likelihood of being identified as a gifted and talented student early in their school career. Studies indicated at an early age, relatively older students (within the same grade) were more likely to be enrolled in a gifted program (Cobley, McKenna, Baker, & Wattie, 2009) or referred by teachers for gifted evaluation (DeMeis & Stearns, 1992; Froman & Shneyderman, 2013), likely as a result of some of the soft skills for which these students have an age advantage. Students identified as gifted might receive additional instructional support, more challenging material, or be grouped with peers of higher ability, any of which might help develop a talent where small initial differences may become magnified. In addition, students who have been told they were gifted might develop higher self-esteem, experience greater perceived competence, and foster a self-

fulfilling prophecy where students perform better as a result of higher expectations or positive labeling (Cobley et al., 2009).

Although variable policies across the United States for gifted identification and services exist, one concern might be a limited number of slots available for gifted enrollment where younger children may be placed at a disadvantage. Such gifted students also have been less likely to be recognized later in their academic careers, especially those children from low-income and minority households (Moon & Brighton, 2008). As students advance through elementary school, it has proven harder to be referred to and qualify for gifted programming. Therefore, there might be a critical window where children, if not recognized early, may not be eligible for gifted programming.

Purpose of the Study

The purpose of the current study was to examine academic redshirting in kindergarten—the practice of postponing formal entrance into school for age-eligible children to allow an additional year for socio-emotional, intellectual, or physical growth—and its influence on referral for and placement into gifted education services. The theoretical framework of equity was used to frame this study. An equity perspective examines issues involving social inequities and exclusion based on variables such as gender, class, ethnicity, age, or other social characteristics (Jordan, 2010). The current study investigated inequity as a function of age, ethnicity, and socioeconomic status and analyzed the extent to which students who were redshirted were at an unfair advantage over their younger peers.

Research Questions

The following research questions were addressed in this study:

1. What demographic differences exist between children who have delayed formal entrance into kindergarten ("academic redshirts") and their typical but younger on-time entering peers?
2. Are students who were "academically red-shirted" qualifying for gifted and talented programs more than their younger peers?
3. In Georgia, students qualify for gifted programming in two ways which include: (1) a qualifying score in mental ability and achievement; or (2) on the basis of meeting three of four criteria (mental ability, achievement, creativity, or motivation). Are students who were "academically red-shirted" differentially qualifying by the mental ability/achievement option or is their selection based on the multiple criteria entrance option?

Theoretical Framework

This study examined academic redshirting and its impact on academic performance. Using the theoretical framework of equity, this research explored inequity as a result of age, ethnicity, and socioeconomic status.

Research results on academic redshirting have provided clear evidence regarding which children experience this trend of having a delayed start to kindergarten. For example, most children who have been redshirted were White males from middle- or upper-class families whose birthdays fell just before the cut-off date to begin formal kindergarten (Bassok & Reardon, 2013; Graue & DiPerna, 2000). The practice of redshirting has been based partly on the assumption older children have an advantage over younger children in the classroom. This advantage might

cause inequity in academic achievement between peers within a given grade level as a result of the age at which each student started school.

Equity is concerned with evaluating and tackling issues causing social inequities and exclusion resulting from variation in gender, class, age, or any other social characteristics (Bassok & Reardon, 2013; Jordan, 2010). In the case of academic redshirting, differences in academic achievement might promote inequities resulting from age and possibly exclusion from referral to programs like gifted or other advanced placements (Elder & Lubotsky, 2009). Socioeconomic status and race might also be contributing factors because those factors might limit the decision to delay entry into kindergarten. More conclusive evidence has been needed in this area because if advantages exist for this practice, then an already privileged group—upper-middle class, White males—might be receiving advantages over peers who have not been able to benefit from this school-entry delay.

Academic redshirting has been a part of popular culture and only recently has received more focused attention in the academic literature (Bassok & Reardon, 2013). In the book *Outliers: The Story of Success*, Malcolm Gladwell (2008) examined histories of very successful people and explored the reasons for their remarkable achievement. An example Gladwell offered was Canadian ice-hockey players. He noticed, remarkably, many more Canadian National Hockey League players were born in the early months of the year than in the later ones. Gladwell's explanation was because the deadline for children enrolling in age-relevant hockey programs was January 1 of every year, children born in January were the oldest in the program; they were a full 11 months older than those born in December. When coaches needed to refer players for elite teams, they chose the best players among eight- or nine-year olds. Because the oldest children tend to be the most physically developed, very often the "best" simply turned out

to be the oldest. Through the years, these selected players were given more and more practice and elite training, and by the time they were young adults, they were truly the best.

Gladwell (2008) likened the sports phenomenon to education stating young children do not just catch up:

> It is those who are successful, in other words, who are most likely to be given the kinds of special opportunities that lead to further success. It's the rich who get the biggest tax breaks. It's the best students who get the best teaching and most attention. And it's the biggest nine- and ten-year-olds who get the most coaching and practice. Success is the result of what sociologists like to call "accumulative advantage." (p. 30)

In fact, Gladwell (2008) asserted children were almost tracked into paths of success or underachievement well into adulthood based strictly on the time of year in which they were born. Those children who were older for their grade, as in the sports world, simply performed better.

Similar effects of a relative age, or age relative to the grade level, have in fact extended to educational contexts. Academic redshirting has referred to holding back kindergarten-eligible children for one year, the assumption being they would benefit from additional time for intellectual, emotional, or even physical growth. This "give them another year to develop or (as was often said of young children who struggle with learning) catch up" mindset merits serious attention. Parents' desire to give their child an edge in what they have perceived as a competitive environment may make it appealing for those who can afford it to give their child the "gift of time"(Gesell, 1940).

In the past, nearly all children entered kindergarten at age 5, but a recent study revealed, approximately 88 percent were 5 years old (60 to 71 months) when they entered kindergarten for the first time, about 9 percent were age 6 or older (72 months or older), and approximately 3

percent were younger than age 5 (less than 60 months) (Mulligan et. al., 2015). The shift toward later school entry is partially explained by changes in school-entry laws, but this shift may also be because of an increase in the prevalence of redshirting (Deming & Dynarski, 2008). Some accounts suggest parents increasingly delayed kindergarten entry because they believed their child was not developmentally ready for the increasing demands of school (Noel & Newman, 2003). Others argued redshirting reflected parents' strategic desire to ensure their child entered kindergarten older, taller, and with higher levels of social and cognitive skills than the child's schoolmates (Frey, 2005; Matlack, 2011).

Some have suggested schools expected children to be ready when they come to school rather than acquiring readiness in kindergarten (Graue & DiPerna, 2000; Elder & Lubotsky, 2009; Pianta & Walsh, 1996). As a result, kindergartners have been expected to cope with what was previously the first-grade curriculum engaging in abstract tasks rather than developmentally appropriate activities. The idea of a pushed-down curriculum has made parents and teachers fearful that young five-year-olds will fail. In addition, maturationist philosophy, which has portrayed child development primarily as a function of biological maturation, has always been popular among early childhood educators and parents (Graue & DiPerna, 2000). The former indicated readiness was responsive only to the passage of time: if in doubt, delay the next step in instruction. In addition, research has also demonstrated children's initial social adaptability within school settings has a strong concurrent positive relationship to early readiness measures and to later achievement (DeLisi & Porwancher, 1993). In most cases, early social adaptability has proven to be more predictive of achievement than early cognitive measures.

Currently, in the state of Georgia, September 1st has been used as the age-group cutoff date for annual age grouping. Therefore, a child born on August 30th can be in the same educational cohort as another child born up to 12 months earlier, for example on September 3rd. Relative age refers to potential age differences within an annually age-grouped cohort, with their consequences referred to as relative age effects. Given the impact of relative age on educational attainment, it was perhaps not surprising studies have associated relatively older pupils with an increased likelihood of being identified as gifted and/or being placed in more challenging educational streams and classes (Cobley et. al., 2009).

Conversely, relatively younger pupils have been more likely to be identified as having learning difficulties. Sometimes, children who were young for their grade have been referred for special education when the underlying issue may actually have been social or cognitive immaturity. When students, who were the youngest in the grade level when compared to their potentially redshirted peers, have been inappropriately referred for programs such as special education, a reverse type of exclusion could happen. When viewed through the theoretical lens of equity, students with younger birthdays have potentially been excluded from the general education setting based on age and not disability. Jordan (2012) found when considering kindergarten entrance age, early entrants were predicted to be placed in the exceptional children's program at a much higher rate than other entrants. Jordan's (2012) work suggested not only were these early entrants not achieving at the same level academically, but they were also being placed at a high rate in special education. These factors put these students at a significant disadvantage to their "academically redshirted" peers—those students whose parents choose to wait a year before having them start kindergarten.

Other researchers have contended children who were the youngest in grade were more likely to be referred for placement in the exceptional children's program or special education (Elder & Lubotsky, 2009). Younger children were more likely to be referred for testing and placed in the exceptional children's program than their older classmates (Martin, Foels, Clanton, & Moon, 2004). Elder and Lubotsky (2009) contended being young at the start of kindergarten increased the likelihood of an Attention Deficit Disorder (ADD) or Attention Deficit Hyperactivity Disorder (ADHD) diagnosis by 2.9 percentage points with a baseline of 4.3. The youngest children in a class were diagnosed with a learning disability at a 50% higher rate than the oldest children (Elder & Lubotsky, 2009).

A study by Martin et al. (2004) looked at the season of a child's birth in relation to his school performance and found early entrants with a birthday in June, July, or August were diagnosed with a Specific Learning Disability (SLD) at higher rates than all other months of the year and those same children were 25% more likely to be retained than their older peers. The rate of diagnosis of SLD for these summer born boys was seven times greater than the rate for fall and winter boys. A closer look revealed this group of summer-born children was using district, state, and federal resources at a much higher rate than their fall, winter, and spring peers (Martin et al., 2004).

An examination of academic achievement by Voyles (2011) revealed student age had a statistically significant impact on academic achievement for students in their first and third grade years on the mathematics portion of the assessment being reviewed in their study. Older students within the cohort studied had higher academic levels of achievement on the mathematics assessment than did younger students. When analyzing this issue through the theoretical framework of equity perspective, this difference in academic performance might be associated

with a variety of inequities throughout their school career. Failure in academic performance might also result in lower self-esteem and influence adult outcomes.

If the research has indicated starting school early can have negative consequences for children, then why do families continue to do so? Economics and race have been the primary reasons supported in the literature (Jordan, 2012). Families with limited finances simply cannot afford another year of childcare and/or cannot afford to stay out of work for an additional year. Delaying school entry was typically not an option to be considered for families from lower socioeconomic contexts. Additionally, families from underrepresented groups often do not consider withholding their children who were age-eligible to attend school.

Shephard (1990) suggested redshirting may have consequences for students who enter on time as well as for redshirts themselves:

> To the extent that 6-year-olds help to define kindergarten norms, meeting their needs moves the kindergarten curriculum further away from instruction attuned to the needs of children who have just turned 5. Redshirting obviously increases the age heterogeneity of kindergarten classrooms. And to the extent that the middle-class hypothesis is true, it increases the "disadvantage" of normal 5-year olds from poor families who come to school at 5 years 0 months and are asked to compete with children who are 6 years 3 months old, come from affluent homes, and have three years of Montessori preschool experience. (p. 163)

Other research findings noted families from minority groups or those living in poverty sent their children to school when they were age eligible (Horowitz, 2006). Staying out of work or paying child care expenses for an additional year created economic hardship on these families, so delayed entry was rarely an option for these children (Frey, 2005). Additionally, Frey (2005)

contends gender and race were stronger indicators of redshirting as a practice than socioeconomic status (SES).

In a study by Froman and Shneyderman (2013), trends were found in achievement test scores, retention, eligibility for gifted programs, and programs for students with specific learning disability. Issues concerning the students' ages relative to those of their peers in the same grade were consistent and clear. The authors stated younger students were at a distinct disadvantage. Moreover, the effects of relative age were found to have wide-ranging consequences for students' educational endeavors. When students who were the youngest in their class were retained at substantially higher rates than their older peers, it affected students' future educational outcomes and opportunities as well as their self-perception. Similarly, when the youngest students in class were identified as gifted at lower rates than their older peers were and when they were identified at disproportionately higher rates with specific learning disabilities, it negatively affected the equality of educational opportunity for all students. It seemed reasonable to assume all students, regardless of the month of their birth, were blessed with the same academic potential. However, the trends in educational outcomes showed a clear impact of students' relative age on their various educational outcomes.

Graue and DiPerna (2000) conducted a study undertaken from the theoretical perspective that policies and practices were related in complex ways in social and cultural contexts. The authors examined academic redshirting at multiple levels, exploring both individual characteristics and outcomes associated with an array of entry and promotion patterns. In addition, they investigated redshirting as a social practice, examining its prevalence in specific communities and its reflected effects on the experiences of children who delay kindergarten entry and on their classmates. Understanding both the individual and systemic effects of

academic redshirting provided a much broader look at this phenomenon and facilitated the identification of unresolved questions that could be addressed by future research. Graue and DiPerna's outcomes were inconclusive, and they suggested next steps were the development of further empirical tests of the phenomenon.

Based on the research reviewed, certain parents deliberately held their children back for a year, not because they were not developmentally ready, but because they wanted to ensure an advantage over peers in their class. The parents wanted to guarantee their child was performing at the highest level socially, physically, and cognitively. However, because there has been limited study in this area and findings among research vary, more research is needed in this area to determine if there is an inequity between redshirted students and their peers who enter kindergarten at an early age.

More parents have been red-shirting their children in kindergarten—holding them back for a year, hoping they will have an edge or an advantage. The advantage might cause inequity in academic achievement between peers within a grade level as a result of the age at which each student started. In the case of academic redshirting, the difference in academic achievement might cause inequities from age and possibly exclusion from referral to programs like gifted or other advanced placements. Based on a review of the literature, there was evidence this type of inequity existed.

Research indicated academic redshirting is not a new practice. It was used sparingly in the 1970s and then grew to become more popular in the 1980s (Graue & DiPerna, 2000). At that time, researchers began to cite an increase in older kindergartners as one of the driving forces behind a more rigorous kindergarten. Thus, the academic demands of kindergarten began to increase because the classrooms were filled with older children. The change in demand afforded

teachers the opportunity to hold higher expectations for both behavior and learning skills. In the 1990s, the prevalence of redshirting continued to grow (Graue & DiPerna, 2000).

Graue and DiPerna (2000) looked at several different issues when it came to redshirting. They sampled over 8,000 students from Wisconsin and found many areas of the state where a large percentage of parents were choosing to redshirt their children. Although preschool recommendations and developmental readiness tests played some role in kindergarten readiness, parents were the primary decision makers about whether or not their children entered kindergarten on time. Parents also counseled other parents about their decision making process and like-minded parents followed suit. This behavior could create a problem within a community where parents are merely holding their children out of kindergarten because other parents are making the same decision. In areas where this is largely prevalent, older students in a class may be affecting the kindergarten curriculum as teachers accommodate the more mature members of the classroom. This practice has also created an issue with differentiation because teachers have been trying to meet the needs of children ranging in age from four to six years old. The larger percentage of older children can drive up the standards of behavior and achievement in the kindergarten classroom (Graue & DiPerna, 2000).

When looking at this phenomenon as it compared to sports, Helsen, Van Winckel, and Williams (2005) pointed out children who perceived they were successful in a sport tended to practice more and gained more skill. Those who were less successful dropped out because they perceived they were not as talented. To illustrate this same scenario in the school setting, consider what happens when children entered school as the oldest students in the class. These students were usually more emotionally mature than the younger children and have more behaviors conducive to school success such as being able to pay attention for longer periods of

time, sit still for longer, and have more developed fine motor skills. It could be possible these children were chosen for inclusion into the higher reading and/or math groups. If placement in these groups occurred, the "hockey effect" could provide a comparison (Dougan & Pijanowski, 2011). The upper level readers were challenged more and they gained more skills in one year than the children who proceeded at a slower pace. These students were also more likely to possess stronger self-confidence because of their success in school and that confidence bred more success. These children were likely to be placed in the higher reading groups in later years and the cycle continued to repeat.

In recreational sports, it has not been an important issue if the youngest child on the team eventually stopped playing or chose another activity. However, if the same phenomenon was happening to children in school when it came to reading or math, the lesser-skilled child may put forth less effort. These trends might have detrimental effects to those students who are, by no fault of their own, the youngest students in the class.

Method

To explore the impact of academic redshirting on gifted referral and eligibility, three research questions were examined in this study. Previous research studies have indicated that children who have been academically redshirted may be at an academic advantage over their same grade peers due to their differences in age. Due to this difference in achievement, these students could be referred for programs such as gifted at a higher rate than their younger peers. A few scholars and educators have examined the differences in academic achievement due to academic redshirting but little research has focused on the effects of redshirting on gifted referral rates and eligibility.

In this study, research question one necessitated a comparison of the underlying demographics and characteristics of "redshirts" and their younger, typically aged peers. Demographic comparisons analyzed included sex, race (% non-white), free and reduced lunch status (a proxy measure of economic need), English Language Learner status, and special education status. For each variable a Chi Square Test of Independence was used. The analysis for research question two involved analyzing gifted referral and placement rates of all students in the sample. To accomplish this the data was analyzed in two separate blocks with different group composition. In the first block students were separated into four groups based on their age. For students in the traditional cohort that did not redshirt, the students were segmented into four month blocks that placed them, in relative terms, as the oldest, youngest, and intermediate aged students. The fourth group consisted of redshirts. The purpose for this block of analysis was that research indicated that students that were among the oldest in their class tend to accrue some benefits based on physical and mental maturity that may include gifted referrals. A comparison to students that were naturally among the oldest in the class versus those that were older on the basis of parent enrollment choices helped to illuminate this distinction. A Chi Square analysis was used to determine differences in referral rates and eligibility. The second block of analysis was an extension of the first, but accomplished by approaching the problem as a simple binary, being redshirts vs. non-redshirts, to further attempt to tease out possible effects of parental redshirt decisions. A further extension of looking at the method of placement, cognitive/academic vs multiple methods, was included in this block for research question three. To better compensate for students that were referred more than once, a separate block of analysis was conducted that compared placement methods of both redshirts and non-redshirts by the grade in which the student was placed. Groups analyzed included kindergarten, grades 1 to 2,

and grade 3 and beyond. Descriptive statistics were reported, along with measures of effect size and statistical significance for all variables and statistical tests.

Significance of the Study

Kindergarten teachers have been expected to prepare their students, regardless of age at entry, for subsequent grades in terms of both content and socialization. In the state of Georgia, policy makers have worked to move back the entrance date for kindergarten, but is this enough? Many parents have relied on classroom teachers and educational policy makers to recommend what is best for their children when they entered the realm of formalized schooling. Despite this, there has still been debate among these professionals over what effect school entrance age has on a student's academic achievement. The question has been raised as to whether students who entered kindergarten at a delayed age have an advantage or jump start over their younger peers. From an equity perspective standpoint, this type of advantage could cause an inequity for the early entrants over the course of their academic career.

Families have not typically asked teachers or administrators at kindergarten registration if they have recommendations for the coming year regarding enrollment. If they did, teachers may reluctantly share their anecdotal stories on early entrant performance in kindergarten; however, these stories have seldom been supported by research or evidence based outcomes (Jordan, 2012). One consideration may be for schools to be more proactive in educating parents about potential outcomes for beginning young students in school when they have barely turned five years old prior to the start of kindergarten. Other consideration may need to be given to offering some type of transitional kindergarten program for early entrants whose family cannot financially afford for them to wait. Delaying school entry has typically not been an option to be considered for low socioeconomic status families. These families have struggled with meeting

basic needs, so considering the educational implications of withholding their children from school when they were legally eligible to attend was not given appropriate consideration.

Because families can legally enroll children in public school when they have been age-eligible, what can schools do if the children are not ready for the rigors of formal schooling but the families were insistent upon their enrollment? One alternative is the development of a transitional kindergarten classroom (Mantzicopoulos & Neuharth-Pritchett, 1998). A student could be evaluated at kindergarten enrollment through observation during testing, assessment data gathered on site, and notes taken during a parent interview. The data could later be analyzed by a school team to determine placement for the coming year. If it was determined that kindergarten was not the most appropriate educational setting, but the student was too old for enrollment in a pre-kindergarten program then he might be eligible for a transitional kindergarten classroom.

An opportunity of this nature would enable the child to adjust to the routine and expectations of a kindergarten classroom while building pre-requisite skills to kindergarten success. So often those young students who do not experience success in kindergarten have been ones who lack maturity, experiences, opportunities, and vocabulary. Additional time would allow all of those things to develop within the structured parameters of a quality educational setting with trained teachers responsible for instruction. A transitional kindergarten classroom would enable these children to build success with like peers before being challenged socially, emotionally, physically, and cognitively by their older classrooms in a traditional kindergarten setting. The program would have to be fluid and taught by those who ascribed to the philosophy and learning theories supported by its nature.

Children could have the opportunity to move into a traditional kindergarten classroom at midyear or at other times as deemed appropriate by the classroom teacher and administration. School systems could elect to research, identify, and implement strategies that served as best practices for transitions from home to school or pre-school to kindergarten to further ensure success for students. A comprehensive list of research-based best practices could equip teachers and administrators with additional strategies to meet the needs of all learners, not just their more at-risk learners.

In addition to alternative kindergarten classrooms, schools could also consider an extended wait time prior to referring children for testing if a learning disability was suspected. Further, as schools integrate the Response to Intervention models and employ universal screening, classroom-based interventions could also assist with readiness assessment. Once thorough testing of the student has been completed along with a complete evaluation of his educational record, including kindergarten entrance age, interventions could begin immediately as with all referrals prior to testing for exceptional children's placement. The difference would be an extended period for interventions to work. The student would be given additional time to master the material, which would also allow the student to age, hence mature, a bit longer. The additional time would also allow for the student to have a longer period of exposure to more intensive interventions.

It has been highly unlikely teachers would ever consciously discriminate against the youngest students in their classes and have made decisions about a student's academic and social abilities based solely on the child's birth month. Thus, the effects of students' relative age has been likely unintentional. Perhaps it was only natural for teachers to identify a student who would be referred for an evaluation to determine eligibility for gifted programs/services by

comparing the student's academic performance to that of his/her peers. Because of that way of comparing, younger students in elementary grades may appear as less able. It might be a good idea to examine student academic performance and progress with a reference to a particular age-specific standard. In addition, increasing the rate of referrals in middle- and high-school grades, where the effect of relative age has been less evident, may help equalizing educational opportunity with reference to gifted education.

In addition, educators at local, state, and national levels should be a part of finding a better way to determine school entrance eligibility. Surely a valid, school level assessment instrument could be pioneered which would take into account a child's individual maturity and readiness to learn, instead of simply using chronological age to determine school entrance eligibility.

More research has been needed to be conducted to investigate the practice of redshirting, which has a profound impact on individuals, as well as on teachers and schools and the inequities that could be caused from this practice across a grade level. "Redshirting" in kindergarten has become increasingly common. Some accounts suggest parents increasingly delayed kindergarten entry because they believed their child was not developmentally ready for the increasing demands of school. Others have argued redshirting reflects parents' strategic desire to ensure their child enters kindergarten older, taller, and with higher levels of social and cognitive skills than their classmates. If the latter was truly the case, these students have been given an unfair advantage over peers who were not redshirted. In addition, the research has suggested most redshirted children were White males who came from middle or upper class families whose birthdays fell just before the cut-off date to begin kindergarten. The current research was somewhat mixed on whether this delay worked, but it has continued to spread and has been

controversial. More conclusive evidence and further research was needed in this area because if there were advantages for this practice, then this group who has already been identified as having privileges over their peers could be receiving more advantages when others were not able to benefit from this type of delay due to race or socioeconomic status.

Definition of Terms

Academic Red-shirting – the practice of postponing entrance into kindergarten of age-eligible children to allow extra time for socio-emotional, intellectual, or physical growth and its impact on academic performance (Bassok & Reardon, 2013).

Equity Perspective –issues involving social inequities and exclusion based on class, ethnicity, age, or other social characteristics (Jordan, 2010).

Gifted Eligibility – To be eligible for gifted education services in Georgia, a student must either (a) score at the 99th percentile (for grades K-2) or the 96th percentile (for grades 3-12) on the composite or full scale score of a norm-referenced test of mental ability and meet one of the achievement criteria, or (b) qualify through a multiple-criteria assessment process by meeting the criteria in any three of the following four areas: mental ability, achievement, creativity, and motivation.

Relative Age - the term describing such potential age differences within an annually age-grouped cohort, with their consequences referred to as relative age effects (Cobley et. al., 2009).

Organization of the Dissertation

Chapter 1 broadly outlines the potential problems related to the phenomenon of academic red-shirting and its impact on academic achievement. It also presents an overview of the theoretical considerations, technical terminology, assumptions, and controversies associated with this problem. Chapter 2 presents a review of the current literature related to this issue. The

current literature regarding academic red-shirting must be examined to justify the particular statistical model and perspective used in the present study.

Chapter 3 summarizes the methodology and statistical techniques used and the variability and reliability of the data used in this study. Chapter 4 presents the results of the analysis. Chapter 5 outlines the possible interpretations and inferences of the results and discusses limitations of the study as well as broader lessons and implications of these findings for further research, policy, and applications for education.

CHAPTER 2

REVIEW OF THE RELATED LITERATURE

This study sought to provide a focused examination of academic redshirting and its impact on academic performance – specifically examining referral to gifted programs and eligibility. Three major research questions were considered.

1. What demographic differences exist between children who have delayed formal entrance into kindergarten ("academic redshirts") and their typical but younger on-time entering peers?
2. Are students who were "academically red-shirted" qualifying for gifted and talented programs more than their younger peers?
3. In Georgia, students qualify for gifted programming in two ways which include: (1) a qualifying score in mental ability and achievement; or (2) on the basis of meeting three of four criteria (mental ability, achievement, creativity, or motivation). Are students who were "academically red-shirted" differentially qualifying by the mental ability/achievement option or is their selection based on the multiple criteria entrance option?

To address these questions, a five pronged review of literature was conducted. The review of literature sought to summarize the body of research on the current prevalence of academic redshirting and the type of student who has been predominantly red-shirted, the academic advantages associated with being older during the primary grades, the implications of

relative age in the classroom and its effect on academic success, the extent to which older students have been qualifying for gifted and talented programs, and the effects on self-esteem surrounding gifted eligibility. Each area of the review undergirded some aspect of the theoretical perspective and methodological approach used in the study.

Who is being red-shirted?

"Redshirting" of kindergartners — the term which came from the practice of postponing the participation of college athletes in competitive games — became increasingly widespread in the 1990s, and has shown no signs of waning. Academic redshirting has been known as the practice of postponing entrance into kindergarten of age-eligible children in order to allow extra time for socioemotional, intellectual, or physical growth. Redshirting has occurred most frequently where children's birthdays were so close to the cut-off dates that they were very likely to be among the youngest in their kindergarten class.

Few studies have been conducted on redshirted children. From the studies that have examined the effects of academic redshirting, it was evident that most redshirted children were Caucasian boys from middle or upper class families whose birthdays fell just before the cut-off date to begin kindergarten (Graue & DiPerna, 2000). Nationally, it has been believed between six and nine percent of students have been redshirted each year (Oshima & Domaleski, 2006). With the passage of the No Child Left Behind Act in 2001, there has been a marked increase in the rigor of early elementary grades. Though there has been evidence that standards started changing in the early 1970s, the race to get all children to read on grade level before the third grade has greatly increased what has been demanded of kindergartners in the United States. The trend towards higher expectations in earlier grades has coincided with more parents choosing to redshirt their children across the United States.

In the state of Georgia, students must be five years old on or before September 1st in order to be eligible to enter kindergarten. In the past, nearly all children entered kindergarten at age 5, but a recent New York Times article noted in 2008, 17% of kindergarten entrants were at least 6 years old (Paul, 2010). The shift toward later school entry could partially be explained by changes in school-entry laws, but may also be because of an increase in the prevalence of redshirting (Deming & Dynarski, 2008). Some accounts suggest parents have increasingly delayed kindergarten entry because they believed their child was not developmentally ready for the increasing demands of school. Others have argued redshirting has reflected parents' strategic desire to ensure their child entered kindergarten older, taller, and with higher levels of social and cognitive skills than the child's schoolmates (Frey, 2005; Matlack, 2011).

The popular press has emphasized White children, boys, and children from families with more resources have been overrepresented among redshirters, a claim confirmed by earlier research (Dobkin & Ferreira, 2010). Data from the National Household Education Survey of 2007, a survey of parents with children ages 3 to 5 not yet enrolled in school, indicated 3% of parents with a high school diploma or less planned to delay kindergarten entry, compared to 12% of parents with a bachelor's degree, and White parents were more than twice as likely to plan to redshirt relative to Black and Hispanic parents (O'Donnell & Mulligan, 2008).

When parents have made kindergarten entry decisions, they may have been influenced by their neighbors and friends, preschool teachers, kindergarten teachers, and others. Norms around redshirting have likely differed meaningfully across communities. Indeed, in their investigation of delayed kindergarten entry across Wisconsin school districts, Graue and DiPerna (2000) found delay rates varying from 3% to 94%.

Bassouk and Reardon (2013) found redshirting was twice as likely among boys as among girls. Although 2.3% of children in the lowest SES quintile delayed kindergarten entrance, the figure was 6.4% among children in the highest quintile. The differences across racial groups were particularly striking. Nearly 6% of white children were classified as redshirters. In contrast, less than 1% of Black children delayed entry. The figures for Hispanic and Asian children were only 2% and 2.7%, respectively. The patterns for greenshirting, or early entrance into kindergarten, have been largely the reverse. Low-SES children and Black and Asian children were more likely than high SES, White, and Hispanic children to start kindergarten before they were legally eligible (Bassouk & Reardon, 2013). In addition, among children who turned five in the three months before their state's kindergarten cutoff, boys were six percentage points more likely to redshirt. Among those who turned five in the three months after the state cutoff, gender was not significantly associated with early kindergarten entry.

The findings resulting from the study conducted by Bassouk and Reardon (2013) showed that nationwide approximately 4% to 5.5% of children delayed kindergarten, a rate lower than those previously reported. They determined the likelihood of redshirting was much higher among children whose birthday fell in the months before the cutoff and redshirting varied substantially across gender, race, and SES. Poor families rarely delayed kindergarten despite the fact they were far more likely to indicate concerns about their children's school readiness at age four. These findings were consistent with the fact that low-income families may view redshirting as prohibitively expensive. Giannarelli and Barsimantov (2000) reported, on average, low-income families spend 16% of their earnings on child care. Within this context, it was not surprising they were not able to delay entry into kindergarten.

In addition, children who redshirted tended to perform slightly better during prekindergarten than many of their similarly aged peers. The absence of a relationship between nearly all of the developmental measures and the likelihood of delayed kindergarten entry suggested parents' decisions to redshirt may have been driven more by concerns about their children's relative age or relative physical development in their classroom than by their actual cognitive or behavioral development.

Paul (2010) stated in 2008, 17 percent of children were 6 or older when they entered the kindergarten classroom and moreover:

> Sand tables have been replaced by worksheets to a degree that is surprising even by the standards of a decade ago. Blame it on No Child Left Behind and the race to get children test-ready by third grade: Kindergarten has steadily become, as many educators put it, "the new first grade." (Paul, 2010, para.4)

Further, wiggly, easily distracted and less mature, boys have been more likely to be held back than girls, but delayed enrollment has now been common for both sexes. Many parents feel compelled to redshirt by what they have seen as unreasonable academic demands for four- and five-year-olds.

In addition, Ramey (2009) documented a dramatic increase in the time spent in childcare by college educated parents since the early 1990s. While time spent in childcare rose for all parents, the rise was far more pronounced for college-educated parents. Since the early 1990s, college educated mothers have reallocated more than nine hours per week from leisure time to childcare time. The reallocation occurred at the same time competition to get into college intensified, as a combination of demographic forces and the increase in the college premium led to a surge in the demand for college slots. These trends were explained using a model in which

the rise in time devoted to childcare is the optimal response to the increase in rivalry for scarce college slots.

Ramey (2009) also postulated that college-educated parents have a comparative advantage in preparing their children for college, which they exploit to get their children into the most attractive colleges. When slots have been plentiful relative to demand, the required amount of child preparation has been relatively low. However, when demand has risen, rivalry among the college-educated parents has driven the required preparation upwards. Less-educated parents were also found to raise their childcare effort, but to a lesser extent.

Parents have redshirted for a variety of reasons, typically because they have been afraid their children were not adequately prepared for kindergarten. The concern has been understandable, and often valid, given the range of developmental patterns at that age. And it made sense the practice was most common for children born within a month of the given state's kindergarten cutoff date. Redshirting could have meant a preschool-educated six-year-old was learning alongside a low-income four-year-old who never set foot in the classroom. Nonetheless, redshirting has been most prevalent among highly educated parents, as they have been the ones who were most likely to be aware of school-entry laws. These families were also the most likely to send their children to preschool and afford an extra year of tuition. Children whose mothers had bachelor's degrees or higher were almost twice as likely as those whose mothers have less than a high-school diploma to attend a center-based preschool program (79 percent versus 43 percent), according to a recent report from The Century Foundation and the Poverty and Race Research Action Council.

Academic Advantages to Being Older in Kindergarten

In competitive situations, a person who was relatively older than the others would probably be the one who won (Gladwell, 2008). Gladwell (2008) centered on a real-world example in which almost all of the players who had been selected for a Canadian Hockey League team had birthdays in the first four months of the year. Why? In Canada, he reasoned, the cut-off age for participating in the sport was almost always January 1. A child who, say, turned 11 on January 4 would still play alongside a child who turned 11 much later in the year—and at that stage in life, there were typically significant distinctions in physical characteristics and abilities between two such kids. Gladwell (2008) concluded in Canada, the world's hockey capital, this policy put the two children on two very different paths from the get go; the older, more physically developed one got selected for all-star teams, which meant better coaching, resources, and practice opportunities, and, ultimately, a better shot at the pros.

The phenomenon of redshirting, according to the 2008 book, extended far beyond Canada and hockey. Hence, Gladwell's famous case for academic redshirting: the increasingly popular parental practice of delaying kids' entrance into kindergarten. While some scholars have suggested redshirting does not do much of anything—at least in the long run—Gladwell (2008) contended that this assumption was false. Rather, this dynamic persists in insidious ways, locking children into patterns of achievement and underachievement, encouragement and discouragement, that stretch on and on for years, and argued cut-off dates can even have an impact on whether or not a child ended up going to college.

In addition, redshirting could have meant that a preschool-educated 6-year-old was learning alongside a low-income 4-year-old who has never stepped foot in a classroom. This child's vocabulary may be 30-million words smaller than her wealthier peers. Even if that six-

year-old was indeed a little “underdeveloped” at age five, delaying his entry into school could contribute to the kind of incongruity that has fueled detrimental discrepancies in achievement - gaps that have expanded and evolved over time.

Datar (2006) offered a comprehensive study of redshirted children using data from the Early Childhood Longitudinal Study. An important component of this study was the researcher calculated the age of the children by counting the number of days between the child’s birthday and the school’s cut-off date. This methodology allowed data from all over the country to be used since states do not all have the same kindergarten entrance cut-off date.

Datar’s (2006) work showed that not only did children who started kindergarten a year later have higher test scores in kindergarten, their subsequent test scores in first and second grade rose at a steeper trajectory than the test scores of other students. The redshirted children started out more advanced and made greater gains in academic performance. Another interesting finding of this study showed that poor children made even larger gains than children from higher socio-economic status homes. These results suggested that poor and disabled children and boys benefited significantly more from delaying kindergarten entrance, in terms of test score gains especially when looking at reading scores.

A second study that used data from the Early Childhood Longitudinal Study was conducted by Oshima and Domaleski in 2006. Although the study concerned academic redshirting in a general sense, the researchers did not include any children who had actually been redshirted. The researchers in this study divided the children into groups who had summer birthdays (June, July, and August) and those who had fall birthdays (September, October, and November) and restricted the data to only those children for whom that year was their first in kindergarten. The summer group represented the youngest children while the fall group

constituted the oldest group of children in the study. The researchers randomly picked 3000 children from each group as their sample groups. There was a significant difference in math and science test scores between the two groups from kindergarten through fifth grade with the older students scoring higher. The gaps between the oldest and youngest students decreased over time, but did not completely disappear. In fact, the disparity was still present in eighth grade.

An interesting item to note about Oshima and Domaleski's (2006) study was that the researchers found that age was a stronger predictor of reading and mathematics success than gender or race in the early grades. Additionally, the study looked not only at test scores, but also at height and found that older kindergarteners were 1.95 inches taller than the younger kindergarteners. Such a considerable height difference would be easily seen in the classroom and shorter children may be viewed by the teacher as being less mature or less skilled in some kindergarten domains. Height of the child was an important factor to note because height has been found to determine a child's chance of retention (Wake, Coghlan, & Hesketh, 2000). The data pointed out that older children have achieved at higher academic levels than younger children even years after kindergarten.

There was a third study which used the Early Childhood Longitudinal Study. Lin, Freeman, and Chu (2009) found the older a child was at the beginning of kindergarten, the higher his reading and mathematics scores proved to be. The oldest group of children also made the largest gains in reading and mathematics during the kindergarten year. The trend continued in the upper elementary grades, though the differences between the oldest and youngest students were not as pronounced as in kindergarten. The researchers also examined the gains made by each age group during each year. For the first two years, the oldest group made the most gains in reading and mathematics achievement. In third grade, the trend reversed and the youngest group of

students made the most gain, although the gains were similar in all age groups. In fifth grade, the trend continued with the younger children making more gains in test scores while the oldest cohort showed fewer gains.

Closer examination of the test scores revealed the group with the oldest students had a much higher mean test score than the youngest group of students. The data showed the younger groups may have made larger academic gains because they had more of a gap in learning to overcome in order to catch up to the older students in their grade. The data analyzed by Lin et al. (2009) clearly showed older children had higher test scores in reading and mathematics at the end of fifth grade. Though the younger children gained in academic achievement, they did not catch up to the higher academic levels of the older children.

Another study by Yesil-Dagli (2006) concurred with the research that younger children scored lower than their older counterparts. In both math and reading, the older children, whether they started school on time or were redshirted, consistently scored higher in reading and mathematics than the younger children in the same cohort. The effect remained even after controlling for ethnicity, gender and socio-economic status. However, this study found by third grade, the effect of being younger was greatly diminished. An interesting part of this study was the differences in genders of ethnic groups, especially the ones who had been redshirted. Caucasian boys who had delayed kindergarten entry scored better than Caucasian girls who had done the same. But for African-American students, the effect was reversed. The girls who had been redshirted scored higher than the boys (Yesil-Dagli, 2006).

Implications for Relative Age and Effect on Academic Success

Although individual parents have made kindergarten entry decisions based on the costs and benefits they perceived for their own child and family, the aggregated decisions of parents

could have ramifications for the learning experiences of all children over and above any individual impacts. One mechanism by which redshirting could affect students' experiences in kindergarten has been by influencing the range of children's cognitive, social, and physical development within kindergarten cohorts.

To illustrate a possible scenario in school, consider what happens when children enter school as the oldest students in class. They have usually been more emotionally mature then the younger children and have more behaviors conducive to school success such as being able to pay attention for longer periods of time, being able to sit still for longer periods of time and having better fine motor skills. It could be possible these children have been chosen for inclusion into the higher reading and/or math groups. The hockey effect has provided an apt comparison in these cases. The upper level readers were challenged more and they gained more skills in one year than the children who proceeded at a slower pace. They were also more likely to possess self-confidence because of their success in school and that confidence bred more success. These children were also more likely to be placed in the higher reading groups in later years and the cycle has continued to repeat.

Cobley, McKenna, Baker, and Wattie (2009) found relative age effects can be observed in secondary school. The researchers studied a particular school in England and found older students had higher academic achievements in all subjects. There were also a higher percentage of older students in the gifted and talented program while a large percentage of the younger children in each grade were utilizing learning support programs similar to the special education program in the United States. Cobley et al. (2009) stated:

> It is highly probable that providing an advantaged learning environment to this group will also result in superior endpoints in other areas of endeavor (e.g., occupation). In

> comparison, relatively younger members of a cohort may be more likely to develop negative attitudes and behavior toward education, with self-competence and esteem problems the result of their experiences in secondary education. (pp. 526-527)

Bedard and Dhuey (2006) conducted a detailed analysis of the relative age effect using data from Trends in International Mathematics and Science Study (TIMSS). They studied different types of educational systems, including those where all children enter school at the same time and move on to the next level regardless of ability. The researchers found evidence that younger children score lower on both the fourth and eighth grade TIMMS assessment. The differences in test scores were quite substantial. Bedard and Dhuey (2006) stated:

> To put this in perspective, this translates into a 4-12 percentile disadvantage for eleven months of relative age. While the age premium enjoyed by the oldest students declines between grades four and eight, there remains a 0.8-2.6 point difference, or 2-9 percentiles, between the oldest and the youngest students at the eighth grade level. These results clearly show the persistence of relative age into adolescence, and are therefore suggestive of a longer run impact. (p. 3)

Bedard and Dhuey (2006) also showed in both Canada and the United States, older students were more likely to take the SAT or ACT, and they were more likely to be enrolled in a four year university after graduating from high school. These students were also more likely to complete college preparatory classes while still in high school. Cobley et al. (2009) echoed the earlier findings of Bedard and Dhuey (2006) about the presence of relative age effects in education.

Relative age effects could determine long-term school success, including whether or not a child attended college. The practice of sending children to school based on an arbitrary cut-off date has been creating the difference between older and younger students who end up in the same

classes. Bedard and Dhuey (2006) urged educators to pay more attention to the effects of relative age in the classroom. If children from low socio-economic families also ended up being the youngest students in class, then they have been at a disadvantage because of relative age effects, less preschool experience and less acquisition of school readiness skills before kindergarten (Bedard & Dhuey, 2006).

Martin, Foels, Clanton, and Moon's (2004) study included a large number of Caucasian students in 28counties in the state of Georgia. The cut-off date was September 1, so children born in the summer would constitute the youngest group of students in any cohort. The researchers found children with summer birthdays were more likely to be retained or redshirted. The study did not treat redshirted children differently than retained children, but it did show some interesting things about children born in the summer. The youngest group of children had the highest percentage of individuals who had been diagnosed with learning disabilities. When Martin and his co-authors looked at achievement levels of each group of children, the youngest group had the lowest scores on the Iowa Test of Basic Skills. Surprisingly, that was true whether they included or excluded the group of retained students. The authors also brought up the idea that young children were not as physically and emotionally mature as their class counterparts who were born in other times of the year. Martin et al. (2004) concluded:

> It can be assumed that the youngest children in a grade cohort may be at a social disadvantage to others in the given grade with regard to physical stature, physical strength and skills, social skills, and perhaps aspects of cognitive maturity. This hypothesis holds that the cumulative effect of these relative disadvantages is lowered self-esteem, resulting in lower task involvement in school and poorer achievement. (p. 308)

The studies on the effects of relative age in the classroom have shown there is a correlation with higher test scores and older students. However, these differences in age may affect other facets of a student's life in addition to academic performance. Leadership roles may also be based on age. In the study by Dhuey and Lipscomb (2008), the researchers found older students occupied more leadership roles in high school than younger students within the same grade. They found age was the determining factor regardless of other factors including socio-economics and height at the age of sixteen. Dhuey and Lipscomb (2008) concluded their study by calling for more research to be done to determine how relative age can factor into students learning leadership skills but there does seem to be some preliminary correlation between leadership and age.

With more students being held back from starting on time, the resulting classroom dynamic has begun changing so that the kids who play by the rules have been disadvantaged by those who were bigger and more mature. While there may be some cases where a child was served well by being slightly older, this may not be true for most children. The problem with this has been as some parents hold their children back, it wreaked havoc on the class dynamic and turned a pre-K classroom into an ‘almost kindergarten’ one.

Qualification into Gifted and Talented Programs

The relationship between kindergarten entry age and various educational outcomes has been shown to have a small but consistent association over the years. Within a grade level, on average, relatively older children have more favorable grades, score higher on standardized exams, and perform better on achievement tests compared with the youngest students. The study of the association of outcomes (e.g., standardized tests, likelihood of college enrollment, athletic

ability) with a child's relative age has been referred to as birthdate effects studies, also known as relative age effect or season-of-birth research (Martin et al., 2004).

The premise of birthdate effects has been that as a result of age cut-off requirements (e.g., in general, a child entering kindergarten must be five years old by a certain date to be eligible to enroll), the oldest students, on average, will have a small, but slight advantage over their younger peers. In public school kindergarten classrooms, due to the natural variation in birth dates, there will always be an oldest and a youngest student.

One such early advantage relatively older children may benefit from has been having a higher likelihood of being identified as a gifted and talented (GT) student. Studies have shown at an early age, relatively older pupils (within the same grade) were more likely to be enrolled in a GT program (Cobley et al., 2009; Froman & Shneyderman, 2013) or referred by teachers for gifted evaluation (DeMeis & Stearns, 1992). Students identified as GT may receive additional instructional support, more challenging materials, or be grouped with peers of high ability levels, any of which may help develop a talent where small initial differences may become magnified in the long run. In addition, students who have been told they were GT may develop higher self-esteem, experience greater perceived competence, and result in a self-fulfilling prophecy where identified students performed better as a result of higher expectations or positive labeling (Cobley et al., 2009). Younger children may be placed at a disadvantage and unidentified young but gifted students have been less likely to be recognized later on, especially children from low-income and minority families (Moon & Brighton, 2008).

Schooling has shared many of the same structural characteristics of children's sports programs where children were grouped based on age, rated according to achievement, and placed into programs with different curricula. Even though several studies (Huang, 2014) have

investigated the association of birthdate effects with various academic outcomes (e.g., literacy, math, standardized tests, special education placements, retention rates), fewer studies have explored the higher prevalence of GT identification of older students.

In an early study of GT identification and birthdate effects, Maddux, Stacy, and Scott (1981) studied 188 children in Grades 5 through 8 who had been selected for a GT program in a large suburban school district in Texas. Their results indicated older children had a higher representation in GT programs than could be expected by chance alone. The disproportionate representation of older GT students was still evident after subgroup analyses factored in family size and the child's birth order. In a later study with a similar sample size, using the relative age distribution quartiles of students enrolled in GT programs in the United Kingdom, Cobley et al. (2009) showed a higher proportion of gifted students were represented by relatively older students.

In a large study that used the entire cohort of 67,366 third graders in Israel in 2011 (1.4% of whom were enrolled in a GT program), Segev and Cahan (2014) reported the oldest students had a probability of being accepted into a GT program which was three times larger compared with the youngest students. In Israel, selection into GT programs relied mainly on raw achievement test scores, irrespective of age (Segev & Cahan, 2014). However, study results revealed an almost perfect correlation between age and the probability of being selected into a GT program.

Using another large data set from students in Grades K to 10 in the Miami-Dade County Public Schools in Florida (the fourth largest school district in the United States), Froman and Shneyderman (2013), using purely descriptive statistics, indicated the oldest students had much higher prevalence rates of being enrolled in a GT program (12.6% vs. 8.5% for the youngest) and

also had the lowest risk of having a specific learning disability (4.2% vs. 5.8% for the youngest). At the same time, the youngest students had the lowest likelihood of being in a GT program and had the highest chances of being identified with a specific learning disability.

Based on this review of the literature, researchers have shown that academic differences have existed between redshirted students and their younger peers. Due to these differences, students could experience the "hockey effect" where they are given opportunities to participate in programs such as gifted because of higher achievement simply due to age. Given that some families cannot afford to wait, this may be putting these students at an even greater disadvantage. A few scholars and educators have examined the differences in academic achievement due to academic redshirting but to date no research has focused on the effects of redshirting on gifted referral rates and eligibility.

CHAPTER 3

METHOD

Participants

Participants in this study were students enrolled in grades kindergarten through eighth grade in Hamilton County Schools. Data were collected on students who were referred for gifted eligibility testing and enrolled in these grades during 2011 to the end of the school year 2016. Permission was granted through the Hamilton County School System (HCSS) to obtain any data needed for this study and IRB approval was received. Procedures were taken to ensure FERPA compliance and to keep the data secure.

Research Questions

To explore the impact of academic redshirting on gifted referral and eligibility, three research questions were examined in this study. Previous research studies have indicated that children who have been academically redshirted may be at an academic advantage over their same grade peers due to their differences in age. Due to this difference in achievement, these students could be referred for programs such as gifted at a higher rate than their younger peers. A few scholars and educators have examined the differences in academic achievement due to academic redshirting but little to no research has focused on the effects of redshirting on gifted referral rates and eligibility.

Thus, the research questions examined in this study were:

1. What demographic differences exist between children who have delayed formal entrance into kindergarten ("academic redshirts") and their typical but younger on-time entering peers?
2. Are students who were "academically red-shirted" qualifying for gifted and talented programs more than their younger peers?
3. In Georgia, students qualify for gifted programming in two ways which include: (1) a qualifying score in mental ability and achievement; or (2) on the basis of meeting three of four criteria (mental ability, achievement, creativity, or motivation). Are students who were "academically red-shirted" differentially qualifying by the mental ability/achievement option or is their selection based on the multiple criteria entrance option?

Measures

Participants in this study were identified on the basis of an individual identifier, the Georgia Test Identification (GTID), a unique ten digit number which is the common identifier on multiple State of Georgia data protocols. Using the GTID allowed for cleaner matching to multiple data sources. For each participant the school, grade level, date of birth, race, previous retention status, and sex were collected. Student data used to determine eligibility for gifted referrals were also included, including placement status, the means of placement, the date enrolled in the gifted program, and the results of standardized instruments used in the referral including the Cognitive Abilities Test (CogAT), Measures of Academic Progress (MAP), and Torrance Tests of Creative Thinking (TTCT). The Gifted Evaluation Scale-Third Edition (GES-

3) was also used to determine student's motivation. This data was used to indicate if students were eligible for gifted through mental ability or multiple criteria.

As the critical variable of interest was age relative to peers, insofar as redshirts were the subject under scrutiny, it was necessary to standardize student age using the date of birth field. For the purposes of the study the date of birth for each student was converted to total months relative to September 1st. The rationale for that decision was that Georgia law, under O.C.G.A. 20-2-150, a student must be at least five years of age by September 1st to enroll in Kindergarten. Therefore a student turning five on August 31st would be the youngest possible student in a grade cohort, notwithstanding retained students and redshirts. By converting student birthdays in grade cohorts on the basis of their age relative to September 1st it was possible to categorize students on the basis of their relative age in the cohort (younger vs. older students) and students that were a year ahead of their grade cohort classmates. Students more than 12 months older of the minimum age in a cohort were then by definition either redshirts or previous retainees. Using retention field data, it was then possible to sort students in the one year older group into retainees and redshirts, respectively.

For response variables, the research questions necessitate both a metric of placement and a category of placement. It was necessary to determine if redshirts were more likely to be referred to gifted, if they were more likely to qualify for gifted, and, for those qualifying, the type of approach used for qualification. For the latter question, Georgia allows a gifted student to be placed strictly on the basis of scores on standardized intellectual and achievement instruments, or to use multiple methods that combine such traditional measures with measures of creativity or motivation. It then followed the measure for the category of placement for gifted students in the sample was a simple dichotomous outcome represented by the percentage of

gifted students placed by each placement method. For this particular question, the sample was limited only to students that had qualified for gifted during the data collection period.

For the questions of referrals and initial placements, it was necessary to quantify the variables differently, as the samples were larger and included all students in the schools that conceivably could have been referred, irrespective of whether they actually were. Without accounting for all students, redshirts or not, to be considered it was impossible to adequately determine if redshirts were more likely to be referred and placed in gifted. Thus the metric of usage was placement rates, calculated through the division of total referrals to gifted programs by total students enrolled during the course of the data collection period who could have been referred.

It has been common in studies using student age to convert the birth date to a linear measure such as total days or months. A student who is 7 years, 3 months old was thus converted to 87 months of age in such a setup. However, for this study the relevant variable was age relative to possible enrollment, as in the case of redshirts the construct of interest was parental choice to not enroll a student that was eligible to enroll. Thus, a student with a birthdate of August 27th was qualitatively different from a student with a birthday only seven days later on September 3rd. Such sharp delineation points do not typically lend well to purely linear measures.

Given this delineation, it made more sense from an analytic point of view to categorize students on the basis of age relative to possible enrollment date on September 1st of their kindergarten year. Specifically, students in the sample were categorized into one of four categories. The specific cut points can be viewed in Appendix A. Each student was categorized in four month increments for students who enrolled normally in their kindergarten year the

school year of first eligibility. This created three groups of students of age cohorts ranging from the oldest non-redshirt students to the youngest. True redshirt students constituted the fourth group. Students who were retained in the past were excluded from the sample entirely.

Data Analysis

Research question one necessitated a comparison of the underlying demographics and characteristics of "redshirts" and their younger, typically aged peers. Demographic comparisons analyzed included sex, race (% non-white), free and reduced lunch status (a proxy measure of economic need), English learner status, and special education status. For each variable a Chi Square Test of Independence was used. The analysis for research question two involved analyzing gifted referral and placement rates of all students in the sample. To accomplish this the data was analyzed in two separate blocks with different group composition. In the first block students were separated into four groups based on their age. For students in the traditional cohort that did not redshirt, the students were segmented into four month blocks that placed them, in relative terms, as the oldest, youngest, and intermediate aged students. The fourth group consisted of redshirts. The purpose for this block of analysis was that research indicated that students that were among the oldest in their class tend to accrue some benefits based on physical and mental maturity that may include gifted referrals. A comparison to students that were naturally among the oldest in the class versus those that were older on the basis of parent enrollment choices helped to illuminate this distinction. A Chi Square analysis was used to determine differences in referral rates and eligibility. The second block of analysis was an extension of the first, but accomplished by approaching the problem as a simple binary, being redshirts vs. non-redshirts, to further attempt to tease out possible effects of parental redshirt decisions. A further extension of looking at the method of placement, cognitive/academic vs

multiple methods, was included in this block for research question three. To better compensate for students that were referred more than once, a separate block of analysis was conducted that compared placement methods of both redshirts and non-redshirts by the grade in which the student was placed. Groups analyzed included kindergarten, grades 1 to 2, and grade 3 and beyond. Descriptive statistics were reported, along with measures of effect size and statistical significance for all variables and statistical tests.

CHAPTER 4

RESEARCH FINDINGS

The purpose of the current study was to examine academic redshirting in kindergarten—the practice of postponing formal entrance into school for age-eligible children to allow an additional year for socio-emotional, intellectual, or physical growth—and its influence on referral for and placement into gifted education services. The theoretical framework of equity was used to frame this study. An equity perspective examines issues involving social inequities and exclusion based on variables such as gender, class, ethnicity, age, or other social characteristics (Jordan, 2010). The current study investigated inequity as a function of age, ethnicity, and socioeconomic status and analyzed the extent to which students who were redshirted were at an unfair advantage over their younger peers. Three research questions guided the study:

1. What demographic differences exist between children who have delayed formal entrance into kindergarten ("academic redshirts") and their typical but younger on-time entering peers?
2. Are students who were "academically red-shirted" qualifying for gifted and talented programs more than their younger peers?
3. In Georgia, students qualify for gifted programming in two ways which include: (1) a qualifying score in mental ability and achievement; or (2) on the basis of meeting three of four criteria (mental ability, achievement, creativity, or motivation). Are students who were "academically red-shirted" differentially qualifying by the mental

ability/achievement option or is their selection based on the multiple criteria entrance option?

Given the categorical nature of the variables to be analyzed, the descriptive statistic Chi-square was used in the analyses presented below. This chapter presents the results of analyses for the three research questions.

Findings for Research Question 1

The first research question assessed demographic differences between children who have delayed formal entrance into kindergarten ("academic redshirts") and their typical but on-time entering younger peers. Data were available from 8,587 kindergarten to eighth grade students enrolled in the Hamilton County School System (a pseudonym) from 2011 to 2016. To eliminate any confounds associated with students who experienced other interventions, two groups of students were removed from the overall sample. The first group eliminated from subsequent analyses was children who had experienced a grade retention. Given the need to identify true "redshirts," I removed children from the sample who might have been masked as those enrolling on time and remaining in their initial grade cohorts through the grade retention process. The ability to understand the placement of students within the typical academic pipeline prior to 2011 was not possible. Therefore, students were removed from the sample if they were overage for grade because it was not possible to tell if the status of being overage for grade was from being redshirted or from grade retention.

Relatedly, students with significant disabilities often enroll in special education preschool programs before their first year of traditional school eligibility. Because of compliance with special education regulations, these children do not typically constitute a true redshirt or normal cohort entrant. Given the typical intellectual deficits associated with severe disabilities,

there is a very small probability such students would be referred for gifted assessment. Therefore, these children were also removed from the overall sample. Removing these two groups of students (n = 345) resulted in an adjusted sample size of 8,242 students. Students who were redshirted comprised 16.1% of the revised sample.

Analyses were performed examining demographic and programmatic variables to examine if students who experienced redshirting differed from their typically developing peers. Variables examined included race, gender, free- or reduced-price lunch status (a proxy measure of economic need), special education status, and English Language Learner status. Two additional analyses were considered for migrant status and homelessness but were ultimately discarded because of extremely low numbers of students in either group (migrant n = 20, homeless n = 37).

Table 4.1

Comparison of Demographic and Programmatic Variables - Redshirts vs Non-Redshirts (*n* = 8,242)

Variable	Redshirts		Non-Redshirts	
	N	%	N	%
	1,324	16.1	6,918	83.9%
Race*				
Asian	42	3.2%	415	6.0%
Black	69	5.2%	326	4.7%
Hispanic	114	8.6%	490	7.1%
American Indian	0	0.0%	5	0.1%
White	1,066	80.5%	5,459	78.9%
Multi-Racial	33	2.5%	223	3.2%
Gender				
Male	850	64.2%	3,406	49.2%
Female	474	35.8%	3,512	50.8%
Free & Reduced Lunch	371	28.0%	1,564	22.6%
Special Education	282	21.3%	514	7.4%
English Learners	53	4.0%	184	2.7%

*Percentages might not sum to 100 because of rounding.

As Table 4.2 indicates, significant differences were found between students who were redshirted and students who entered kindergarten on-time across every variable examined. Consistent with the literature on academic redshirting, differences between males and females and those with special needs were observed. Specifically, for gender $X^2(1) = 99.666$, $p < .0001$) more males proportionally were redshirted than were females. A similar outcome was found for those who were identified with special needs in that more children who were ultimately diagnosed with special needs were held from school for an additional year than were those who entered on time $X^2(1) = 245.001$ $p < .0001$). Analyses revealed children who received free and reduced-price lunch were more likely to be redshirted. This finding is inconsistent with the empirical literature. A similar result was found with English Language Learner status. It should

be noted that with race, the Hispanic children appeared to differ from children of other races. Therefore the ELL outcome may be connected to the high proportion of Hispanic children.

Table 4.2

Chi Square Values

Variable	X^2	p value
Race	23.359	.0001*
Gender	99.666	.0001*
Free & Reduced Lunch Status	18.128	.0001*
Special Education Status	245.001	.0001*
English Learner Status	7.180	.007*

* $p < .05$

Findings for Research Question 2

Analyses on the second research question addressed whether students who have been "academically red-shirted" were referred and qualified for gifted and talented programs more than their younger, on-time entering peers. The empirical literature suggests an early advantage from which an older child might benefit was having a higher likelihood of being identified as a gifted and talented. Studies have reported at an early age, relatively older students (within the same grade) were more likely to be enrolled in a gifted program (Cobley, McKenna, Baker, & Wattie, 2009) or referred by teachers for gifted evaluation (DeMeis & Stearns, 1992; Froman & Shneyderman, 2013) likely resulting from the soft skills for which these students have an age advantage. These research studies further suggest students identified as gifted might receive additional instructional support, more challenging material, or be grouped with peers of higher ability, strategies which might help develop a talent where small initial differences are magnified. The extant literature also suggests students who have been told they were gifted often develop higher self-esteem, experience greater perceived competence, and foster a self-fulfilling prophecy performing better as a result of the higher expectations or positive labeling (Cobley et

al., 2009). In the current study, this research question assessed if students who were redshirted had a seemingly unfair advantage over their younger peers including resulting in a greater number or proportion of students who had been redshirted being referred to gifted programs.

This phase of the analysis involved analyzing gifted referral and placement rates of all students in the sample. For these analyses, 8,242 students' record were examined. Data were analyzed based on age of school entry. For students who did not redshirt, students were segmented into four month blocks that place them, in relative terms, as the oldest, youngest, and intermediate-aged students. The fourth group consisted of redshirts. The purpose for this grouping of participants was to take advantage of research suggesting students who were among the oldest in their class tend to accrue some benefits based on physical and mental maturity which might include gifted referrals. A comparison to students who were naturally among the oldest in the class versus those who were older on the basis of parent enrollment choices helped to illuminate this distinction.

As a methodological note, it should be observed that the sample sizes of placement and eligibility decisions for both analysis blocks were somewhat higher than the sample size for total referrals. The primary factor in this was that some students were referred multiple times during the period under examination, almost always as they did not qualify on their first attempt. It was determined that not including these students twice in the referral data would avoid skewing the results, while actual placement decisions, as was defined by research questions 2 and 3, were better understood by counting both attempts. Frequently, students who did not qualify on their first attempt tended to qualify on their second using the multiple criteria approach. As the distinction between multiple criteria and cognitive academic approaches was at issue in the research questions being studied, their inclusion was deemed warranted.

Results of the Chi Square analysis demonstrated significant differences in referral rates for students depending on their relative age ($X^2(3) = 24.939$, $p < .001$), but not on whether referred students were actually placed in gifted ($X^2(3) = 3.150$, $p = .369$).

Table 4.3

Referral and Placement Rates Based on Age Group

	Younger Traditional		Intermediate Traditional		Older Traditional		Redshirts		X^2	P Value
	N	%	N	%	N	%	N	%		
Referred for Gifted									24.939	.0001*
Yes	248	12.9%	387	15.0%	411	17.0%	156	11.8%		
No	1,678	87.1%	2,194	85.0%	2,000	83.0%	1,168	88.2%		
Placed in Gifted									3.150	.369
Yes	194	61.0%	261	61.3%	260	57.9%	72	53.7%		
No	124	39.0%	165	38.7%	189	42.1%	62	46.3%		

* $p < .05$

Table 4.3 reveals redshirts were referred for gifted evaluation at lower rates that non-redshirts. The highest rate of referrals occurred among the naturally older students within their original kindergarten cohort of first eligibility entry. Consistent with previous research, students who were the oldest in their classes were more likely to be referred than younger students, but they were not found eligible at statistically distinguishable rates from younger students. It should be noted that for referral and placement rates, this data included students who were referred once for gifted testing or received multiple referrals anytime during grades K-8. For referrals, 1,080 students were referred only once, 119 students were referred twice, and 3 students were referred three times.

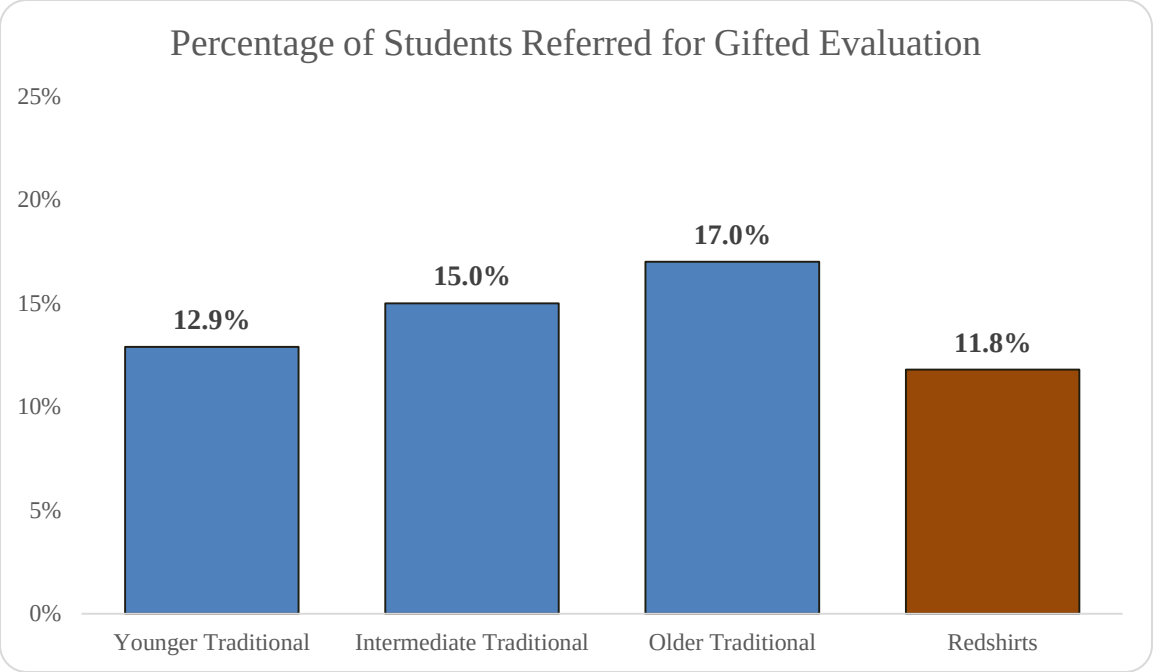

Figure 4.1

Referral Rates Based on Age

Findings for Research Question 3

The final research question assessed for differences in qualification method for gifted and talented programs. This analysis sought to determine if students who were "academically red-shirted" were more likely to qualify through the mental ability/achievement option or through the multiple criteria entrance option. For the mental ability/achievement option, students qualify on the basis of standardized mental ability and achievement assessment results which are either a composite or full-scale score. The composite score must be at the 99th percentile for students in kindergarten through grade two. The composite score may be at the 96th percentile or higher for students in grades 3-12. In addition, students (grades K-12) must meet at least one of the following achievement standards: 90th percentile Total Reading, 90th percentile Total Math, 90th percentile total achievement test battery, or superior product/performance assessment. No student may qualify on the basis of a mental ability test score alone.

The second qualification method is through the multiple criteria approach which stipulates a student may qualify in three of the four data categories, at least one of which must be on a nationally-normed standardized test. These categories include mental ability, academic achievement, creativity, and motivation. To assess whether children in the current differed in qualification method, a simple binary analysis—redshirts or typical on-time entry—was conducted to tease out possible effects of parental redshirt decisions. A further extension of looking at the method of placement, cognitive/academic versus multiple methods, was then conducted. To better compensate for students who were referred more than once, a separate analysis was conducted comparing placement methods of both redshirts and non-redshirts by the grade in which the student was placed. Groups analyzed included kindergarten, grades 1 to 2, and grade 3 and beyond.

Consistent with the previous analyses in this study, non-redshirts were found to be referred for gifted assessment more than the redshirt group ($X^2(3) = 9.937$, $p < .002$), but no statistically distinguishable difference between redshirts and non-redshirts could be established for either eligibility rates or the method of eligibility.

Table 4.4
Gifted Referral Rates, Placement Rates, and Placement Methods

	Non-Redshirts		Redshirts		X^2	P Value
	N	%	N	%		
Referred for Gifted					9.937	.002*
Yes	1046	15.1%	156	11.8%		
No	5872	84.9%	1168	88.2%		
Placed in Gifted					1.920	.166
Yes	715	59.9%	72	53.7%		
No	478	40.1%	62	46.3%		
Placement Method					.439	.507
Cognitive Academic	153	21.4%	13	18.1%		
Multiple Methods	562	78.6%	59	81.9%		

* $p < .05$

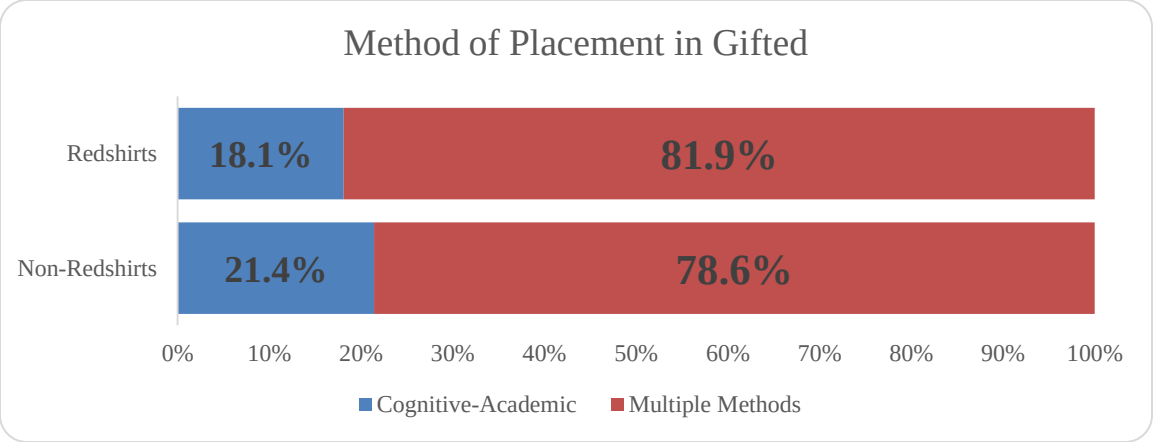

Figure 4.2

Method of Placement in Gifted

In looking at type of placement method, cognitive academic vs. multiple methods, no significant differences between redshirts and non-redshirts were observed at any of the grade bands examined. Redshirts and non-redshirts were placed in gifted education at comparable levels across the grade spectrum. Of interest was that students, regardless of relative age status, were overwhelmingly likely to be placed by cognitive/academic methods in grades 1 and 2, but were far more likely to be placed via multiple methods in kindergarten and somewhat split in rates beyond third grade.

Table 4.5

Method of Placement by Grade Band

	Non-Redshirts		Redshirts		X^2	P
	N	%	N	%		Value
Kindergarten					2.1042	.147
Cognitive Academic	29	19.5%	2	7.7%		
Multiple Methods	120	80.5%	24	92.3%		
Grades 1 to 2					2.1612	.142
Cognitive Academic	273	91.0%	22	100%		
Multiple Methods	27	9.0%	0	0%		
Grades 3 to 8					.8264	.363
Cognitive Academic	97	36.5%	11	45.8%		
Multiple Methods	169	63.5%	13	54.2%		

*$p < .05$

In summary, redshirts differed considerably from non-redshirts in terms of their composition and educational services. Specifically, redshirts were considerably more likely to be male and more likely to receive special education services than were their non-redshirt peers. They were slightly more likely to be economically disadvantaged, an English learner, or White or Hispanic. Redshirts were referred for gifted evaluation at lower rates than other students, although their placement rates were not particularly distinguishable from non-redshirts. There does not appear to be significant differences in the method used to place students in gifted between redshirts and non-redshirts.

CHAPTER 5

PRINCIPLE FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of the current study was to examine academic redshirting in kindergarten—the practice of postponing formal entrance into school for age-eligible children to allow an additional year for socio-emotional, intellectual, or physical growth—and its influence on referral for and placement into gifted education services. The theoretical framework of equity was used to frame this study. An equity perspective examines issues involving social inequities and exclusion based on variables such as gender, class, ethnicity, age, or other social characteristics (Jordan, 2010). The current study investigated inequity as a function of age, ethnicity, and socioeconomic status and analyzed the extent to which students who were redshirted were at an unfair advantage over their younger peers. More specifically, the study attempted to answer the following three research questions related to academic redshirting:

1. What demographic differences exist between children who have delayed formal entrance into kindergarten ("academic redshirts") and their typical but younger on-time entering peers?
2. Are students who were "academically red-shirted" qualifying for gifted and talented programs more than their younger peers?
3. In Georgia, students qualify for gifted programming in two ways which include: (1) a qualifying score in mental ability and achievement; or (2) on the basis of meeting three of four criteria (mental ability, achievement, creativity, or motivation). Are students who were "academically red-shirted" differentially qualifying by the mental

ability/achievement option or is their selection based on the multiple criteria entrance option?

The principle findings are summarized related to the research questions followed by discussion and analysis. Theoretical implications of the findings, as well as more practical implications, are discussed pertaining to public policy makers, educational researchers, and educational leaders.

Principle Findings

The following were the principle findings of the study.

1. Redshirts differed considerably from non-redshirts in terms of their composition and educational services. Specifically, redshirts were considerably more likely to be male and more likely to receive special education services than were their non-redshirt peers. They were slightly more likely to be economically disadvantaged, an English Language Learner, or White or Hispanic.
2. Redshirts were referred for gifted evaluation at lower rates than other students, although their placement rates were not particularly distinguishable from non-redshirts.
3. There did not appear to be significant differences in the method used to place students in gifted between redshirts and non-redshirts.

Discussion of the Findings

Finding 1

Nationally, it has been believed between six and nine percent of students have been redshirted each year (Oshima & Domaleski, 2006). Graue and DiPerna (2000) found that most redshirted children were Caucasian boys from middle or upper class families whose birthdays fell just before the cut-off date to begin kindergarten. Some accounts suggest parents have increasingly delayed kindergarten entry because they believed their child was not

developmentally ready for the increasing demands of school. Others have argued redshirting has reflected parents' strategic desire to ensure their child entered kindergarten older, taller, and with higher levels of social and cognitive skills than the child's schoolmates (Frey, 2005; Matlack, 2011). In addition, the popular press has emphasized White children, boys, and children from families with more resources have been overrepresented among redshirters, a claim confirmed by earlier research (Dobkin & Ferreira, 2010). Bassouk and Reardon (2013) found redshirting was twice as likely among boys as among girls.

The first research question in this study further examined the differences that exist on academic and social variables between children who have delayed formal, on-time entrance into kindergarten ("academic redshirting") and their typical, but younger peers. Redshirted students comprised a total of 16.1% of the entire sample. Several demographic and programmatic variables were analyzed to better understand how redshirt students differ from non-redshirts. Specifically race, gender, free and reduced lunch status (a proxy measure of economic need), special education status, and English learner status were compared using Chi Square Tests of Independence.

There were significant differences between redshirts and non-redshirts across every variable examined. The largest differences were gender and special education status. Specifically, redshirts were disproportionality more likely to be male and to have been served via special education at some point in their school career. They were slightly more likely to be economically disadvantaged, an English learner, or White or Hispanic.

Finding 2

In competitive situations, a person who was relatively older than the others would probably be the one who won (Gladwell, 2008). Previous research studies have indicated that

children who have been academically redshirted may be at an academic advantage over their same grade peers due to their differences in age. Due to this difference in achievement, these students could be referred for programs such as gifted at a higher rate than their younger peers. Students who have been told they were gifted and talented may develop higher self-esteem, experience greater perceived competence, and result in a self-fulfilling prophecy where identified students performed better as a result of higher expectations or positive labeling (Cobley et al., 2009). Also, if true, younger children may be placed at a disadvantage and unidentified young because gifted students have been less likely to be recognized later on, especially children from low-income and minority families (Moon & Brighton, 2008).

The second research question examined this issue further by evaluating if students who have been "academically red-shirted" qualified for gifted and talented programs more often than their younger peers. Results demonstrated significant differences in referral rates for students depending on their relative age, but not on whether referred students were actually placed in gifted. Referrals to gifted of redshirted students were slightly less likely to qualify than traditional age cohorts (53.7% eligibility rate), but the difference was not outside of the realm of sampling error and chance and thus it could not be fully determined from this sample if redshirts were placed at lower rates than other peers.

Redshirts were referred for gifted evaluation at lower rates that non-redshirts. The highest rate of referrals occurred among the naturally older students within their original kindergarten cohort of first eligibility entry. Consistent with previous research students older than their peers were more likely to be referred than younger students, but they were not found eligible at statistically distinguishable rates from younger students.

Finding 3

The final research question addressed the issue that in the state of Georgia, students must meet three out of four criteria (mental ability, achievement, creativity, or motivation) to qualify for gifted and talented programs. This analysis sought to determine if "academically red-shirted" students differentially qualified by mental ability or if the selection was based on the combination of achievement, motivation, and creativity. Consistent with the previous analysis non-redshirts were found to be referred for gifted testing at higher rates than the redshirt group, but no statistically distinguishable difference between redshirts and non-redshirts could be established for either eligibility rates or the method of eligibility. Thus, there did not appear to be significant differences in the method used to place students in gifted between redshirts and non-redshirts.

In addition, when looking at type of placement method, cognitive academic vs. multiple methods, no significant differences between redshirts and non-redshirts were observed at any of the grade bands examined. Redshirts and non-redshirts were placed in gifted education at comparable levels across the grade spectrum. Of interest was that students, regardless of relative age status, were overwhelmingly likely to be placed by cognitive/academic methods in grades 1 and 2, but were far more likely to be placed via multiple methods in kindergarten and somewhat split in rates beyond third grade.

Theoretical Implications

Oldest Students - Highest Performers

While the results from this study showed that redshirts were referred for gifted evaluation at lower rates than non-redshirts, the highest rate of referrals occurred among the naturally older students within their original kindergarten cohort of first eligibility entry. Consistent with

previous research students older than their peers were more likely to be referred than younger students. In kindergarten classrooms, as a result of the natural variation in children's dates of birth, there has always been an oldest and a youngest student. In a synthesis of birthdate effect studies, Shepard and Smith (1986) stated "regardless of the entrance age requirements . . . the youngest children are always at a slight disadvantage" (p. 80). Conversely, older students have been shown to have better soft skills (e.g., team work, leadership skills, sociability) compared with younger students and were more likely to be student leaders, team captains, or club presidents in high school (Dhuey & Lipscomb, 2008). Even though early age effects may dissipate or lessen over the years (Huang & Invernizzi, 2012), early advantages or disadvantages may compound over time forming a viscous cycle. As a result, small initial advantages may result in big differences over time.

Studies have indicated at an early age, relatively older students (within the same grade) were more likely to be enrolled in a gifted program (Cobley, McKenna, Baker, & Wattie, 2009) or referred by teachers for gifted evaluation (DeMeis & Stearns, 1992; Froman & Shneyderman, 2013), likely as a result of some of the skills for which these students have an age advantage. This research study confirmed that the oldest students in the class are more likely to be referred for gifted and talented programs.

Even though the results from the current study did not show differences in eligibility rates, younger students have not been given the opportunity to be referred to gifted as often as older peers. Thus, some younger students (who may be gifted) could miss the opportunity for referral and go unidentified. Students identified as gifted might receive additional instructional support, more challenging material, or be grouped with peers of higher ability, any of which might help develop a talent where small initial differences may become magnified. In addition,

students who have been told they were gifted might develop higher self-esteem, experience greater perceived competence, and foster a self-fulfilling prophecy where students perform better as a result of higher expectations or positive labeling (Cobley et al., 2009).

Researchers have also cited an increase in older kindergartners as one of the driving forces behind a more rigorous kindergarten. Thus, the academic demands of kindergarten have increased because the classrooms have been filled with older children. The change in demand has afforded teachers the opportunity to hold higher expectations for both behavior and learning skills. In addition, older students in a class may be affecting the kindergarten curriculum as teachers accommodate the more mature members of the classroom. This practice has also created an issue with differentiation because teachers have been trying to meet the needs of children ranging in age from four to six years old. The larger percentage of older children could drive up the standards of behavior and achievement in the kindergarten classroom (Graue & DiPerna, 2000).

Reasons Parents Redshirt

In this study, several demographic and programmatic variables were analyzed to better understand how redshirted students differed from non-redshirts. Specifically race, gender, free and reduced lunch status (a proxy measure of economic need), special education status, and English learner status were compared using Chi Square Tests of Independence. There were significant differences between redshirts and non-redshirts across every variable examined. The largest differences were gender and special education status. Specifically, redshirts were disproportionality more likely to be male and to have been served via special education at some point in their school career. They were slightly more likely to be economically disadvantaged, an English learner, or White or Hispanic. In analyzing academic benefits to redshirting, non-

redshirts were found to be referred for gifted testing at higher rates than the redshirt group. In addition, the results showed that redshirts were referred for gifted evaluation at lower rates than other students.

So, if the results show that there were not academic benefits, in terms of gifted referral, but there was a link between redshirting and special education placement, then why are parents choosing to redshirt? If parents are choosing to hold their students out of school and delay entrance into kindergarten, this research shows that the benefits are not viable.

Further Implications

Implications for Policy Makers

When determining if a student qualifies for a special program in the public school setting, there is usually a very prescriptive approach to determine eligibility. This approach comes with a set of regimented timelines, paperwork and documentation that must be in place, and processes to make sure subjectivity on the part of parents or educators is removed from the equation. For example, when trying to determine if a student should receive special education services, the Response to Intervention (RTI) process must be put in place before referral for testing is even discussed. This process begins with high-quality instruction and universal screening of all children in the general education classroom. Struggling learners must be provided with interventions at increasing levels of intensity to accelerate their rate of learning. These services may be provided by a variety of personnel, including general education teachers, special educators, and specialists. Progress is closely monitored to assess both the learning rate and level of performance of individual students. Educational decisions about the intensity and duration of interventions are based on individual student response to instruction.

RTI is designed for use when making decisions in both general education and special education, creating a well-integrated system of instruction and intervention guided by child outcome data. If students show progress, interventions can be adjusted and possibly be stopped. If students do not show progress, interventions are either modified, changed, or continued. Once a sufficient amount of data has been collected and minimal to no progress is being shown, students can be referred for a full psychoeducational evaluation to determine if there may be some type of disability causing the issue. A school psychologist then runs a full battery of tests to determine if a student meets state eligibility requirements and a team must meet to determine if a student is eligible for special education services.

Conversely, the process for referral to Gifted and Talented programs is much more subjective and largely determined by teacher observation of classroom performance. As this research confirmed, the naturally older students in the grade level are referred the most often for gifted. This is due to the fact that the oldest students in the grade, especially in the younger grades, can typically appear to be the highest performing. However, this does not mean they are always the students with the highest mental ability or IQ. Students in younger grades come in with varying levels of developmental readiness. If a student enters kindergarten not reading, this does not mean the child needs to be placed in special education for a learning disability. On the other hand, just because a student starts kindergarten at age six and is a fluent reader does not mean he/she is gifted. However, when a teacher is subjectively determining which students to refer for gifted testing, this research shows that the older ones are probably at an advantage.

In addition, the achievement tests being used as a screener for referral can also be problematic if these are grade normed. The Measures of Academic Progress (MAP) is a nationally norm-referenced achievement test that provides a percentile score on each

student. Frequently, this type of test is used as benchmark for students to be referred for gifted testing. In the Hamilton County School System, any student who scores at the 95%ile or above on either the Reading or the Math portion of this test is considered for gifted testing. The issue with the MAP test is that although it is nationally normed, it is also a grade normed achievement test. This means that students' percentile scores show how they performed in comparison to students in their same grade. This means that someone who has an August birthday is given a score based on how they performed in comparison to someone in their same grade with a September birthday, who is an entire year older. For these reasons, states need to consider a more regimented, objective approach to gifted referral and eligibility. In addition, assessments used for referral purposes must be age normed due to the fact that age varies greatly within one grade level.

Implications for Educational Researchers

One limitation to the sample analyzed in this study was that in Hamilton County there is not a normally distributed demographic representation compared to most other counties in the state of Georgia. Hamilton County Schools has the following ethnic distribution: 80% White, 3% Multi-Racial, 5% Black, 5% Asian/Pacific Islander, 6% Hispanic, and 1% other. Contrastingly, in the state of Georgia as a whole the student demographics are 42% White, 37% Black, 14% Hispanic, and 4% Asian, with fully 62% of students receiving free and reduced lunch. The percentage of economically disadvantaged students (as evidenced by free and reduced lunch participation) is less than 20% at each of the schools across the district in Hamilton County. The current gifted enrollment for Hamilton County Schools is 20%, and the graduation rate is 91.9%, compared to Georgia's 12% gifted program enrollment and 79% graduation rate. Due to demographic variables and high levels of academic performance, this district's

variables cannot be considered typical, either for the state of Georgia or the nation as a whole. For that reason, more research is needed in areas with a more typical demographic make-up to see if the results are similar or to show differences in comparison to the results found in this study.

Also, this study analyzed several demographic and programmatic variables to better understand how redshirt students differ from non-redshirts. Specifically race, gender, free and reduced lunch status (a proxy measure of economic need), special education status, and English Language Learner status were compared. There were significant differences between redshirts and non-redshirts across every variable examined. The largest differences were gender and special education status. Specifically, redshirts were disproportionality more likely to be male and to have been served via special education at some point in their school career. They were slightly more likely to be economically disadvantaged, an English Learner, or White or Hispanic. One piece of qualitative information that could be obtained in future research is why certain parents are choosing to redshirt. This information would need to be obtained through a qualitative method such as the interview.

Overall, there has been limited study in this area and findings among the current research vary significantly. For this reason, more research is needed on the effects of academic redshirting to determine if there is an inequity between redshirted students and their peers who enter kindergarten at an early age and if any true academic benefits exist.

Implications for Educational Leaders

Parents make the decision of when to start their children in school. Some parents decide to start their children as soon as they are age eligible while others hold off for a year to give their children more time for academic growth and maturity. Due to this fact, the age range of students

starting kindergarten is between four to six years old. This can cause vast differences in developmental readiness and abilities within one kindergarten classroom making it very difficult for teachers and schools to meet everyone's individual needs. What can schools do to support those youngest students who when compared to their older peers may not seem as ready for kindergarten? One solution is the development of a transitional kindergarten classroom (Mantzicopoulos & Neuharth-Pritchett, 1998). A student could be evaluated at kindergarten enrollment through observation during testing, assessment data gathered on site, and notes taken during a parent interview. The data could be analyzed by a school team to determine placement for the coming year. If it was determined that kindergarten was not the most appropriate educational setting, but based on birthdate the student was eligible to start, then he or she might be a candidate for a transitional kindergarten classroom.

An opportunity of this nature would enable the child to adjust to the routine and expectations of a kindergarten classroom while building pre-requisite skills to kindergarten success. So often those young students who do not experience success in kindergarten have been ones who lack maturity, experiences, opportunities, and vocabulary. Additional time would allow all of those things to develop within the structured parameters of a quality educational setting with trained teachers responsible for instruction. A transitional kindergarten classroom would enable these children to build success with like peers before being challenged socially, emotionally, physically, and cognitively by their older peers in a traditional kindergarten setting. The program would have to be fluid and taught by those who ascribed to the philosophy and learning theories supported by its nature.

Children could have the opportunity to move into a traditional kindergarten classroom at midyear or at other times as deemed appropriate by the classroom teacher and administration. School

systems could elect to research, identify, and implement strategies that served as best practices for transitions from home to school or pre-school to kindergarten to further ensure success for students. A comprehensive list of research-based best practices could equip teachers and administrators with additional strategies to meet the needs of all learners, not just their more at-risk learners.

Implications for Parents

Because more research is needed to fully determine the effects of redshirting, parents need to consider several things when deciding to hold their student out of school for an additional year. When making that decision, the following should be taken into consideration. Parents need to clearly identify the specific characteristics of their child that causes the child to be unsure about his or her readiness to begin kindergarten with same-aged peers. In other words, kindergarten entrance should not be delayed just because the child has a summer birthday or is likely to be among the youngest in the class. Due to the fact that children develop at different rates, some younger children may be more ready for kindergarten than some older children. Parents should also check the school's kindergarten readiness tests or screening procedures to get an idea of how their child might fare in the kindergarten classroom in which she or he will most likely be placed. Parents can work to find out what the school expects of entering kindergartners and the school's suggestions on how they can help their student be prepared. Parents can also talk to their child's preschool teacher about his or her readiness for kindergarten. To the parents, it may seem to make sense to hold a student out for an additional year, to give them more time for readiness or maturity, but in general, redshirting does not appear to benefit students.

Conclusion

In summary, redshirts in this study differed considerably from non-redshirts in terms of their composition and educational services. Specifically, redshirts were considerably more likely to be male and more likely to be placed in special education than were their non-redshirted peers. They were slightly more likely to be economically disadvantaged, an English Learner, or White or Hispanic. Redshirts were referred for gifted evaluation at lower rates than other students, although their placement rates were not particularly distinguishable from non-redshirts. There did not appear to be significant differences in the method used to place students in gifted between redshirts and non-redshirts.

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APPENDIX A

AGE CONVERSION BASED ON

KINDERGARTEN ENTRY YEAR

Kindergarten17	Group A				Group B				Group C				Redshirts						
DOB	9/1/2011	8/1/2011	7/1/2011	6/1/2011	5/1/2011	4/1/2011	3/1/2011	2/1/2011	1/1/2011	12/1/2010	11/1/2010	10/1/2010	9/1/2010	8/1/2010	7/1/2010	6/1/2010	5/1/2010	4/1/2010	3/1/2010
Date Conversion	1827	1858	1889	1919	1950	1980	2011	2039	2070	2101	2131	2162	2192	2223	2254	2284	2315	2345	2376
				Reference Date	9/1/2016														
Kindergarten16	Group A				Group B				Group C				Redshirts						
DOB	9/1/2010	8/1/2010	7/1/2010	6/1/2010	5/1/2010	4/1/2010	3/1/2010	2/1/2010	1/1/2010	12/1/2009	11/1/2009	10/1/2009	9/1/2009	8/1/2009	7/1/2009	6/1/2009	5/1/2009	4/1/2009	3/1/2009
Date Conversion	1826	1857	1888	1918	1949	1979	2010	2038	2069	2100	2130	2161	2191	2222	2253	2283	2314	2344	2375
				Reference Date	9/1/2015														
Kindergarten15	Group A				Group B				Group C				Redshirts						
DOB	9/1/2009	8/1/2009	7/1/2009	6/1/2009	5/1/2009	4/1/2009	3/1/2009	2/1/2009	1/1/2009	12/1/2008	11/1/2008	10/1/2008	9/1/2008	8/1/2008	7/1/2008	6/1/2008	5/1/2008	4/1/2008	3/1/2008
Date Conversion	1826	1857	1888	1918	1949	1979	2010	2038	2069	2100	2130	2161	2191	2222	2253	2283	2314	2344	2375
				Reference Date	9/1/2014														
Kindergarten14	Group A				Group B				Group C				Redshirts						
DOB	9/1/2008	8/1/2008	7/1/2008	6/1/2008	5/1/2008	4/1/2008	3/1/2008	2/1/2008	1/1/2008	12/1/2007	11/1/2007	10/1/2007	9/1/2007	8/1/2007	7/1/2007	6/1/2007	5/1/2007	4/1/2007	3/1/2007
Date Conversion	1826	1857	1888	1918	1949	1979	2010	2039	2070	2101	2131	2162	2192	2223	2254	2284	2315	2345	2376
				Reference Date	9/1/2013														
Kindergarten13	Group A				Group B				Group C				Redshirts						
DOB	9/1/2007	8/1/2007	7/1/2007	6/1/2007	5/1/2007	4/1/2007	3/1/2007	2/1/2007	1/1/2007	12/1/2006	11/1/2006	10/1/2006	9/1/2006	8/1/2006	7/1/2006	6/1/2006	5/1/2006	4/1/2006	3/1/2006
Date Conversion	1827	1858	1889	1919	1950	1980	2011	2039	2070	2101	2131	2162	2192	2223	2254	2284	2315	2345	2376
				Reference Date	9/1/2012														
Kindergarten12	Group A				Group B				Group C				Redshirts						
DOB	9/1/2006	8/1/2006	7/1/2006	6/1/2006	5/1/2006	4/1/2006	3/1/2006	2/1/2006	1/1/2006	12/1/2005	11/1/2005	10/1/2005	9/1/2005	8/1/2005	7/1/2005	6/1/2005	5/1/2005	4/1/2005	3/1/2005
Date Conversion	1826	1857	1888	1918	1949	1979	2010	2038	2069	2100	2130	2161	2191	2222	2253	2283	2314	2344	2375
				Reference Date	9/1/2011														