

“CATCH THEM WHILE THEY’RE YOUNG”? ASSOCIATIONS BETWEEN
EARLY GRADE RETENTION AND LATER ACADEMIC OUTCOMES

by

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“Catch Them While They’re Young”?: Associations between Early Grade Retention and
Later Academic Outcomes

A Thesis submitted in partial fulfillment of the requirements for the degree of Master of
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TABLE OF CONTENTS

	Page
List of Tables	vii
Abstract	viii
“Catch Them While They’re Young”?: Associations between Grade Retention and Later Academic Outcomes	1
History of Retention	2
Predictors of Retention	4
Demographics.	5
Parents and families.	7
Academic and school variables.....	7
Methodological Considerations	8
Comparison groups.	8
Same-grade vs. same-age comparison	9
Effects of Retention	10
Negative effects	10
Positive effects	14
No effects	17
Social-emotional effects.....	19
Moderators of Retention	20
Timing of Retention.....	21
Multiple Retentions	24
Avoiding Multiple Retentions	25
The Current Study	26
Research Questions and Hypotheses	27
Descriptive Questions.....	27
RQ1	27
RQ2.....	28

RQ3	29
RQ4	29
RQ5	29
Method	31
Participants	31
Measures	33
Retention status	33
Outcome variables	34
Florida Comprehensive Assessment Test (FCAT)	34
Grade point average (GPA)	35
Demographics/controls	36
Gender	36
Ethnicity	36
Free/reduced lunch status (FRL)	36
Primary exceptionality status	36
English Language Learner (ELL) status	37
English language proficiency	38
Learning Accomplishment Profile—Diagnostic (LAP-D)	38
Devereux Early Childhood Assessment (DECA)	39
Nesting	40
Missing Data	40
Results	42
Preliminary Analyses	42
Descriptive Questions	42
RQ1	42
Early Retainees and 3rd Grade FCAT Reading	45
Early Retainees and 3 rd Grade Retention	45
Twice-Retained Questions	47
RQ2	47
Bivariate Tests	47
Logistic Regression	49
Follow-up Analyses	50

RQ3	50
GPA.....	51
FCAT Math.....	52
FCAT Reading.....	52
Timing Questions	53
RQ4	53
GPA.....	53
FCAT Math.....	53
FCAT Reading	54
RQ5	54
GPA.....	54
FCAT Math.....	55
FCAT Reading.....	55
Discussion.....	56
Prevalence of Retention.....	57
3 rd Grade FCAT Reading and Being Twice-Retained.....	58
Who Gets Twice-Retained?.....	60
Outcomes of Twice Retention	61
Does Timing Matter?.....	62
Limitations.....	65
Conclusions and Policy Implications	66
Tables.....	68
References.....	85

LIST OF TABLES

Table	Page
Table 1. Sample Demographics	68
Table 2. Descriptive Statistics and Missing Data for School Readiness and Outcomes ..	69
Table 3. Frequencies and Timing of Grade Retention for First Retention	70
Table 4. Frequencies and Timing of Grade Retention for Second Retention	71
Table 5. Grade Retention Patterns for Students Who Were Retained Twice During Elementary School	72
Table 6. 3 rd Grade FCAT Reading Categorical Scores for Students Retained Early (K-2)	73
Table 7. Bivariate Correlates of Once- vs. Twice-Retained Status in Elementary School	74
Table 8. Logistic Regression Predicting Twice-Retained Status vs. Once-Retained Status in Elementary School	75
Table 9. 5 th Grade GPA Outcomes of Once- vs. Twice-Retained Students After Accounting for Nesting Within Schools	76
Table 10. 5 th Grade FCAT Math Outcomes of Once- vs. Twice-Retained Students After Accounting for Nesting Within Schools	77
Table 11. 5 th Grade FCAT Reading Outcomes of Once- vs. Twice-Retained Students After Accounting for Nesting Within Schools.....	78
Table 12. 5 th Grade GPA Outcomes of Students Retained for the First Time in K vs. 1 vs. 2 After Accounting for Nesting Within Schools.....	79
Table 13. 5 th Grade FCAT Math Outcomes of Students Retained for the First Time in K vs. 1 vs. 2 After Accounting for Nesting Within Schools	80
Table 14. 5 th Grade FCAT Reading Outcomes of Students Retained for the First Time in K vs. 1 vs. 2 After Accounting for Nesting Within Schools.....	81
Table 15. 5 th Grade GPA Outcomes of Students Retained Early vs. Late After Accounting for Nesting Within Schools.....	82
Table 16. 5 th Grade FCAT Math Outcomes of Students Retained Early vs. Late After Accounting for Nesting Within Schools	83
Table 17. 5 th Grade FCAT Reading Outcomes of Students Retained Early vs. Late After Accounting for Nesting Within Schools	84

ABSTRACT

“CATCH THEM WHILE THEY’RE YOUNG”? ASSOCIATIONS BETWEEN EARLY GRADE RETENTION AND LATER ACADEMIC OUTCOMES

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Grade retention is a commonly used intervention for children who struggle in school. However, empirical research does not unequivocally support its efficacy. Some studies suggest that both the timing (e.g., early vs. late) and frequency of retention may be associated with later outcomes, though this research is limited. Using data from the Miami School Readiness Project (MSRP), I examined retention and outcomes within a large, ethnically diverse (52.8% Hispanic/Latino, 43.5% African American/Black, 3.7% White/Asian/Other) sample of students ($N = 4,763$). Most of these students (90.3%) were receiving free/reduced lunch. I asked the following research questions: (1) in kindergarten through 5th grade, how many students are retained in each grade, and how many of these students are retained more than once within elementary school? (2) what student characteristics are associated with being twice-retained? (3) do academic outcomes (5th grade) of students who were retained once in kindergarten through 3rd

grade differ from those who were twice-retained before 3rd grade? (4) do academic outcomes (5th grade) depend on whether students were retained in kindergarten vs. 1st vs. 2nd grade? (5) do students who were held back for the first time in K-2 perform better in 5th grade compared to students who were performing were retained for the first time in 3rd grade? Results indicate that approximately 15% of the larger MSRP sample was retained in elementary school, with most retention happening between kindergarten in 3rd grade. Twice-retention was rare, with only 391 (1% of all students; 8% of retained students) students being held back more than once. When twice-retention did occur, the second retention happened most often in 3rd grade. Students who were retained twice performed more poorly on school readiness and initial school performance and were more likely to be Black and receive free lunch. Black boys in particular had high rates of being twice-retained. Students who were retained twice had poorer 5th grade outcomes, even after controlling for variables such as poverty and initial school performance. Timing within early grades (K-2) was not associated with later academic outcomes, and early vs. late retention was not associated with 5th grade GPA or math achievement. These results provide evidence that multiple retentions in elementary school not only are harmful but are also disproportionately affecting one group of students (Black males), suggesting this policy should be more closely examined. Further, these results suggest that early grade retention (compared to later retention) is not associated with more positive long-term outcomes.

“CATCH THEM WHILE THEY’RE YOUNG”? ASSOCIATIONS BETWEEN GRADE RETENTION AND LATER ACADEMIC OUTCOMES

Grade retention is the process of having a student repeat a grade, presumably to give him or her more time to develop and learn. Educators have long debated whether struggling students benefit from being held back a year or from being promoted to stay with their peer group (Frey, 2005; Holmes & Matthews, 1984). Several states have implemented promotional barriers in 3rd grade (most recently Michigan, effective in the 2019-20 school year) so that students who are significantly below grade-level in reading will be held back a year instead of being promoted to 4th grade (Weyer, 2018). Given research suggesting that students who are retained in earlier grades are less likely to be subsequently retained in a later grade (Mead, Hutchinson, Levitt, & Winsler, 2019; Schwerdt, West, & Winters, 2017), some researchers suggest that these policies “expedite” the retention of students who would otherwise be held back later on (West, 2012). This logic has significant implications for retention in early grades (kindergarten-2nd grade) as stakeholders (parents, teachers, families) may view early retention as a way to avoid mandatory 3rd grade retention.

In general, earlier retention is viewed more positively than later retention with its potential to allow students more time to recover from the stress associated with retention (Jacob & Lefgren, 2009). Further, the high-stakes consequence of retention after failing standardized tests may make early grade retention seem like a more desirable option for

students who are struggling in school. As such, it is possible school districts will encourage early grade retention for struggling readers who may otherwise be retained in 3rd grade (Miami Dade County Public Schools, personal communication, 2018). Of course, students who are retained in early grades may still end up subsequently retained in 3rd grade or later, resulting in a small subset of students who end up twice-retained during elementary school. Less is known about the academic trajectories of such twice-retained students.

With mixed findings among studies, research has yet to clearly determine whether early retention is indeed more beneficial for students' long-term success compared to later retention. If the goal of early grade retention is to help students meet grade-level benchmarks in later academic years, we need clear evidence that this is the case. Further, it is important to understand academic outcomes for students who are retained more than once in elementary school. This thesis addresses the association between timing/frequency of retention in elementary school and academic outcomes such as meeting grade-level benchmarks and whether retention timing is associated with subsequent retention in later grades.

History of Retention

Educators began systematically using retention as an intervention strategy for struggling students in the mid-19th century, and the debate over its effectiveness has continued just as long (Holmes & Matthews, 1984). Because retention decisions are often based on perceived mastery of skills, the intuitive appeal of holding children back is that they will have more time to gain these skills. Some students may be held back because

they are perceived by their teachers as immature while their poorer performing but more mature peers are sometimes promoted (Carlton & Winsler, 1999). Still, the idea of additional time applies.

According to the National Center for Education Statistics, about ten percent of students in kindergarten through 8th grade are retained at some point during these school years (Planty et al., 2009). These rates have remained relatively stable (between nine and eleven percent) since 1996 and tend to be higher for ethnic minority and low-SES students (Planty et al., 2009). Retention is an expensive intervention and can cost some states up to \$1 billion annually (Jimerson et al., 2006).

More recently, schools have begun using high-stakes tests as a way to perhaps more objectively measure student and teacher performance. The results of these tests are sometimes used to determine whether students are retained or promoted (Duffy, Giordano, Farrell, Paneque, & Crump, 2008). Many schools have implemented a promotional gate where students must obtain a specific score on these high-stakes tests in order to be promoted (Greene & Winters, 2007). Currently, 17 states require that students who fail the state's standardized reading proficiency test in 3rd grade be held back (Education Commission of the States, n.d.; Jacob, 2016). However, many of these states also have some flexibility to the policies where students who can demonstrate that they are proficient through other means (e.g., another standardized assessment, teacher recommendation, a portfolio documenting proficiency) can still move on to 4th grade after failing the standardized, high-stakes test (Greene & Winters, 2009, Tavassolie & Winsler, 2019a). Allensworth (2005) suggests that the logic behind promotional barriers is that the

threat of retention will subsequently encourage both students and teachers to work harder.

This push for high-stakes testing is most attributed to the No Child Left Behind Act (NCLB) of 2001. Though the goal of this act was to promote equality and accountability in schools, it may have unintentionally widened the gap between high- and low-achieving students (Duffy et al., 2008). Using a “one-size-fits-all” accountability standard stigmatizes lower-performing students and may inhibit their potential for future mobility through grade retention (Duffy et al., 2008). Though equality in educational standards may have been designed to assist this group of students, they may be at greater risk for negative outcomes. Few studies have assessed the consequences of test-based retention compared to “traditional” retention (e.g., decisions by teachers and parents without consideration of test scores), which happens most often in the early elementary years. However, findings among the studies that have assessed test-based retention suggest that disadvantaged students may be at a particularly high risk of being held back and that any boosts in academic performance from retention fade quickly over time (Tavassolie & Winsler, 2019a; Tavassolie & Winsler, 2019b). Though test-based retention may be different from traditional retention in how students are selected, the possible effects following retention persist and are likely the same (Allensworth, 2005). Despite the longstanding use of retention as an intervention strategy, empirical evidence offers little support for its effectiveness.

Predictors of Retention

Before discussing the effects of retention, it is important to understand how different child, school, and family factors may be related to getting retained in the first

place. Students who are retained are demographically different from those who are not retained, and these differences are typically also related to post-retention performance (Cham, Hughes, West, & Im, 2015; Mead et al., 2019; Tavassolie & Winsler, 2019b). It is critical to statistically control for these variables prior to assessing outcomes in order to isolate the effects of retention. Clearly, researchers cannot ethically assign students to a retention or promotion group, so effects of retention cannot be inferred from experimental designs, and researchers instead use correlational or quasi-experimental methods, typically controlling statistically for selection effects. As such, many studies use these variables to examine who is selected for retention and/or how they moderate outcomes.

Demographics. Grade retention tends to be associated with gender, race/ethnicity, socioeconomic status, and family characteristics. In general, students who are ethnic minorities are more likely to be retained than their non-minority peers (Alexander et al., 2003; Cosden, Zimmer, & Tuss, 1993; Dauber, Alexander, & Entwisle, 1993; Hong & Yu, 2007). For example, Warren, Hoffman, and Andrew (2014) found that between the years of 1995 and 2010, rates of retention for Black and Hispanic students ranged from 1.6 to 4.9% whereas rates for White students ranged from 1.3 to 2.4%. However, these group differences may be attributable to other factors such as school readiness and poverty. For example, in a recent study examining predictors of kindergarten retention in an ethnically diverse, low-income sample in Miami, researchers found no racial differences in kindergarten retention after controlling for poverty and pre-kindergarten readiness (Winsler et al., 2012). Interestingly, in the same study, White

children were actually more likely to be held back than Black or Latino children after controlling for academic performance in kindergarten (Winsler et al., 2012). These findings suggest that a) there may be unique sociocultural differences that drive retention rates by race (Hispanic and Black students are the majority population in Miami) and b) controlling for students' academic competence may be important factors in understanding disparities in retention.

Further, boys tend to be retained at higher rates than girls (Alexander et al., 2003; Cosden et al., 1993; Dauber et al., 1993; Winsler et al., 2012). Recent research suggests that the effect of gender disappears when controlling for factors such as school readiness, social skills, and behavioral problems (Winsler et al., 2012). Some research also suggests that students who are significantly younger than their peers are more likely to be held back (Willson & Hughes, 2006; Willson & Hughes, 2009; Winsler et al., 2012) Finally, students from low-income households (often defined as qualifying for free or reduced lunch) are more likely to be retained than are their more affluent peers (Alexander et al., 2003; Dauber et al., 1993; Fine & Davis, 2003; Tavassolie & Winsler, 2019a; Winsler et al., 2012). These findings often remain significant even when controlling for pre-kindergarten performance, suggesting that early economic advantage does play a role in children's progress through the school system (Winsler et al., 2012). However, as with the effects of race in the Winsler et al. (2012) study, the effects of poverty status are sometimes nonsignificant after controlling for academic performance, though this is not always the case (Fine & Davis, 2003).

Parents and families. Willson and Hughes (2009) looked for variables that were associated with first-grade retention. After including academic competence in a hierarchical regression model, they found that variables related to home environment, such as parental engagement with the school and shared responsibility for education, predicted retention in first grade. In general, more parental engagement is associated with lower rates of retention. Dauber et al. (1993) compared family-level variables of students who had been retained between 1st and 4th grades and those who were continuously promoted. They found that parents of retained students were more likely to have dropped out of high school and have a lower SES than parents of continuously promoted students (Dauber et al., 1993).

Academic and school variables. In addition to demographic variables, children who are retained in elementary school tend to score lower on school-related variables (prior to being held back) compared to their continuously promoted peers. In general, students who are retained are more likely to have lower academic achievement—the primary predictor of retention status—and poorer relationships with teachers (Cham et al., 2015; Fine & Davis, 2003). In one study, students who were retained in 2nd grade scored lower on academic competence and reading skills at the beginning of 2nd grade when compared to normally-promoted students and students who were identified as at-risk for retention by their teacher (due to low reading achievement) but were promoted anyway (Beebe-Frankenberger, Bocian, MacMillan, & Gresham, 2004). Further, when compared to normally-promoted students, retained students tended to have lower social skills. However, they did not differ significantly from the students who were identified as

at-risk for retention but who were promoted (Beebe-Frankenberger et al., 2004). Winsler et al. (2012) also found that students who were retained in kindergarten were more likely to have poorer school readiness skills prior to kindergarten entry than promoted students.

Methodological Considerations

Comparison groups. Given the demographic and academic differences of retained students compared to continuously promoted students, a major consideration for studying the effects of retention is the comparison group. Prior studies have been critiqued for lacking this control—researchers argue that comparing retained children with all promoted children does little to explain the effects of retention given that children who are selected for retention and those who are promoted are initially different (Allen, Chen, Willson, & Hughes, 2009; Wu, West, & Hughes, 2008). When comparing students who have been retained, researchers generally use three possible groups: students who have been retained, students who have been promoted, and students who were similarly low-achieving but promoted (Xia & Kirby, 2009). In order to control for potential moderating variables on the effects of retention, the most recent and methodologically rigorous studies match retained children with similar, but promoted, peers (Wu et al., 2008). These approaches often include comparisons among children who performed similarly poorly on academic measures as the retained students but were promoted anyway. However, given that the differences between retained and promoted students extend beyond classroom performance, it is important to control for other variables related to academic outcomes (e.g., SES, school-readiness) as well.

To control for variables that may affect academic outcomes beyond just grade retention, many recent studies use propensity score matching. This technique attempts to estimate the effects of an intervention where conditions cannot be assigned (such as retention) by accounting for possible confounding variables (e.g., SES, gender, ethnicity). Some researchers suggest that better-controlled studies are more likely to find positive (or less negative) effects of retention (Allen et al., 2009). Regardless of findings, techniques such as propensity score matching allow researchers to control for a variety of variables that could be related to initial (and later) academic outcomes in order to better understand the effects of grade retention. Propensity score matching works by allowing researchers to match participants on many covariates, with the goal of reducing the potential bias of these factors (D'Agostino, 1998). For example, in propensity score-matched retention and promotion groups, subjects should be similar on demographic factors, pre-retention academic factors, etc.; theoretically, the only difference between the matched pairs should be whether the student was retained or not.

Same-grade vs. same-age comparison. Further, researchers question whether it is more beneficial to compare retained children to children who are the same age but promoted (same age, different grade) or younger children who are now their classmates (same-grade, different age). Researchers who use same-age comparisons most often compare children who were retained to a similarly at-risk but promoted sample (Wu et al., 2008). Allen et al. (2009) suggest that type of comparison matters when attempting to understand the effects of retention. In their meta-analysis, Allen et al. (2009) found when researchers used same-grade comparisons, results of retention tended to become weaker

more quickly. That is, when retained students are compared to their same-grade peers, the small, short-term positive effects of retention on achievement that are sometimes observed decline more steeply than they do when students are compared to their same-age peers. Allen et al. (2009) suggest this supports the hypothesis that retained students may experience a short-term boost in achievement, but that the advantage declines over later years. Even within studies, using both same-age and same-grade comparisons can yield conflicting results. For example, one study found that the positive effects of retention faded out when using same-age comparisons but remained more stable when using same-grade comparisons (Schwerdt et al., 2017). This project will use same-grade comparisons to compare outcomes within retained students. Same-age comparisons are often more useful for researchers who consider growth between retained and promoted students, while same-grade comparisons are appropriate for assessing grade-level performance at a specific time point (Steiner, Park, & Kim, 2016). Because I only examined one timepoint for later academic outcomes and compare outcomes within retained students, same-grade comparisons are more appropriate for this project.

Effects of Retention

Negative effects. Despite the theory that holding students back will give students an advantage in subsequent years, several studies have found that retention is associated with negative outcomes for students, including poorer academic achievement later and school dropout (Hong & Yu, 2007; Jimerson, 2001). In a recent meta-analysis that assessed the effects of early grade retention, Bright (2012) found an effect size of .5, indicating that students who were retained any time between kindergarten and 6th grade

performed half a standard deviation below their non-retained peers on academic outcome measures which were assessed between 1 and 5 years post-retention. All studies included in the meta-analysis included a comparison group and reported both null and significant findings.

In a well-controlled study, Hong and Yu (2007) analyzed data from the Early Childhood Longitudinal Study (ECLS-K) and compared retained students to a group of propensity score-matched promoted students. Students were matched on a variety of demographic and academic variables. Hong and Yu (2007) found that students who were retained in kindergarten showed immediate negative effects of retention through performing more poorly on standardized reading and mathematics tests compared to the promoted students. While the negative effects of kindergarten retention had faded by fifth grade, the negative effects of first-grade retention stayed constant, though they appeared to weaken over time. The authors concluded that even though the effects of retention seemed to fade over time, retained students did no better than they would have had they been promoted.

More recently, researchers compared propensity-matched groups of children who had never been retained, those who had been retained in kindergarten, and those who had delayed kindergarten entry (Mendez, Kim, Ferron, & Woods, 2015). By comparing delayed-entry students to the retained students, these researchers were able to control for possible age effects and isolate the effects of retention. They found that students who were retained in kindergarten experienced the poorest academic outcomes (reading, mathematics, and language) through 7th grade compared to the delayed entry and

typically progressing students. However, when Mendez et al. divided the sample by students who were and were not receiving free and reduced lunch, the results changed. The comparisons between the retained and promoted students still suggested that the promoted students had more positive academic outcomes, but these were stronger for children from more affluent families (i.e., students who were not on free/reduced lunch). Essentially, the differences in long-term outcomes between retained and promoted children were more evident among higher-SES children—retained children who were not on free/reduced lunch performed significantly more poorly than promoted children who were not on free/reduced lunch. These results indicate that while there were negative associations between retention and long-term outcomes for *all* retained students, these associations were more pronounced in non-poor students. Overall, because students who were retained had the poorest outcomes even after controlling for lunch status, socioeconomic status alone does not account for poorer outcomes of retained students.

Though fewer studies have looked at longer-term outcomes such as post-secondary education enrollment (Xia & Kirby, 2009), some research suggests that students who are retained at some point throughout their school career may be less likely to pursue more schooling following graduation (Fine, & Davis, 2003; Xia & Kirby, 2009). Using both regression analyses and propensity score matching, Ou and Reynolds (2010) compared 1st-8th graders who had and had not been retained to see whether they pursued postsecondary education at different rates. In both the regression and propensity score matching analysis, they found that overall, students who had been retained were less likely than their non-retained counterparts to pursue post-secondary education even

when controlling for factors such as SES, race/ethnicity and, maternal education. These findings suggest that the effects of retention on post-secondary education enrollment may be independent of other risk factors such as SES. Further, those students who were retained in later grades (4th-8th) were even less likely to enroll in postsecondary education than those who had been retained in earlier grades (1st-3rd).

However, not all students who are retained even graduate from high school: studies have also found links between retention and school dropout (Alexander, Entwisle, & Dauber, 2003; Hughes, West, Kim, & Bauer, 2017; Jimerson, Anderson, & Whipple, 2002; Stearns, Moller, Blau, & Potochinck, 2007). Researchers who study the links between retention and school dropout suggest that the decision to leave school is the result of cumulative risk factors, one of which may be retention (Cham et al., 2015). In their study, Stearns et al. (2007) compared eighth graders who had and had not been retained any time before the eighth grade. They controlled for SES, family structure (two-parent household or not), public vs. private school, geographical region, achievement test scores, educational aspiration, misbehavior, self-concept, academic engagement, preparedness, social capital, and peer relations. Overall, even with all of these controls, students who were retained were more likely to drop out of school than their non-retained peers. These findings suggest that retention may explain the likelihood of dropping out beyond previous controls and risk factors.

Finally, Hughes et al. (2017) examined the association of retention in grades 1-5 and later school dropout. They used propensity score matching to match retained and promoted groups on 65 covariates including SES, family structure, prior academic

achievement, and social/emotional variables. Even among this well-matched group, students who were retained any time between 1st and 5th grade were more likely to drop out of school than their non-retained peers. These findings support previous research (Andrew, 2014) utilizing a similarly rigorous methodology that matched retained and non-retained students on the basis of demographic variables (e.g., household income, family education level) and pre-school cognitive test scores. Andrew (2014) found that students retained any time between kindergarten and 5th grade were significantly more likely than their non-retained peers to drop out of high school. Studies such as these suggest that even if retention is not associated with sustained positive or negative effects on academic achievement, it does increase the likelihood of eventual school dropout.

Even though retention does not always show sustained effects on academics, something about being retained “weaken[s] repeaters’ attachment to school” (Alexander et al., 2003, p. ix). It is possible that being held back thwarts children’s sense of belonging within the school. Students who are held back are removed from their peer group and may feel stigmatized because of their retention. Being retained may also compound stigma experienced by low-income or minority students, with students from both groups already at a higher risk of dropping out than more affluent, non-minority students.

Positive effects. Some studies have found positive associations between grade retention and academic outcomes. However, findings are mixed even among studies with good controls and comparison groups, with some showing only short-term improvement and most showing that the positive effects disappear over time (Moser, West, & Hughes,

2012; Xia & Kirby, 2009). For example, Mantzicopoulos and Morrison (1992) matched retained and promoted children on demographic variables and school readiness scores and found that students retained in kindergarten had an initial increase in academic achievement their second time around, but that this boost did not last past kindergarten.

Mead et al. (2019) similarly examined the effects of kindergarten retention. This study used propensity score matching to match retained and promoted students on a variety of demographic and academic variables. When compared to the promoted students, retained students performed better on a standardized math test in 2nd grade. However, by 3rd grade, the retained students were actually *less* likely to pass high-stakes reading and math tests. These results suggest that while retention may give students a short-term boost in academic achievement, it is not associated with longer-term success in meeting grade-level benchmarks. However, this study also found that even though retained kindergarteners performed more poorly on standardized tests in 3rd grade, they were *less* likely to be retained on the basis of those scores compared to students who were promoted in kindergarten. According to Florida policy, students who fail the FCAT in 3rd grade are required to be retained. However, certain student progression plans allow students who were previously retained to be exempt from the 3rd grade retention policy (Florida Department of Education, 2018).

Schwerdt et al. (2017) studied the effects of a test-based promotional gate on third-grade students using state-wide, administrative data from Florida public schools. Using same-grade comparisons, they found that students who were retained in third grade scored higher than their promoted peers on standardized tests in both math and reading

and that these effects persisted until 8th grade for math and 10th grade for reading (though differences in scores diminished over time). However, they also note that the effects of these comparisons may be confounded by retained students being a year older and having one additional year of schooling than their same-grade peers, as some research suggests that comparatively older students test better than their younger classmates (Black, Devereux, & Salvanes, 2010). This same study also used same-age comparisons to assess outcomes and found that the increases in math and reading performance faded out within five-years post-retention. Finally, Schwerdt et al. (2017) also found that third-grade retention did not have an effect on a student's probability of graduating high school.

It is important to point out that several of the studies that find positive effects of retention are conducted in countries outside of the U.S. Though these studies are valid and well-designed, the context and prevalence of retention may be different, which has the potential to influence outcomes (Özek, 2015). For example, Marsh et al. (2017) studied a sample of German students who were retained in grades 5-7. They found that the retained students performed better in school and on academic achievement tests than their promoted peers and that these effects persisted over six years. These findings were maintained even when controlling for gender, age, SES, previous school grades, and IQ. They concluded that retention is not as negative as most researchers assume. Klapproth et al. (2016) studied children from Luxembourg who were retained in 7th and 8th grade. They used propensity score matching to match retained and promoted students on variables such as SES, ethnicity, and school track (academic vs. vocational). To control for potential age and grade effects, they used a "same age-cohort, same grade, different

times of measurement” approach (Klapproth et al., 2016, p. 186). This analysis held age and grade constant by delaying the measurement of outcome variables for the retained students by one year. Results indicated that retained students performed better than their promoted peers in their classes the year after retention, but that these differences were no longer significant after two years. Standardized test scores were not significantly different between the two groups immediately after retention or in longer-term follow-ups. However, Klapproth et al. (2016) note that rates of retention are particularly high in Luxembourg—up to 20% of students are retained by 3rd grade and approximately 40% have been retained by 9th grade. The effects of retention may be less negative in contexts where being held back is more the norm (Özek, 2015).

No effects. Finally, some studies show no differences between students who are retained and promoted on academic (Jimerson, Carlson, Rotert, Egeland, & Sroufe, 1997; Westbury, 1994) or social outcomes (Pagani, Tremblay, Vitaro, Boulerice, & McDuff, 2001). Researchers differ in how they interpret these outcomes. Some researchers suggest this lack of research invalidates findings that retention has negative effects, while others suggest this lack of difference is simply further evidence that grade retention does not work and should not be used (Silberglitt, Appleton, Burns, & Jimerson, 2006b). Jimerson et al. (1997) compared children who were retained once in kindergarten through 3rd grade to a similarly low-achieving (but promoted) group. For the students retained in kindergarten, there were no short-term differences in academic achievement. The retained kindergarteners did, however, show higher rates of absenteeism in later years. The students retained in 1st or 2nd grade did show a short-term boost in math achievement

compared to the low-achieving but promoted group, but this difference did not persist. Overall, there were no long-term differences (assessed at age 16) between the retained and promoted groups.

Further, another study compared the reading growth trajectories of students who had been retained once between kindergarten and 5th grade, and a matched promoted group (Silbergitt et al., 2006a). Using hierarchical linear modeling, the study found no differences between the students' trajectories over time. This suggests that retained students fared no better or worse than their promoted peers. An important consideration in the previously reviewed studies is that length of follow-up appears to matter: for both positive and negative effects (excluding school dropout), time seems to decrease the magnitude of findings.

The lack of effects following retention is an interesting case because researchers differ in their interpretation of the null findings. Overall, it is important to consider how researchers and educators define "success" with an intervention such as retention. Finding no differences between students who are retained and who performed similarly poorly but were promoted does not suggest that retention is beneficial. Given both the economic cost of retention and the increased risk for students (i.e., later dropout, cost for schools), this intervention should show clear evidence that children benefit from being held back. Otherwise, we are having children spend an extra year in school to ultimately be no better off than if they had been promoted in the first place. Further, given the increased likelihood of school dropout that seems to be separate from actual academic performance, the label of "no effects" may be a misnomer.

Social-emotional effects. The decision to hold a child back also poses certain social-emotional risks (Jimerson, 2001; Roderick, 1994). One possibility for the lack of sustained effects of retention could be a mismatch between the social-emotional and academic needs of students (Klapproth et al., 2016). Because students end up one year behind the students they entered school with, they could be separated from their friends and a familiar peer-group. However, as with academic outcomes, the effects on social-emotional outcomes have been mixed. In their meta-analytic report, Xia and Kirby (2009) found both positive and negative results on social-emotional variables such as peer acceptance, self-esteem, and perceived academic competence following retention. Using data from the ECLS-K, Hong and Yu (2008) found that children who were held back in kindergarten, when compared to children who were at a similar risk of retention, reported higher levels of self-perceived competence and interest in academic learning in 3rd grade. However, these differences were no longer statistically significant by grade 5.

Further, Wu, West, and Hughes (2010) found that children who were retained in first grade showed decreases in peer-rated sadness and increases in teacher-rated engagement compared to their matched but promoted peers. In the same study, researchers found a short-term boost in school belongingness and academic self-efficacy in retained students compared to their promoted peers, but these effects did not persist. As with the companion study assessing academic outcomes of these same students (Wu et al., 2008), Wu and colleagues suggest that the short-term improvement in acceptance was followed by a longer-term decrease that could negatively impact later student outcomes.

Views about the efficacy of retention are divided among researchers, practitioners, and the public (Jimerson et al., 2006). Though supporters and critics of grade retention are both firm in their beliefs, empirical evidence does not unequivocally back either argument. Far from being a black-and-white issue, grade retention shows mixed results for student success when assessing short-term outcomes. Though short-term effects of retention are important, the longer-term “fadeout” of effects should be further considered (Silbergliitt et al., 2006a). Wu et al. (2008) suggest this “struggle-succeed-struggle” trajectory could be detrimental to long-term outcomes of retained children. Overall, despite mixed findings in short-term outcomes, long-term evidence suggests there is little benefit and ample risk associated with grade retention.

Moderators of Retention

Some research attempts to find whether particular groups of children are more likely to benefit from (or be harmed by) retention than others. For example, Mantzicopoulos (1997) wanted to know whether kindergarteners with attentional difficulties benefited from early retention. However, after controlling for retained children’s more extreme inattention scores, they did not find that those students did any better than their promoted peers. Some research also indicates that children in special education may experience the effects of retention differently than typically-developing children (Mead et al., 2019; Tavassolie & Winsler, 2019a). For example, Mead et al. (2019) found that the short-term positive effect of retention on first grade students was weaker for students in special education when compared to their typically-developing peers. Students with an exceptionality status have also been shown to be more likely to

fail standardized tests required for promotion and be subsequently retained compared to typically-developing students (Tavassolie & Winsler, 2019a). These findings suggest that while retention may not be an effective strategy for typically-developing students, it may be even less so for students in special education. Understanding grade retention for children with disabilities is important given that assessments such as high-stakes are often not appropriate for these students, and retaining students with disabilities on the basis of these assessments is controversial (Katsiyannis, Zhang, Ryan, & Jones (2007). It is also unclear whether student with disabilities are identified *before* they end up retained or whether retention leads to later identification of a disability.

Another study found that among children who were retained, those that were younger in age, more socially adept, less aggressive, and higher in school readiness scores benefited more from being held back than older and poorer-performing students (Ferguson, Jimerson, & Dalton, 2001). Chen, Hughes, and Kwok (2013) wanted to see whether first-grade retention affected children differently by their learning readiness skills (e.g., inhibitory control, conscientiousness). Their findings suggested that children with lower learning skills may benefit from being held back a year. However, they note that their evidence is not conclusive and that further studies should be conducted in order to understand this effect.

Timing of Retention

Though fewer studies have specifically addressed how timing (e.g., early vs. late retention) affects the outcomes of retention, some research suggests that being held back in the earlier school years give students more time to catch up to their peers (Jacob &

Lefgren, 2009). Given that the effects (both positive and negative) of retention appear to dissipate over time, the intuitive appeal of early retention is that should students experience negative outcomes because of retention, they may recover from the effects of retention over time. However, this decrease in effects of retention also suggests that, in the end, students who are retained are performing no better than if they had been promoted in the first place. One study examining the demographics of early retained (1st grade) and late retained (2nd-4th grade) students found that while there were no demographic differences (e.g., ethnicity, parental education, gender), students who were retained early performed more poorly on early academic indicators (Dauber et al., 1993). Otherwise, there were no demographic differences that may drive the predictors of early vs. later retention.

In looking at the outcomes of early vs. later retainees, Silberglitt, Jimerson, Burns, & Appleton (2006b) compared the growth trajectories of early (K-2) and late (3-5) retainees through 8th grade. They found no statistically significant differences between the groups, though they noted that late retainees showed more rapid deceleration of academic growth than did students who were retained in earlier years. Similarly, McCoy and Reynolds (1999) compared effects of early-grade (1-3) and late-grade (4-7) retention and found that early retainees scored comparatively lower on a reading standardized test at age 14 than did late retainees. All other outcomes were nonsignificant. These findings contradict those of Jacob and Lefgren (2009) that suggested that early retention is not as harmful as later retention.

Jacob and Lefgren (2009) examined the association between grade retention and school dropout among students who were retained in 6th and 8th grade. They found that retention in 6th grade had no effect on eventual likelihood of graduating, presumably because these students had more time to recover. However, students who were retained in the 8th grade were more likely than their promoted peers to drop out of high school. This study suggests that later retention is associated with a greater likelihood of dropping out compared to earlier retention. Still, some studies suggest that even holding back children as early as kindergarten or 1st grade is related to an increased likelihood of dropping out of high school (Andrew, 2014; Hughes et al., 2017; Mantzicopolous & Morrison, 1992).

As mentioned earlier, in their study of the association between retention and pursuit of postsecondary education, Fine and Davis (2003) found that students who were retained in later grades (defined as 6th-8th) were less likely to pursue postsecondary education than those students who were retained in earlier grades (K-2). Similarly, Ou and Reynolds (2010) found that late retention (4th-8th grade) was also associated with a greater likelihood of not enrolling in postsecondary education compared to students who were retained in earlier grades (1st-3rd grade).

There is great variability in how studies operationalize “early” and “late” grade retention. Previous research has defined early retention using kindergarten through 6th grade, and late retention as 2nd grade through 8th grade. As such, it is challenging to compare outcomes across studies. This thesis examined timing of retention within elementary school and uses definitions similar to Silberglitt et al. (2006b), with early

retention defined as kindergarten through 2nd grade, and late retention as 3rd grade through 5th grade.

Multiple Retentions

Despite the large body of research surrounding grade retention, surprisingly little is known about students who are retained more than once in their school years. These students are often acknowledged but excluded from studies likely because they are fewer in number and more difficult to track. After being retained twice, students are two years behind their initial peer group, making it more difficult to include them in analyses. Further, students who are retained more than once are more likely to leave the school system or drop out, so many of them may disappear in later grades (Alexander et al., 2003).

Despite the challenges in tracking students who have been retained more than once, some studies have been able to include these students. In their study, Schwerdt et al. (2017) found that students retained in the third grade were less likely than their promoted peers who had been previously at-risk for retention to be retained in a subsequent year through grade 12, though they did not report the prevalence of twice-retained students. Mead et al. (in review) similarly found that students who were retained in kindergarten were less likely than their similarly poor performing but promoted peers to be retained some time in 1st-3rd grade. These results suggest that being held back in an early grade may serve as a protective factor in avoiding later grade retention.

However, this potential protection associated with early retention does not extend to all students. In Mead et al.'s (in review) sample, 3.3% of students who were retained in

kindergarten were retained a second time before third grade. Though this was significantly lower than the percentage of students who were promoted but retained in a later grade (25%), it is important to understand the trajectories of twice-retained students, especially within the elementary school years. The association between grade retention and school dropout is thought to be even stronger for students who have been retained more than once (Alexander et al., 2003; Roderick, 1994), and this could extend to other academic outcomes such as achievement. Further, Fine and Davis (2003) found that of their sample of “persistent” high school graduates—students who were retained but still graduated—approximately 6% were retained more than once. Though these students did graduate from high school, they were significantly less likely than their once-retained peers to enroll in postsecondary education. Given these potential deleterious effects of multiple retentions, it is important to understand what the trajectories of these students look like in early schooling.

Avoiding Multiple Retentions

In states such as Florida, policies have been implemented to try to avoid retaining students more than once. For example, students who are retained between kindergarten through 2nd grade *and* have been given at least two years of an intensive reading intervention may be exempt from mandatory retention should they fail the standardized reading test in 3rd grade (Florida Department of Education, 2018). This policy essentially “protects” students from later grade retention if they were retained in an earlier grade. Should principals, parents, teachers, and administrators view early grade retention more positively than later grade retention, they may be more inclined to hold struggling

students back earlier on rather than waiting to see if they pass the standardized reading assessment in 3rd grade. Though some research suggests that early retention may be less harmful compared to later retention (Jacob & Lefgren, 2009), clearer evidence is needed to fully understand these effects. Such results could have important implications for policies such as student progression plans.

The Current Study

The present study aims to address remaining questions regarding timing and multiple retentions. In the event that early retention does serve as a type of protective factor in preventing later retention, it is important to understand if this is true throughout children's schooling. Given that some research finds more negative effects of later retention compared to early retention, this distinction could be relevant for future studies. On the other hand, if the timing of retention does not seem to lead to distinct outcomes, it could lend support to the notion that grade retention at any age is not an effective strategy to promote student success. Finally, because some states have designed policies that encourage early grade retention (e.g., by allowing students to bypass a mandatory retention policy in later grades), understanding how these students perform in school following their retention could have important policy implications.

The current study examined such questions in the context of a large, ethnically-diverse, low-income sample derived from the Miami School Readiness Project (MSRP; Winsler et al., 2008). The students from this sample went to school in Miami-Dade County, the largest school district in Florida and the fourth-largest in the United States. This sample represents nearly all children in Miami-Dade County who were enrolled in

public school pre-K or received childcare subsidies at age four from 2002-2007.

Researchers have continued to follow these students throughout their public-school trajectories.

Overall, the goal of this thesis was to more closely examine the trajectories associated with retention in the elementary school years and whether early retention helps students meet later grade-level benchmarks and/or avoid later retention. Specifically, I examined the proportion of students who are retained in kindergarten through 5th grade, report how many of these students are retained more than once, and report when the second retention occurs. I also examined whether academic outcomes varied by the timing and frequency of retention.

Research Questions and Hypotheses

I addressed five research questions, which are broken up into three broad categories: descriptive questions, twice-retained questions, and timing questions. All of these questions were answered with *only* retained students. It is important to note that other than examining descriptives, no comparisons were made between retained and promoted students.

Descriptive Questions

RQ1. During the K-5 school years, how many students are retained in each grade?

Further, how many students are retained more than once, and when does this occur?

- a. Of the students who were retained in an early grade (K-2), how many passed/failed the 3rd grade FCAT reading? How many were retained for a second time in 3rd grade (with or without failing the FCAT)?
- b. How many retained students have a primary exceptionality status? Do they receive these statuses before or after being retained?

Based on previous research, I expected that most students who are retained at least once will have been retained between kindergarten and 3rd grade, with a spike in 3rd grade retention due to Florida's promotional gate that requires passing a standardized test. I anticipated that most children who experience a second retention will be held back for the second time in 3rd grade.

Twice-Retained Questions

RQ2. What are the predictors of twice-retained status compared to students who are only retained once? Are there characteristics (school readiness, ethnicity, gender, poverty status, kindergarten disability status, English language learner (ELL) status, kindergarten English proficiency, kindergarten performance) associated with being held back more than once in elementary school?

Though less research has been conducted on multiple-retainees, I anticipated that those who are retained twice will perform more poorly on early academic indicators (e.g., pre-k cognitive, language, and fine motor skills) compared to students who were only retained once. Further, I expected that students who are retained more than once will perform more poorly in kindergarten compared to students who were only retained once.

RQ3. Do the academic outcomes (GPA, standardized tests) in 5th grade of once-retained students differ from those who are retained twice, even after controlling for how these groups might be initially different?

I hypothesized that students who are retained twice will perform more poorly in 5th grade even after controlling for background variables and prior academic competence.

Timing Questions

RQ4. Do academic outcomes (5th grade academic achievement) depend on whether students were retained (for the first time) in kindergarten vs. 1st vs. 2nd grade?

I did not expect that students who are retained in kindergarten vs. 1st vs. 2nd grade would perform differently in 5th grade. Previous research suggests that though there may be a short-term boost in academic performance following retention, these effects dissipate over time. Though students may experience a short-term boost in academic performance immediately following retention, I hypothesized that these students will perform at similar levels by 5th grade.

RQ5. Do students who were retained for the first time in K-2 perform better in 5th grade compared to students who were retained (for the first time) in 3rd grade, even after controlling for background variables and prior academic competence?

I expected that by 5th grade, there would be no differences between early- and late-retainees. Though some studies suggest that early retention may allow

students to “recover” from being retained, I predicted that these early-retainees would fare no better than their later-retained peers.

METHOD

Participants

This study used a subset of the MSRP, a large sample of students from Miami-Dade County, Florida. The children in the MSRP sample represent nearly all (92%) of children who were enrolled in public-school pre-K or received childcare subsidies at age four between 2002 and 2007. Dr. Adam Winsler and his research team have been tracking 5 cohorts (defined as cohorts A, B, C, D, and E) of students throughout their entire academic trajectory (pre-K through high school). All 5 cohorts were used in the present study. Cohort A is made up of 4-year-old students who were in public school pre-K or received subsidies for childcare in 2002, Cohort B is made of students in public school pre-K or on childcare subsidies in 2003, and Cohort C is made up of students who did so in 2004, Cohort D in 2005, and Cohort E in 2006.

The students in this subsample spanned all five cohorts of the MSRP and had the opportunity to complete the 5th grade between the 2008/2009 and 2014/2015 academic years. This range allowed students who have been retained twice to reach the 5th grade. To be included in this study, students needed to have shown up to MDCPS in either kindergarten or 1st grade and have at least two consecutive years of data. This inclusion criteria resulted in an overall *N* of 32,551, which includes both retained and non-retained students. This represents the “overall” sample and was used to compare descriptive

statistics. The primary research questions used a subsample of retained students (referred to as the “retained” sample), $n = 4,763$. Each question used a different n of retained students, such as those who were retained twice or only those who were retained between kindergarten and 3rd grade. A clear description of the sample used for each question accompanies the results. It is also important to note that some students leave the school system over time, which yielded smaller ns for research questions pertaining to later academic outcomes. Students were included in outcome analyses if they had a valid school ID in 5th grade. Of the retained students ($n = 4,763$), 404 (8.5%) of students were missing a school ID for 5th grade.

Table 1 gives an overview of descriptive statistics for both the overall and retained samples. Approximately 15% of the overall MSRP sample was retained at least once in elementary school (yielding the “retained” subsample of 4,763 students). These students (62.9% male) were ethnically diverse (52.8% Hispanic/Latino, 43.5% African American/Black, 3.7% White/Other). The majority of the sample is in poverty (90%), as measured by receiving free and reduced lunch in kindergarten or 1st grade (free lunch = 82.6%, reduced lunch = 7.7%). About half (53.2%) of this retained sample was considered ELL by the school district, and 28.3% of ELL students had not reached English proficiency by 3rd grade (discussed more below). These demographics differ from the overall sample in that boys, Black students, and students receiving free lunch are overrepresented in this subsample of kids retained in elementary school. Boys make up 52.2% of the overall sample, Black students 34.5%, students on free lunch 67.6%, and students on reduced lunch 7.2%. Further, the retained students scored more poorly on

school readiness assessments and 5th grade academic outcomes compared to non-retained students (see Table 2). These characteristics align with literature suggesting that poor students, students of color, boys, and students with poorer school readiness are more likely than their peers to experience retention (Alexander et al., 2003; Winsler et al., 2012).

Measures

Retention status. To be considered retained in this study, students needed to have completed a given grade (indicated by end-of-year grades), then have started and completed that same grade the following year. For example, a student who received end-of-the year grades in kindergarten, then began and completed a second year of kindergarten (including end-of-the-year grades) would be considered a kindergarten-retainee. This same pattern was applied to all grade levels, with a 1 indicating that a student was retained in that grade, and a 0 indicating that they were not retained in that grade. This is a conservative estimate and may underestimate actual rates of retention in this sample given that some students who are retained may leave the school system or be promoted in the middle of the repeated academic year. Because we are given end-of-year data, these students appear to us as if they were promoted initially. Previous work with this dataset estimates that approximately 26% of students who failed 3rd grade because of a standardized test are promoted mid-year (Tavassolie & Winsler, 2019a).

Students who were retained twice were coded in a similar fashion. When students are retained, they are considered “off-track” in our dataset, and their data indicates that they are one year behind their cohort. The data of students who are retained a second time

indicate that they are two years behind their cohort. This allowed us to flag twice-retainees and when their second retention occurred. This variable was used to estimate prevalence of twice-retention and was used as an outcome when predicting who gets retained more than once.

In order to compare outcomes of once-retained students to twice-retained students, I also included a variable to indicate twice-retained status between kindergarten and 3rd grade. Students who were retained twice between kindergarten and 3rd grade were coded as a 1, and those who were retained once in this time frame were given a 0. This study also included a variable to indicate “early” vs. “late” retention in order to compare academic outcomes to those who were retained for the first time in 3rd grade. This variable only included once-retained students. If a student received a 1 for retention between kindergarten and 2nd grade, they were coded as an early-retainee (0). Students who were retained for the first time in 3rd grade were coded as a late-retainee (1).

Outcome variables.

Florida Comprehensive Assessment Test (FCAT). The FCAT is a mandatory, high-stakes standardized test given to students in 3rd through 12th grade. This test has both a reading and a mathematics component. There are two versions of the test, FCAT and FCAT 2.0. The FCAT 2.0 was first introduced in the 2011-2012 school year, so some students took the FCAT and others took the FCAT 2.0. Standard scores for the FCAT range from 100 to 500. Standard scores for the FCAT 2.0 range from 140-302. To accurately compare scores on the two versions of the test, each version was standardized

to z-scores using the mean of the full MSRP sample before being combined into an aggregate FCAT variable.

For both versions of the FCAT, proficiency scores range from 1 to 5, with 1 meaning “little success with the challenging content” and 5 “success with the most challenging content” (FCAT, 2011). A score of three is considered “satisfactory” and indicates that the student is performing at grade level. In 3rd grade, receiving a score of 1 on the reading component of the FCAT is what results in “mandatory” retention according to state policy (Stewart, 2011). As such, I created a dichotomous “pass/fail” variable with students who receive a 1 coded as failing the FCAT and students who receive a 2 or higher coded as passing the FCAT. However, previous research with this sample found that among students who fail the FCAT reading, only 53% are actually retained (Tavassolie & Winsler, 2019a). Categorical scores on the 3rd grade FCAT reading test were also crossed with 3rd grade retention status to see whether there were students who were retained in 3rd grade despite passing the FCAT.

Grade point average (GPA). At the end of each academic year, students received end of year grades in each of their classes/subjects. Based on these end of year grades, we calculated an overall GPA for each student. In kindergarten, grades were based on a 3-point scale with 3 = excellent, 2 = satisfactory, and 1 = not satisfactory. This variable is termed “Kindergarten Performance” in analyses and tables. In all other grade levels, grades were based on a 5-point scale with 5.0 = A, 4.0 = B, 3.0 = C, 2.0 =D, and 1.0 = F. GPAs were created by averaging the grades children received across all subject areas within each academic year.

Demographics/controls.

Gender. Parents reported children's gender at the beginning of the study and every subsequent year of inclusion in school records. This study used an updated version of the gender variable collapsed across kindergarten through fifth grade. Girls were given a 0 and boys were given a 1.

Ethnicity. Parent-reported child ethnicity was provided by the school district every year. As with gender, this variable used information that is collapsed across kindergarten through 5th grade. These reports were collapsed into three broader categories of "Hispanic," "Black," and "White/Asian/Other."

Free/reduced lunch status (FRL). FRL status was used as a proxy for socioeconomic status in this study. In order to be eligible for free lunch, families must be 130% of the federal poverty line, and to be eligible for reduced-priced lunch, families must be 185% of the federal poverty line (Federal Registrar, 2006). Students were categorized into FRL based on either their kindergarten or 1st grade lunch status (whichever year they first entered MDCPS). FRL was coded as a 3-level variable: 0 = no/did not apply, 1 = reduced-price lunch, 2 = free lunch. This variable was used categorically in analyses with no/did not apply as the reference group.

Primary exceptionality status. Exceptional student education (ESE) status was coded at each grade-level. Possible codes for ESE/disability status included intellectual disability, speech impaired, language impaired, visually impaired, deaf or hard of hearing, specific learning disabled, orthopedically impaired, autistic, severely emotionally disturbed, emotionally handicapped, mentally handicapped, traumatic brain

injured, health impaired, and gifted. Gifted students were coded as “typical.” If a student had one of these codes (with the exception of gifted), they were coded as 1 (had primary exceptionality). Students who did not present with any of these codes (or have a gifted code) were given a 0 (no primary exceptionality). This dichotomous variable was coded for the overall elementary school years (1 = had primary exceptionality at some point during elementary school; 0 = never had primary exceptionality during elementary school), kindergarten, and 5th grade. For the retained students, I also created a variable to indicate whether they were given an ESE/disability code before or after they were retained. Kindergarten disability status was used for predicting who gets twice-retained, and 5th grade disability status was used for all academic outcome analyses.

English Language Learner (ELL) status. Students were given a 1 on the ELL variable if they were considered an ELL at school entry. This variable was based on whether the student ever received English for Speaker of Other Languages (ESOL) services. If a parent answered indicated on their child’s school registration form that a language other than English was spoken at home, that the student had a first language other than English, and/or that the student spoke a language other than English *and* the student received ESOL services, the student was flagged as an ELL. These criteria exclude students who were presumably bilingual or who learned English throughout infancy/preschool but were considered fully proficient at school entry and never received ESOL services. Students who received a 0 on the ELL variable had never been considered an ELL by the school district.

English language proficiency. ESOL services are provided to ELL students who have not yet demonstrated English proficiency each year. Students who were considered ELLs by the school district were assessed at kindergarten entry for English proficiency. ESOL levels are marked 1-5 with scores of 1 and 2 indicating English learners who have much difficulty, 3 and 4 indicating advanced stages of English learning, and level 5 indicating English proficiency. Students who are not considered proficient in English are required to take ESOL classes until their English proficiency is at a level 5 (Winsler, Kim, & Richard, 2014). English proficiency was assessed by the school district at each grade level. Students were considered proficient in English if they were a native speaker and were never enrolled in ESOL or if they were an ELL and reached an ESOL level of 5; native English speakers were coded as a 6 on this variable. For outcome analyses, I used English proficiency in 3rd grade; for predictors of retention, I used English proficiency in kindergarten.

Learning Accomplishment Profile—Diagnostic (LAP-D). The LAP-D (Nehring, Nehring, Bruni, & Randolph, 1992) measures cognitive, language, gross-motor, and fine-motor skills at age 4 in our sample. Some children were tested at age 3. This norm-referenced developmental assessment was administered to all children during their pre-K year and was available in both English and Spanish. The LAP-D was administered in whichever was the student's strongest language. Students were assessed individually by trained bilingual assessors at the beginning (T1 – fall) and end (T2 – spring) of their preschool year. I created an overall “preacademic” composite score using students' cognitive, language, and fine motor subscales. This study used students' information

from the latest time point assessed. Most (68.1%) students had T2 data, 26.8% T1 data, and the remaining 5.1% of students had only data from their 3-year-old assessment. T scores were used in the analyses and ranged from 27 to 73. Alphas for the LAP-D using the MSRP sample range from .93 to .95 (Winsler et al., 2008). These scales were used as school readiness predictors of children's retention status and controls for later outcomes.

Devereux Early Childhood Assessment (DECA). Teachers and parents completed the DECA (LeBuffe & Naglieri, 1999) at the beginning (T1—fall) and end (T2—spring) of students' pre-K year. The DECA measures socioemotional skills and behavior problems at age 4. Some children were assessed at age 3. This 37-item questionnaire yields four subscales: Initiative, Self-Control, Attachment, and Behavioral Concerns. The first three subscales combined into a "total protective factors" scale, with higher scores indicating more social-emotional strengths. For behavior concerns, higher scores indicate more behavior problems. This assessment was also available in English and Spanish. I used teacher's scores from the latest time point assessed. If teacher scores were unavailable, I used parent's scores. For behavior concerns, 93.5% of students' scores were T2 teacher, less than 1% of scores were taken from parent assessments, and the remaining 5.9% only had data for 3-year-old teacher assessments. For protective factors, 69.7% of students had T2 teacher data, 23.6% had T1 teacher data, less than 1% were taken from parent assessments, and the remaining 5.9% only had data for 3-year-old teacher assessments. T scores were used for the analyses and ranged from 28-72. Within the MSRP sample, alphas have been acceptable for total protective factors (.91 for parent ratings, .94 for teacher ratings) and behavior concerns (.72 for parent

ratings and .81 for teacher ratings; Crane, Mincic, & Winsler, 2011). This measure was also be used as school readiness predictors of children's retention status and controls for later outcomes.

Nesting

Because children were nested within multiple elementary schools, we examined the intraclass correlations (ICCs) for the amount of variation accounted for by school for 5th grade outcomes (classroom-level information was not available). ICCs for 5th grade FCAT scores were 0.085 and 0.064 for math and reading, respectively, indicating that around 6 to 8% of the variance in standardized test scores can be attributed to the school students attended. The ICC for 5th grade GPA was 0.156, indicating that approximately 16% of the variance in GPA was attributable to the school children attended. Given the proportion of variance explained by schools, standard errors were adjusted on outcome models to account for the clustering of children within schools. To do this, I used the function "type = complex" in Mplus with 5th grade school ID as the cluster variable.

Missing Data

Table 2 shows missing data for school readiness and outcome variables in both the overall sample and retained sample. There was considerable missingness on school readiness and 5th grade academic outcomes. For retained students, 36.22% were missing preacademic school readiness, 10.69% were missing behavior concerns, 11.30% were missing protective factors, 17.05% were missing 5th grade FCAT math, 16.73% were missing FCAT reading, and 14.17% were missing 5th grade GPA. I created missingness indicators and ran several chi squares to examine whether retained students who were

missing were demographically different than those with data. I found several significant patterns. Missingness was related to free/reduced lunch status in that students receiving free lunch were *less* likely to be missing preacademic scores. No other differences emerged. Ethnicity was related to missingness in that White students were *more* likely to be missing preacademic scores, and Black students were *more* likely to be missing behavior concerns scores, protective factors scores, and all 5th grade achievement outcomes. Missingness was related to gender in that boys were slightly *more* likely to be missing protective factors scores. Finally, missingness was related to ELL status in that ELL students were *more* likely to be missing preacademic scores, and non-ELL students were *more* likely to be missing on all other variables. Each of these covariates are included in the models. It is important to note that given the large sample size, even slight variations in proportions were flagged as statistically significant. To address missing data in our analyses, we used full-information maximum likelihood (FIML) estimation in Mplus. This estimation method uses all available information to produce more efficient and less biased estimates compared to other methods when dealing with high levels of missing data (Acock, 2005; Enders, 2005).

RESULTS

Preliminary Analyses

I examined whether retained students tended to come from the same schools (via kindergarten school ID). In the overall sample, students went to kindergarten at 249 different schools. The retained students attended 235 of those schools. The number of students who end up retained at some point in elementary school ranges from 1-68 by kindergarten school, and the average is about 21 students per school. The twice-retained students attended 132 of those kindergarten schools. The number of students twice-retained by school ranges from 1-18 by school and averages about 3 students per school. It does not appear that first or second retentions are happening at just a few outlier schools but are relatively spread out across the district. Note that this is only a rough estimate of how many schools are retaining students and how many students are retained per school—approximately 38% of children in the MSRP switch schools during elementary school, though this estimate was derived using on-time students only (Moffet & Winsler, 2016).

Descriptive Questions

RQ1: During the K-5 school years, how many students are retained in each grade? Further, how many students are retained more than once, and when does this occur?

In this sample, during the K-5 school years, 4,763 students total were retained at some point K-5, representing 14.6% of the overall sample. These students were retained at least once during elementary school. Table 3 shows the frequencies and timing of first retentions. Most retention in elementary school happens between kindergarten and 3rd grade—of the 4,763 retained students, approximately 1,100 (23%) were retained in kindergarten, 1,000 (21%) in 1st grade, 700 (15%) in 2nd grade, and 1,800 (38%) in 3rd grade. These results are consistent with the prediction that 3rd grade retention would spike given the mandatory retention policy for students who fail the 3rd grade standardized reading test. Far fewer retentions occurred in 4th and 5th grade: approximately 60 (1%) students were retained in 4th grade, and 30 (> 1%) students were retained in 5th grade.

During elementary school, 391 students were held back a second time, representing 1.2% of the overall sample and 8.2% of the retained sample. The breakdown of timing and frequencies for second retentions by grade level can be found in Table 4. For most twice-retained students ($n = 316$, 80.8%), the second retention occurred in 3rd grade, likely attributable to the high-stakes test. No students were held back a second time in kindergarten, 4 were held back for the second time in 1st grade, and 28 were held back for the second time in 2nd grade. Rates were similarly low for the later grades—26 students were held back for the second time in 4th grade, and 17 students were held back for the second time in 5th grade.

Table 5 shows patterns of grade retention for students who were twice-retained ($n = 391$). The left column in Table 5 indicates what grade the student was retained in for the first time, and the number in parentheses denotes how many students (of the twice-

retained students) were held back in each later grade level. The top row indicates what grade the student was retained in for the *second* time. For example, Table 5 indicates that 137 students were retained for the first time in kindergarten. Of those 137 students, no students were held back for a second time in kindergarten, 4 students experienced their second retention in 1st grade, and 16 students experienced their second retention in kindergarten.

These results suggest that among students who were retained twice in elementary school, most students experienced their first retention between kindergarten and 3rd grade. Regardless of when students were retained for the first time, the second retention nearly always happened in 3rd grade. Of the 137 students who were retained for the first time in kindergarten, 104 (76%) were held back for the second time in 3rd grade; of the 100 students who were held back for the first time in 1st grade, 80 (80%) were held back for the second time in 3rd grade; of the 67 students who were held back for the first time in 2nd grade, 56 (84%) were held back for the second time in 3rd grade. It was rare for students to be held back in the same grade twice with the exception of 3rd grade. Of the 85 students who were held back for the first time in 3rd grade, 76 (89%) were held back *again* in 3rd grade. This pattern was not seen with any other grade level.

- a. Of the students who were retained for the first time in an early grade (K-2), how many passed/failed the 3rd grade FCAT reading? How many were retained for a second time in 3rd grade (with or without failing the FCAT)?**

Early Retainees and 3rd Grade FCAT Reading

I examined how students who were retained in an early grade (K-2) performed on the FCAT reading test in 3rd grade., and how many were subsequently retained. This analysis excludes students who were retained twice before 3rd grade, so the *n* for this analysis is 2,567. Further note that of the early-retained students, 298 (11.6%) were missing data on the 3rd grade FCAT, resulting in a total of 2,269 early-retainees who took the 3rd grade FCAT reading. Table 6 shows the categorical scores for all students who took the FCAT in their 3rd grade year. Of the students who were retained first in an early grade (and took the FCAT), 965 (42.5%) scored a 1 on the 3rd grade FCAT reading, which is the threshold for 3rd grade mandatory retention. The remaining students passed with a 2 or higher (i.e., almost 60% of the early-retained students passed the 3rd grade FCAT reading). Specifically, 385 (17%) received a 2, 639 (28.2%) received a 3, indicating they were reading on grade-level, 250 (11%) received a 4, and 30 (1.3%) received a 5.

Early Retainees and 3rd Grade Retention

Next, I examined how many of the early-retained students ended up retained for a second time in 3rd grade, and how these retention decisions related to their 3rd grade FCAT performance. Of the students retained for the first time in an early grade, 240 were held back a second time in 3rd grade. All of these twice-retained students who took the FCAT (*n* = 237) scored a 1 on the 3rd grade FCAT reading. Of the 240 students who were retained for a second time in 3rd grade, three students did not take the FCAT in 3rd grade: one student was flagged as having a disability which may have caused him/her not

to take the FCAT while the other two did not take it for unidentified reasons. This suggests that of the students who failed the 3rd grade FCAT reading ($n = 956$, defined in previous section) 24.6% were retained a second time in 3rd grade.

There were also a significant number of students who failed the 3rd grade FCAT reading test but did not end up retained again. Of the students who were retained for the first time in an early grade (and took the FCAT in 3rd grade), 728 (75.4%) students failed (scored a 1) on the FCAT reading test but were *not* retained again in 3rd grade. While it is clear that early-retained students who were held back a second time in 3rd grade performed poorly on the FCAT reading test, not all students who failed the FCAT reading in 3rd grade end up subsequently retained. This is likely attributable to Florida's "good cause exemptions" for mandatory retention which states that students who were previously retained K-2 can be promoted despite demonstrating a reading deficiency on the 3rd grade assessment (Florida Department of Education, 2011). This finding is also consistent with Tavassolie and Winsler (2019a) who found that while many students failed the FCAT reading test in 3rd grade, many were not retained. In their study, only about 50% of students who failed the FCAT reading in 3rd grade ended up subsequently retained. However, this sample did not include students who had been previously retained in an earlier grade which is likely why the percentages of retained/promoted are quite different.

b. How many retained students have a primary exceptionality status? Do they receive these statuses before or after being retained?

Next, I analyzed the number of retained students who had some sort of primary exceptionality status during K-5. Of the students who were retained in elementary school ($n = 4,763$), nearly half (2,296; 48.2%) were flagged as having a disability at some point. I examined when these students first entered Exceptional Student Education (i.e., were flagged by the school system as having a disability) to determine whether students were receiving services before or after their first retention. Of the retained students who were flagged as having a disability, a little over half (54.05%) were receiving services before their first retention. The remaining 45.95% of retained students with a disability were not identified until after they had been retained for the first time.

Twice-Retained Questions

RQ2: What are the predictors of twice-retained status compared to students who are only retained once? Are there characteristics (school readiness, ethnicity, gender, poverty status, kindergarten disability status, English language learner (ELL) status, kindergarten English proficiency, kindergarten performance) associated with being held back more than once in elementary school?

Bivariate Tests. I conducted chi square analyses to examine whether the percentage of once- and twice-retained students varied as a function of demographic variables. These results are summarized in the top of Table 7. Of the retained sample ($n = 4,763$), 91.8% of students were retained once and 8.2% were retained twice. There were no significant associations between retention status by gender, $\chi^2(1) = 0.78, p > .05$. I found significant associations with ethnicity, $\chi^2(2) = 59.07, p < .01$. Compared to the overall retained sample, proportionally more Black students (11.7%) and fewer

Hispanic/Latino (5.6%) and White/Asian/Other (4%) were retained twice. I also found that lower-income students (those qualifying for free lunch) had higher frequencies of being twice-retained compared to students who were retained once, $\chi^2(2) = 23.70, p < .01$. Compared to the overall retained sample, proportionally fewer ELL (6.9%) students were retained twice compared to non-ELL students, $\chi^2(1) = 12.08, p < .01$. Finally, students with a disability status in kindergarten (4.9%) were proportionally less likely to be retained twice compared to students without a disability status, $\chi^2(1) = 17.49, p < .01$.

I then ran independent sample t-tests to examine whether once-retained and twice retained students differed in their school readiness skills, English proficiency at school entry, and kindergarten academic achievement. These results are found in the bottom of Table 7. Students who were retained twice scored slightly lower on preacademic skills at age 4 (cognitive, language, and fine motor) compared to students who were only retained once, $t(3,036) = 2.13, p < .05$. There were no differences between once- and twice-retained students on preschool social/emotional protective factors or behavior concerns, protective factors $t(4,223) = 0.11$, behavior problems $t(4,252) = -0.13$, both $ps > .05$. Similarly, once- and twice retained students did not differ in their English proficiency at school entry, $p > .05$. We found that students who were retained twice in elementary school received slightly lower end-of-year grades in kindergarten compared to students who were only retained once, $t(4,761) = 4.58, p < .01$. Overall, these bivariate results suggest that twice-retained students in elementary school have slightly lower preacademic school readiness skills and kindergarten achievement compared to once-retained students, as hypothesized. Further, proportionally more Black students

(compared to Hispanic and White students) and students in poverty were retained twice during elementary school. Given these bivariate results, it is important to understand whether these results remain consistent within a multivariate analysis.

Logistic Regression. I then conducted a logistic regression analysis in Mplus to predict twice-retained status. All students in the retained sample were included in this analysis ($n = 4,763$). These results are summarized in Table 8. I entered all child demographics (gender, ethnicity, free/reduced lunch, ELL status, kindergarten English proficiency, and disability status in kindergarten) and school readiness/prior competence (preacademic, behavior concerns, protective factors, kindergarten performance) variables to predict twice-retained status during elementary school. I found significant associations for ethnicity in that Black students (compared to Hispanic students) had significantly higher odds of being held back twice during elementary school ($OR = 2.24, p < .01$). Students who were receiving free lunch (compared to not receiving free/reduced lunch) also had higher odds of being twice-retained ($OR = 2.08, p < .01$). Further, students with disabilities (compared to students without disabilities) had significantly lower odds of being held back more than once K-5 ($OR = 0.60, p < .01$).

In terms of school readiness, only preacademic skills were associated with the odds of being twice-retained ($OR = 0.99, p < .01$). This association suggests that a one-point increase in preacademic skills is associated with one percent lower odds of being twice-retained. Note that school readiness scores are measured in t-score units, so a one-point increase represents $1/10^{\text{th}}$ of a standard deviation. Finally, kindergarten performance was also associated with twice-retained status ($OR = 0.57, p < .01$). Each

one-point increase in kindergarten performance (e.g., moving from satisfactory to excellent) is associated with 43% lower odds of being twice-retained during elementary school. Overall, these results suggest that Black students, poor students, and students with lower academic school readiness and initial school performance are more likely to be held back twice. Note that these associations between ethnicity and poverty status are significant even when controlling for prior academic performance which suggests that these groups of students are being disproportionately twice-retained.

Follow-up Analyses. Given the large effects associated with ethnicity and twice-retention, I examined the breakdown of the 391 twice-retained students by race and gender. Though gender was not a significant predictor of being twice-retained in elementary school, I was interested in whether Black boys in particular were being twice-retained more than their peers. I found that of the 391 retained students, 156 (40%) students were Black boys. The remaining breakdown of subgroups is as follows: 86 (22%) Black girls, 91 (23%) Hispanic boys, 51 (13%) Hispanic girls, and 7 (2%) White boys. These frequencies suggest that Black boys are indeed overrepresented in students who are twice-retained in elementary school.

RQ3: Do the academic outcomes (GPA, standardized tests) in 5th grade of once-retained students in kindergarten through 3rd grade differ from those who are retained twice before 4th grade, even after controlling for how these groups might be initially different?

I then conducted a series of models in Mplus to examine the 5th grade academic outcomes of once- vs. twice-retained students. Given the high ICCs between school and

academic outcomes (see pg. 37), I ran complex models (function TYPE = COMPLEX) using 5th grade school ID to adjust standard errors for nesting within schools. I used these models to separately predict 5th grade GPA, FCAT math, and FCAT reading. In each set of models, I predicted achievement using demographics, prior competence, and twice-retained status (0 = once-retained, 1 = twice-retained). This question only included students who were retained between kindergarten and 3rd grade. It excluded those who were retained in 4th or 5th grade ($n = 134$) and those who were missing data on the nesting variable ($n = 404$), resulting in a sample of 4,225 retained students. Within this sample, 374 students were retained twice, and 3,851 were retained once.

GPA. Table 9 summarizes the predictors of 5th grade GPA. The overall models accounted for 11% of the variance in 5th grade GPA. This model suggests that boys, Black students, students receiving free or reduced lunch, and students with a disability tended to have lower 5th grade GPAs. Further ELL students and students with higher English proficiency in 3rd grade received higher GPAs. In terms of school readiness/prior competence, children with higher preacademic skills in preschool and those with better initial school performance (kindergarten performance) also tended to have higher GPAs five years later. These covariate trends are seen across all models predicting GPA. Twice-retained status was also a statistically significant predictor of 5th grade GPA ($\beta = -0.05$, $p < .01$), suggesting that students who are retained more than once in elementary school receive lower 5th grade GPAs compared to their once-retained peers even after controlling for prior academic competence and school readiness.

FCAT Math. Table 10 summarizes predictors of 5th grade FCAT math after accounting for nesting within schools. The model explained 18% of the variance in 5th grade FCAT Math. Students receiving free lunch and students with a disability tended to score more poorly on the FCAT math, and boys tended to score higher than girls. ELL status, higher 3rd grade English proficiency, better preacademic skills, and higher kindergarten grades were all associated with increases on 5th grade FCAT math scores. These covariate trends are seen across all models predicting 5th grade FCAT math. Twice-retained status was also a significant predictor of 5th grade FCAT math ($\beta = -.04, p > .05$), suggesting that students who are retained more than once between kindergarten and 3rd grade perform more poorly on this measure. Note that FCAT scores are in z-score units, so the parameter estimate suggests that twice-retention status is associated with a 4% standard deviation decrease in math scores.

FCAT Reading. Table 11 summarizes predictors of 5th grade FCAT reading after accounting for nesting within schools. This model accounted for 18% of the variance in 5th grade FCAT reading scores. Similar to the two previous sets of models, Black students, students with a disability, and students receiving free lunch tended to score more poorly on the FCAT reading test. There were no gender differences on 5th grade FCAT reading. ELL status, higher English proficiency in 3rd grade, higher preacademic skills, and higher kindergarten grades were associated with increases on FCAT reading scores. These covariate trends are seen across all models predicting 5th grade FCAT reading. Twice-retained status through 3rd grade was also associated with lower 5th grade reading scores ($\beta = -0.04, p < .01$). Overall, these results suggest that students who are

retained twice perform more poorly across several academic domains compared to their peers, even after controlling for several other relevant covariates such as school readiness, prior academic competence, English proficiency, and poverty.

Timing Questions

RQ4: Do academic outcomes (5th grade academic achievement) depend on whether students were retained in kindergarten vs. 1st vs. 2nd grade?

Next, I conducted a series of regression models in Mplus to examine whether 5th grade academic outcomes varied within early retained students. These models also accounted for nesting within schools. I entered demographics, school readiness, and grade retained (dummy-coded K-2) to predict 5th grade outcomes. Models were run twice to get all grade level comparisons (K vs. 1 vs. 2) because each is of interest. This question only included students who were retained *once* during kindergarten through 2nd grade and excluded students who were missing data on the nesting variable ($n = 312$), yielding a sample of 2,255 students. Within this sample, 830 were retained in kindergarten, 819 in 1st grade, and 606 in 2nd grade.

GPA. Table 12 summarizes associations between timing of early retention and 5th grade GPA. The model accounted for 13% of the variance in 5th grade GPA. Estimates for the retention variables suggest that timing of early retention is not associated with 5th grade academic outcomes. There were no differences between 5th grade GPA for students who were retained in kindergarten vs. 1st grade vs. 2nd grade (all $ps > .05$).

FCAT Math. Table 13 summarizes outcomes for FCAT math. This model accounted for 18% of the variance in FCAT math. Estimates for retention variables

indicate that timing of early retention is not associated with 5th grade FCAT math scores. Similar to GPA, there are no differences in FCAT math scores for students who were retained in kindergarten vs. 1st grade vs. 2nd grade (all $ps > .05$).

FCAT Reading. Table 14 summarizes outcomes for FCAT reading. This model accounted for 21% of the variance in FCAT math. Estimates suggest that timing within early retention is not associated with 5th grade reading outcomes (all $ps > .05$). Together, these three models suggest that there are no differences in academic outcomes for students who are retained in kindergarten, 1st, or 2nd grade.

RQ5: Do students who were retained for the first time in K-2 perform better in 5th grade compared to students who were retained for the first time in 3rd grade?

Finally, I conducted a series of regression models in Mplus to examine whether students who were retained early (K-2) vs. later (3rd grade) performed differently on 5th grade academic outcomes. These models also accounted for nesting within schools. All models included demographic variables, school readiness, initial school performance, and timing of retention (0 = early, 1 = late). These analyses only included students who were retained once during kindergarten through 3rd grade and excluded students who were missing data on the nesting variable ($n = 387$), resulting in a sample of 3,894 retained students. In this sample, 2,225 were retained early and 1,639 were retained late.

GPA. Table 15 summarizes the results for early vs. late retention on 5th grade GPA. The model accounted for 12% of the variance in 5th grade GPA. Results suggest that there are no differences between early- and late-retainees on 5th grade GPA ($p < .05$). These groups receive similar GPAs in 5th grade.

FCAT Math. Table 16 summarizes the results for early vs. late retention on 5th grade FCAT Math. This model accounted for 18% of the variance in FCAT math. As with GPA, estimates suggest that timing of retention is not associated with FCAT math outcomes ($p > .05$). Students who were retained early and those who were retained late perform at similar levels on 5th grade FCAT math.

FCAT Reading. Table 17 summarizes the results for early vs. late retention on 5th grade FCAT Reading. This model accounted for 20% of the variance in FCAT reading. This model indicates that timing is associated with 5th grade FCAT reading outcomes ($\beta = -0.9, p < .01$). Students who are retained late perform more poorly by 9% of a standard deviation compared to their early-retained peers on the 5th grade standardized reading test. However, it is possible this is a spurious relationship—while we know the majority of students are retained in 3rd grade because of poor performance on the standardized reading test, there is no clear standard for early retention. As such, it is likely that the poorer 5th grade reading performance for late-retained students is due to their poorer reading skills in 3rd grade (i.e., the reason they were retained in the first place) rather than the timing of retention.

DISCUSSION

The goals of this thesis were to a) more closely examine the prevalence of students who were retained in our MSRP sample and to see how many students are retained more than once b) understand the predictors and outcomes of students who are retained more than once in elementary school, and c) examine whether the timing of grade retention is associated with later academic outcomes for retained students. While some previous research has discussed twice-retainees (Mead et al., 2019; Schwerdt et al., 2017), students who are retained more than once have often been unaccounted for in the retention literature. With the size and richness of the MSRP, I was able to closely examine twice-retained students and their trajectories through elementary school. Further, the associations between timing of retention and later academic outcomes are less clear given a lack of consistency in previous timing research. This project uses definitions of “early” vs. “late” timing that are similar to Silbergitt et al. (2006b), which defined early retention at kindergarten through 2nd grade, and late retention as 3rd through 5th grade. Using these definitions allowed me to more carefully frame my findings within the broader context of the literature. Finally, another strength of this project is its relevance to the community from which the sample data came. Because a large number of students in MDCPS (and Florida in general) are affected by the mandatory 3rd grade retention policy, parents, teachers, and administrators have wondered whether earlier grade retention

might mitigate some of those effects. This project was able to explore potential implications of whether students who are retained early perform differently at the end of elementary school compared to students who were held back later in 3rd grade.

Prevalence of Retention

In my sample, approximately 15% of students were retained at some point during elementary school. This prevalence rate is relatively on par with national averages—some estimates indicate that approximately 10% of students are held back at some during kindergarten through 8th grade (Planty et al., 2009). It is important to consider the context of this sample when comparing estimates—students in the MSRP come from primarily low-income backgrounds and many were considered “at-risk” for poor school readiness (Winsler et al., 2008). The broader retention literature has consistently found that low-income and minority students, as well as students with poorer school readiness, are at higher risk for grade retention compared to their peers (Alexander et al., 2003; Hong & Yu, 2007; Tavassolie & Winsler, 2019a; Winsler et al., 2012). Given this context, there is no evidence to suggest that students in this sample are being held back at significantly higher rates when compared to national averages (which generally include greater variability of student characteristics).

Most retention in this sample seems to happen within the first few years of elementary school. The majority of retained students were held back between kindergarten and 3rd grade, with fewer students being held back in 4th and 5th grades. Within the retained sample, 8.2% of students are held back a second time in elementary school. In the overall sample (all students who showed up to MDCPS, including non-

retained students), twice-retained students only account for 1.2%. Clearly, being held back twice is not common in our sample and is likely a consistent national trend.

However, the lack of information regarding twice-retained students makes comparisons with previous literature more challenging. The only study that gives a specific prevalence rate of twice-retention is Fine and Davis (2003) who studied graduation among students who were retained. They found that of the retained students who graduated, 6% were held back more than once. While the context of this sample is different from the one in this project, it still suggests being twice-retained is not common.

For students who are retained twice in this sample, the second retention happens most often in 3rd grade. This pattern is likely due to the high-stakes reading tests students take in 3rd grade. Few students are held back twice in the same grade with the exception of 3rd grade. Of the 391 twice-retained students, 76 were held back twice in 3rd grade. This trajectory is significant in that this group of students were in 3rd grade for 3 years in a row—these particular students started 3rd grade on time, were held back (meaning they repeated the grade), and then were held back for the second time (i.e., they took the 3rd grade curriculum again). It is important to note that in 2014, Florida changed its state legislation so that students are no longer permitted to be held back twice in 3rd grade (Florida Department of Education, 2014). However, all of the students in our sample had completed 3rd grade prior to this policy change.

3rd Grade FCAT Reading and Being Twice-Retained

I also examined how students who were held back in an early grade (K-2) performed on the FCAT reading test in 3rd grade. Though this is not a rigorous statistical

analysis, this question allows us to understand whether students who are retained early are meeting grade-level benchmarks later on. Of the approximately 2,500 students who were retained (for the first time) between kindergarten and 2nd grade, many passed the 3rd grade FCAT reading with a 2 or higher. Many students also scored a 3 or higher, indicating that they were meeting grade-level benchmarks for 3rd grade reading. Specifically, 919 (40%) scored a 3 or higher on the 3rd grade FCAT reading which indicates that they were reading on grade-level or better. However, 965 (42.5%) of these early retained students scored a 1 on the FCAT reading, which is the threshold for mandatory 3rd grade retention. However, only 237 (24.5%) of these students were retained for a second time in 3rd grade. Previous research with the MSRP sample indicates that only about half of the students who fail the FCAT reading in 3rd grade end up subsequently retained (Tavassolie & Winsler, 2019a). Unsurprisingly, this number is lower for students who have been retained previously.

In order to reduce the number of students who are retained twice, Florida Department of Education has “good cause exemptions” in place which states that students who were previously retained K-2 can be promoted despite demonstrating a reading deficiency on the 3rd grade assessment (Florida Department of Education, 2011). In this sense, early grade retention can “protect” students from being retained later on even in the event that they perform poorly on assessments. This policy does seem to capture a number of students in our sample—despite the poor performance of many students on the FCAT reading assessment, relatively few were retained for a second time in 3rd grade. Given the nature of these data, it is not possible to determine exactly why some students

were retained and some promoted. However, these data do seem to suggest that students who are retained early in elementary school are less likely to be held back again regardless of school performance.

Who Gets Twice-Retained?

Unsurprisingly, the students who were retained twice in our sample were performing more poorly in preschool and kindergarten compared to students who were only retained once. These results suggest that students who struggle academically early on are more likely to experience a second retention at some point throughout elementary school. Further, students who are flagged as having a disability have significantly lower odds of being retained a second time during elementary school. Again, though we cannot say exactly why retention decisions were/were not made, it is likely that students with an IEP are exempt from retention interventions that are primarily based on academic performance. Perhaps most significant associations were those I found between retention status, ethnicity, and free/reduced lunch status. Results indicate that Black students and students receiving free lunch had significantly higher odds of being twice-retained compared to Hispanic and White students, and students not receiving free/reduced lunch. These demographic variables remain significant even after accounting for school readiness and academic performance. These results follow a different pattern than previous research using MSRP data. Winsler et al. (2012) found that after controlling for kindergarten performance, White students were more likely to be held back in kindergarten. However, in this sample, the higher odds of Black students being retained remain significant even when accounting for kindergarten performance. In this sense, it

appears decisions to be retained twice may work differently compared to kindergarten retention decisions.

It is concerning that poor students and Black students appear to be disproportionately experiencing multiple grade retentions throughout elementary school. Running subgroup frequencies revealed that it was Black boys specifically that were highly likely to be twice-retained—Black boys represented 40% of the twice-retained students, and no other subgroups came close to this prevalence. It is important to note that this type of association is not unique to this sample or context. Evidence suggests that racial and economic disparities such as these are prevalent throughout the K-12 education system: Black students (and boys in particular) experience higher levels of discipline such as suspension and expulsion throughout their schooling. For example, in the Office for Civil Rights' data (a large survey of U.S. schools), Black students represent 16% of the students in the data, but 31% of those suspended more than once and 36% of students who were expelled (U.S. Department of Education, Office for Civil Rights, 2014).

Outcomes of Twice Retention

Even after statistically controlling for several student characteristics including initial school performance and poverty, results suggest that students who are retained twice perform more poorly across 5th grade academic outcomes compared to their once-retained peers. Specifically, students who are retained twice between kindergarten and 3rd grade have lower GPAs and scores on FCAT math and reading. No previous studies have examined achievement outcomes of once- and twice-retained students, but the literature

suggests that these students generally have poorer outcomes in that they are more likely to drop out of school (Alexander et al., 2003). Twice-retained students are also less likely than their once-retained peers to enroll in postsecondary education (Fine & Davis, 2003). Overall, these results suggest that retaining students more than once is not helpful and may be harming these students. The fact that twice-retention seems to also happen more to one specific group of students (Black boys) suggests that this policy and decision making around this policy should be more closely examined. The poorer performance of twice-retained students and racial disparities among those who do end up twice-retained indicates that students should not be held back more than once in elementary school.

Does Timing Matter?

One of the most interesting questions this study answered is whether retention timing is associated with long-term academic outcomes for retained students. Given the prevalence of 3rd grade promotional barriers, stakeholders in children's success are interested in whether holding children back earlier is better for them long-term. My descriptive analyses suggest that students who are retained early are less likely to be retained again later on in the event that they continue to struggle academically, but it is important to understand whether being held back in an early grade is in fact associated with better outcomes over time. Previous research addressing timing has produce mixed results: some studies suggest students who are retained earlier outperform students who are retained later and are more likely to graduate school (Jacob & Lefgren, 2009), while others find no differences between early- and late-retained students (Silbergliitt et al., 2006b). My results fall somewhere in between. Timing of retention was not associated

with later academic outcomes when comparing students who were retained in kindergarten, 1st grade, and 2nd grade. Students who were retained within these early grades seemed to be performing at similar levels across academic outcomes in 5th grade. Further, there were no differences on 5th grade GPA and FCAT math between students who were retained early or late—regardless of whether students were held back kindergarten through 2nd grade or 3rd grade, performance was similar on these achievement measures. This lack of differences suggests that early retention is not associated with longer-term success compared to later retention, and that late retention is not harming students more than early retention.

However, timing did matter for 5th grade FCAT reading: students who were held back between kindergarten and 2nd grade scored higher on the 5th grade FCAT reading compared to students who were held back for the first time in 3rd grade, even after controlling for group differences and prior academic performance. Specifically, students who were retained later scored approximately 9% of a standard deviation lower than students who were retained earlier. Though results for standardized reading assessments in 5th grade may indicate early retention is associated with more positive outcomes, there are other possible explanations as well. For example, it is possible that students who were retained earlier started receiving intervention services early in elementary school. In Florida, state legislation mandates that students who are identified as having early reading difficulties “must be provided intensive, explicit, systematic, and multisensory reading interventions” (Florida Department of Education, 2018). While there is no “rule of thumb” or specific guidelines for kindergarten through 2nd grade retention, these

students are often those who struggle with reading (MDCPS, personal communication, 2018). Students who are retained in 3rd grade on the basis of the 3rd grade FCAT reading similarly receive specific reading intervention, but this intervention is possibly implemented later.

However, due to the nature of the data, I have no indication of whether/when students receive intervention. Another, and perhaps more likely, explanation for the unique association between reading and retention timing is the link to *why* students ended up being retained. We know that the majority of students who are retained in 3rd grade are held back on the basis of failing the 3rd grade FCAT reading, which indicates they are struggling with this subject. In this sense, it is not surprising that this group of students would perform more poorly in reading later on. Given that 3rd grade retention is nearly always due to poor reading, it is almost as if the timing variable accounted for 3rd grade reading ability. We have no clear indication of why students were retained in early grades, and we know there are a number of early-retained students who perform relatively well on the 3rd grade FCAT reading. Though it is possible the early retention was linked to reading difficulties, the decision could have been made for many other reasons. In this case, it may be preexisting reading differences in students that are driving the effect and explain why only reading was associated with timing. If it is differences between the two groups that is associated with reading, then it essentially nullifies the effect and suggests that timing is not associated with long-term outcomes. In this case, the idea of “catching students while they are young” does not hold much merit, at least

within elementary school. If being held back earlier is better for students, we should see consistently positive effects.

These timing results are relatively consistent with previous literature in that they suggest mixed findings associated with timing of retention. However, it is important to note that several studies assess one achievement outcome whereas I assessed three. Silbergliitt et al. (2006b) use definitions of early and late retention that are similar to mine, and their study examined reading outcomes through 8th grade. Their study examined growth trajectories of early- vs. late-retained students and found no differences between the two groups. While my groups of early- and late-retained students are performing differently on reading outcomes 5th grade, it is possible that their performance will converge over time.

Limitations

Though this study has important strengths, it should be considered in light of its limitations. Because I used administrative data, I have no information on decision making for retention for the students in my sample. Though rich in information, the MSRP is comprised of end-of-year data for K-12 students, so these data reflect only whether the student did/did not get retained. I do not know why/how the decision was made to hold students back kindergarten through 2nd grade, and I do not know why some students were held back for a second time while their peers were promoted.

Second, the sample was not statewide or even fully countywide. I examined a subset of students who were part of the MSRP, which does not represent the entirety of Miami-Dade County. While my project provides important information about the

prevalence and nature of retention within a diverse area in Florida, it may not represent how the state of Florida is dealing with retention. In fact, given the economic and racial disparities in this highly diverse, low-income sample, these differences may be particularly stark for low-income and minority students elsewhere in the United States. Further, though there is statewide legislation to guide school districts on decision making surrounding retentions, there is still some flexibility at the county-level. Individual school districts have more flexibility in making early retention decisions, and it is up to individual schools/families to decide whether a student qualifies for a good cause exemption.

Third, I restricted my sample to students who showed up to MDCPS in either kindergarten or 1st grade. There are a number of students who don't show up until 2nd grade or later, and many of these students experience grade retention as well. However, students who go elsewhere for two or more years following their preschool years within a specific county may be different than those who show up with their cohort.

Conclusions and Policy Implications

This project has important implications for thinking about grade retention in elementary school. Overall, these results suggest that there are disparities in who gets held back twice. Even after controlling for factors such as initial school performance and poverty, Black boys are disproportionately represented among students who are twice-retained. These results also suggest that students who are twice-retained perform more poorly on later academic outcomes compared to their once-retained peers. Essentially, not only is retaining students more than once unhelpful, it is also disproportionately

affecting one specific group of students. Again, it is important to stress that these results are not unique to the school district that my sample of students attended and likely reflect broader systemic issues within the K-12 education system that need to be addressed. However, it still suggests that students should not be held back more than once in elementary school. The effects regarding retention in general are already tenuous and retaining students for a second time puts them at a further disadvantage.

These results also indicate that holding children back early does not provide them with an advantage compared to students who are held back later. Students who are retained between kindergarten and 2nd grade do seem to be less likely to be retained on the basis of the 3rd grade FCAT reading test, but they are not provided with any additional academic advantage. It is clear that the policies put in place to avoid the number of students who are retained twice do seem to catch some students, but in tandem with my other findings, the policies are not protecting a vulnerable group of students. Because early retention is not associated with better academic outcomes, students should not be retained early under the assumption that it will benefit them later on.

TABLES

Table 1. Sample Demographics

	Everyone (<i>N</i> = 32,551)	Retained (<i>n</i> = 4,763)
Demographics <i>n</i> (%)		
Gender		
Male	17,007 (52.2%)	2,996 (62.9%)
Female	15,544 (47.8%)	1,767 (37.1%)
Ethnicity		
Hispanic/Latino	18,966 (58.3%)	2,515 (52.8%)
Black/African American	11,229 (34.5%)	2,073 (43.5%)
White/Asian/Other	2,356 (7.2%)	175 (3.7%)
Free/Reduced Lunch		
Free	21,989 (67.6%)	3,932 (82.6%)
Reduced	3,726 (11.4%)	366 (7.7%)
Did not apply/Denied	6,836 (21%)	465 (9.8%)
ELL	17,071 (52.4%)	2,536 (53.2%)
Disability Status in ES	6,573 (20.2%)	2,296 (48.2%)

Note. All participants had complete data for demographics

Table 2. Descriptive Statistics and Missing Data for School Readiness and Outcomes

Variable	Everyone <i>M</i> (<i>SD</i>) (<i>n</i> = 32,551)	Missing <i>n</i> (%)	Retained <i>M</i> (<i>SD</i>) (<i>n</i> = 4,763)	Missing <i>n</i> (%)
Preademic Skills	50.38 (9.16)	12,004 (36.88%)	43.36 (7.56)	1,722 (36.22%)
Behavior Problems	49.40 (10.05)	3,291 (10.12%)	53.44 (9.67)	508 (10.69%)
Protective Factors	52.48 (10.40)	3,424 (10.52%)	48.16 (9.67)	537 (11.30%)
5 th Grade GPA	4.01 (0.58)	4,318 (13.27%)	3.61 (0.58)	675 (14.17%)
5 th Grade FCAT Math	0.10 (0.92)	4,722 (14.51%)	-0.03 (1.01)	812 (17.05%)
5 th Grade FCAT Reading	0.08 (0.96)	4,704 (14.45%)	-0.03 (1.00)	797 (16.73%)

Note. School readiness variables are t-scores measured by the LAP-D; Preademic skills = composite of cognitive, language and fine motor skills; FCAT variables are z-scores normed on the entire MSRP sample.

Table 3. Frequencies and Timing of Grade Retention for First Retention ($n = 4,763$)

Grade	<i>n</i>	%
Kindergarten	1,116	23.43
1st Grade	1,034	21.71
2nd Grade	721	15.14
3rd Grade	1,799	37.77
4th Grade	62	1.30
5th Grade	31	0.65
Total Retained Once K-5	4,763	100

Table 4. Frequencies and Timing of Grade Retention for Second Retention ($n = 391$)

Grade	<i>n</i>	%
Kindergarten	0	0
1st Grade	4	1
2nd Grade	28	7.2
3rd Grade	316	80.8
4th Grade	26	6.6
5th Grade	17	4.3
Total Retained Twice K-5	391	100

Table 5. Grade Retention Patterns for Students Who Were Retained Twice During Elementary School ($n = 391$)

	Second Grade Retained					
	Kindergarten	1st Grade	2nd Grade	3rd Grade	4th Grade	5th Grade
First Grade Retained						
Kindergarten (137)	0	4 (2.9%)	16 (11.7%)	104 (75.9%)	10 (7.3%)	3 (2.2%)
1st Grade (100)	-	0	10 (10.0%)	80 (80.0%)	8 (8.0%)	2 (2.0%)
2nd Grade (67)	-	-	2 (3%)	56 (83.5%)	5 (7.5%)	4 (6%)
3rd Grade (85)	-	-	-	76 (89.4%)	3 (3.5%)	6 (7.1%)
4th Grade (1)	-	-	-	-	0	1 (100%)
5th Grade (1)	-	-	-	-	-	1 (100%)

Table 6. 3rd Grade FCAT Reading Categorical Scores for Students Retained Early (K-2)
(*n* = 2,269)

FCAT Reading Score	<i>n</i> (%)
1 (fail)	965 (42.5%)
2	385 (17%)
3	639 (28.2%)
4	250 (11%)
5	30 (1.3%)

Table 7. Bivariate Correlates of Once- vs. Twice-Retained Status in Elementary School

Variable	Once-Retained	Twice-Retained
Total Sample ($n = 4,763$)	4,372 (91.8%)	391 (8.2%)
Gender		
Male (2,996)	2,742 (91.5%)	254 (8.5%)
Female (1,767)	1,630 (92.2%)	137 (7.8%)
Ethnicity**		
White/Asian/Other (175)	168 (6.0%)	7 (4.0%)
Black/African American (2,073)	1,831 (88.3%)	242 (11.7%)
Hispanic/Latino (2,515)	2,373 (94.4%)	142 (5.6%)
Free/Reduced Lunch Status**		
No FRL (465)	450 (96.8%)	15 (3.2%)
Reduced Lunch (366)	347 (94.8%)	19 (5.2%)
Free Lunch (3,932)	3,575 (90.9%)	357 (9.1%)
ELL Status**		
ELL (2,536)	2,362 (93.1%)	174 (6.9%)
Non-ELL (2,227)	2,010 (90.3%)	217 (9.7%)
Kindergarten ESE Status**		
ESE (974)	926 (95.1%)	48 (4.9%)
Non-ESE (3,798)	3,446 (90.9%)	343 (9.1%)
Pre-K School Readiness		
Preademic Skills**		
<i>M</i>	43.45	42.37
<i>SD</i>	7.59	7.17
Protective Factors		
<i>M</i>	48.16	48.11
<i>SD</i>	9.65	9.95
Behavior Concerns		
<i>M</i>	53.43	53.51
<i>SD</i>	9.70	9.31
Kindergarten Performance		
<i>M</i>	2.03	1.93
<i>SD</i>	0.43	0.45
Kindergarten English Proficiency		
<i>M</i>	4.54	4.73
<i>SD</i>	1.59	1.58

Note. * $p < .05$, ** $p < .01$

Table 8. Logistic Regression Predicting Twice-Retained Status vs. Once-Retained Status in Elementary School ($n = 4,763$)

Predictor	Odds Ratio	$SE(B)$
Demographics		
Male	1.14	0.12
White/Hispanic	1.05	0.41
Black/Hispanic	2.21**	0.15
Black/White	2.11**	0.40
Reduced Lunch/None	1.50	0.36
Free Lunch/None	2.05**	0.28
ELL	0.89	0.24
Kindergarten English Proficiency	0.91	0.07
Disability Status in Kindergarten	0.54**	0.17
School Readiness & Prior Competence		
Preacademic Skills	0.99**	0.01
Behavior Concerns	0.99	0.01
Social/Emotional Protective Factors	1.00	0.01
Kindergarten Performance	0.57**	0.13

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity are provided because each is of interest.

Table 9. 5th Grade GPA Outcomes of Once- vs. Twice-Retained Students After Accounting for Nesting Within Schools ($n = 4,225$)

Predictor	β	$SE(B)$	R^2
Male	-0.16**	0.01	
White/Hispanic	0.02	0.02	
Black/Hispanic	-0.14**	0.03	
Black/White	-0.29**	0.04	
Reduced Lunch/None	-0.04*	0.02	
Free Lunch/None	-0.15**	0.02	
ELL	0.11**	0.04	
3 rd Grade English Proficiency	0.13**	0.04	
Disability Status in 5 th Grade	-0.07**	0.02	
Preacademic Skills	0.07**	0.02	
Behavior Concerns	-0.03	0.02	
Social/Emotional Protective Factors	0.02	0.02	
Kindergarten Performance	0.06**	0.02	
Twice-Retained by 3 rd Grade	-0.05**	0.02	
			0.11

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity are provided because each is of interest.

Table 10. 5th Grade FCAT Math Outcomes of Once- vs. Twice-Retained Students After Accounting for Nesting Within Schools ($n = 4,225$)

Predictor	β	$SE(B)$	R^2
Male	0.09**	0.02	
White/Hispanic	0.01	0.02	
Black/Hispanic	-0.14**	0.02	
Black/White	-0.17**	0.05	
Reduced Lunch/None	-0.02	0.02	
Free Lunch/None	-0.07**	0.02	
ELL	0.13**	0.03	
3 rd Grade English Proficiency	0.10**	0.03	
Disability Status in 5 th Grade	-0.21**	0.02	
Preacademic Skills	0.21**	0.02	
Behavior Concerns	-0.03	0.02	
Social/Emotional Protective Factors	0.00	0.02	
Kindergarten Performance	0.12**	0.02	
Twice-Retained by 3 rd Grade	-0.04*	0.02	
			0.18

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity are provided because each is of interest.

Table 11. 5th Grade FCAT Reading Outcomes of Once- vs. Twice-Retained Students After Accounting for Nesting Within Schools ($n = 4,225$)

Predictor	β	$SE(B)$	R^2
Male	0.03	0.02	
White/Hispanic	-0.004	0.02	
Black/Hispanic	-0.17**	0.02	
Black/White	-0.15**	0.05	
Reduced Lunch/None	-0.03	0.02	
Free Lunch/None	-0.10**	0.02	
ELL	0.12**	0.03	
3 rd Grade English Proficiency	0.12**	0.03	
Disability Status in 5 th Grade	-0.32**	0.02	
Preacademic Skills	0.13**	0.02	
Behavior Concerns	-0.01	0.02	
Social/Emotional Protective Factors	-0.01	0.02	
Kindergarten Performance	0.06**	0.02	
Twice-Retained by 3 rd Grade	-0.04*	0.02	
			0.18

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity are provided because each is of interest.

Table 12. 5th Grade GPA Outcomes of Students Retained for the First Time in K vs. 1 vs. 2 After Accounting for Nesting Within Schools ($n = 2,225$)

Predictor	β	$SE(B)$	R^2
Male	-0.16*	0.02	
White/Hispanic	0.04	0.02	
Black/Hispanic	-0.15**	0.03	
Black/White	-0.23**	0.06	
Reduced Lunch/None	-0.04	0.03	
Free Lunch/None	-0.16**	0.03	
ELL	0.10**	0.03	
3 rd Grade English Proficiency	0.13**	0.04	
Disability Status in 5 th Grade	-0.10**	0.03	
Preacademic Skills	0.11**	0.03	
Behavior Concerns	-0.04	0.02	
Social/Emotional Protective Factors	-0.003	0.03	
Retained 1 st Grade (vs. K)	-0.04	0.03	
Retained 2 nd Grade (vs. K)	-0.04	0.03	
Retained 2 nd Grade (vs. G1)	0.00	0.02	
			0.13

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for grade retained and ethnicity are provided because each is of interest.

Table 13. 5th Grade FCAT Math Outcomes of Students Retained for the First Time in K vs. 1 vs. 2 After Accounting for Nesting Within Schools ($n = 2,225$)

Predictor	β	$SE(B)$	R^2
Male	0.08**	0.02	
White/Hispanic	0.03	0.03	
Black/Hispanic	-0.19**	0.03	
Black/White	-0.25**	0.06	
Reduced Lunch/None	-0.03	0.03	
Free Lunch/None	-0.06*	0.03	
ELL	0.13**	0.04	
3 rd Grade English Proficiency	0.15**	0.04	
Disability Status in 5 th Grade	-0.23**	0.02	
Preacademic Skills	0.21**	0.03	
Behavior Concerns	-0.03	0.02	
Social/Emotional Protective Factors	-0.002	0.02	
Retained 1 st Grade (vs. K)	0.006	0.02	
Retained 2 nd Grade (vs. K)	0.02	0.02	
Retained 2 nd Grade (vs. G1)	0.01	0.02	
			0.18

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for grade retained and ethnicity are provided because each is of interest.

Table 14. 5th Grade FCAT Reading Outcomes of Students Retained for the First Time in K vs. 1 vs. 2 After Accounting for Nesting Within Schools ($n = 2,225$)

Predictor	β	$SE(B)$	R^2
Male	-0.04	0.02	
White/Hispanic	0.01	0.03	
Black/Hispanic	-0.17**	0.03	
Black/White	-0.19**	0.06	
Reduced Lunch/None	-0.02	0.03	
Free Lunch/None	-0.09**	0.03	
ELL	0.13**	0.04	
3 rd Grade English Proficiency	0.16**	0.04	
Disability Status in 5 th Grade	-0.34**	0.02	
Preacademic Skills	0.15**	0.03	
Behavior Concerns	-0.01	0.02	
Social/Emotional Protective Factors	-0.04	0.02	
Retained 1 st Grade (vs. K)	-0.02	0.02	
Retained 2 nd Grade (vs. K)	-0.04	0.02	
Retained 2 nd Grade (vs. G1)	-0.02	0.02	
			0.21

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for grade retained and ethnicity are provided because each is of interest.

Table 15. 5th Grade GPA Outcomes of Students Retained Early vs. Late After Accounting for Nesting Within Schools ($n = 3,894$)

Predictor	β	$SE(B)$	R^2
Male	-0.16**	0.02	
White/Hispanic	0.02	0.02	
Black/Hispanic	-0.14**	0.03	
White/Black	-0.20**	0.04	
Reduced Lunch/None	-0.04	0.02	
Free Lunch/None	-0.16**	0.02	
ELL	0.11**	0.04	
3 rd Grade English Proficiency	0.13**	0.04	
Disability Status in 5 th Grade	-0.08**	0.02	
Preacademic Skills	0.06*	0.03	
Behavior Concerns	-0.03	0.02	
Social/Emotional Protective Factors	0.02	0.02	
Kindergarten Performance	0.06**	0.02	
Retained Late (3 rd Grade)	0.04	0.02	
			0.12

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity provided because each is of interest.

Table 16. 5th Grade FCAT Math Outcomes of Students Retained Early vs. Late After Accounting for Nesting Within Schools ($n = 3.894$)

Predictor	β	$SE(B)$	R^2
Male	0.08**	0.02	
White/Hispanic	0.01	0.02	
Black/Hispanic	-0.14**	0.02	
Black/White	-0.37**	0.10	
Reduced Lunch/None	-0.02	0.02	
Free Lunch/None	-0.08**	0.02	
ELL	0.13**	0.03	
3 rd Grade English Proficiency	0.10**	0.03	
Disability Status in 5 th Grade	-0.22**	0.02	
Preacademic Skills	0.20**	0.02	
Behavior Concerns	-0.03	0.02	
Social/Emotional Protective Factors	-0.001	0.02	
Kindergarten Performance	0.11**	0.02	
Retained Late (3 rd Grade)	0.02	0.02	
			0.18

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity provided because each is of interest.

Table 17. 5th Grade FCAT Reading Outcomes of Students Retained Early vs. Late After Accounting for Nesting Within Schools ($n = 3,894$)

Predictor	β	$SE(B)$	R^2
Male	-0.03	0.02	
White/Hispanic	-0.00	0.02	
Black/Hispanic	-0.16**	0.02	
Black/White	-0.16**	0.05	
Reduced Lunch/None	-0.02	0.02	
Free Lunch/None	-0.10**	0.02	
ELL	0.10**	0.03	
3 rd Grade English Proficiency	0.11**	0.03	
Disability Status in 5 th Grade	-0.32**	0.02	
Preacademic Skills	0.13**	0.02	
Behavior Concerns	-0.01	0.02	
Social/Emotional Protective Factors	-0.02	0.02	
Kindergarten Performance	0.09**	0.02	
Retained Late (3 rd Grade)	-0.09**	0.02	
			0.20

Note. * $p < .05$, ** $p < .01$; All 3 contrasts (rerunning the model with a different reference group) for ethnicity provided because each is of interest.

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