Grade Retention in the Age of Accountability

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The No Child Left Behind Act (NCLB) has fundamentally altered the role of large-scale assessments in public education in the United States. In an era when some feared that assessment-driven instruction had already reduced teachers' autonomy and narrowed curricula, NCLB has added a new layer of annual assessments in the later primary grades. The past history of large-scale assessment provides many instances in which the use of tests to assess educational progress has encouraged their use to make decisions about students, whether or not the tests or their mode of administration are well-suited for high stakes decisions (National Research Council, Committee on Appropriate Test Use 1999). In the several years before this new testing regime was instituted by the Bush administration, the prior administration of President Clinton declared its intention "to end social promotion" (Clinton 1998; Steinberg 1999), and that declaration led several localities and states to institute new and, in most cases, test-based criteria for promotion from one elementary school grade to the next.

Because of the conjunction of increased testing and criticism of "social promotion," we think it is reasonable to investigate whether retention in grade has increased in American schools from the late 1990s through the early years of the present decade. If this is the case, there are likely to be very serious, long-term effects on the educational attainment and subsequent life course of students who are held back (Hauser, Simmons, and Pager 2004; Hauser, Pager, and Simmons 2004). That is, under past, current, and foreseeable educational regimes, students who are held back typically fail to catch up academically. Because they become over-age for grade, they are more likely to drop out. Moreover, it is well-established that minority and poor students are more likely

to be held back in grade than majority and middle-class students, so students from deprived backgrounds are the most likely to suffer from an increase in grade retention.

In this paper, we assemble evidence about trends and differentials in grade-retention using data from the Census Bureau's October Current Population Survey and from state education agencies. Using descriptive statistics and multivariate statistical models, we evaluate whether or not grade retention has increased in the recent accountability regime. We begin with a brief review of the literature and an overview of our general analytic strategy before describing our findings from each source of data.

Research on Grade Retention

Unfortunately, no national data-collection mechanism or repository for promotion or retention statistics exists, and most data on retention are based on indirect measures or limited samples. Extending from this general paucity of grade retention data, no national educational information system monitors the extent to which tests are used to make promotion or retention decisions. National trends in grade retention rates mainly consist of indirect estimates based on rates of age-grade retardation, that is, being above the modal age for grade. There is a mix of uncertainty, approximation, and speculation about the prevalence of grade retention in American schools. Karweit (1999) suggests that "by first grade between 7 and 11 percent of children have been retained ." Eide and Showalter (2001) report an estimate from the 1992 and 1995 October Current Population Surveys that only about 11 to 13 percent of 16 to 24 year-olds were retained at least once (McMillen 1997, Table 24). On its face, this would appear to conflict with Karweit's estimate. On the other hand, Hauser, Pager and Simmons (2004:98) use age-grade

retardation data from Current Population Surveys and report, "At least 15% of pupils are retained between ages 6 to 8 and ages 15 to 17, and a large share of retention occurs either before or after those ages." Census estimates of age-grade retardation also suggest the prevalence of retention increases substantially over students' educational careers, jumping by about 10 percent by ages 9 through 11 and by about another 5 percent by ages 12 through 14.

A number of correlates of age-grade retardation have been identified. Central cities and the southern Census region have higher age-grade retardation rates compared to suburban and rural areas and other Census regions in the U.S. (National Research Council, Committee on Appropriate Test Use 1999; Hauser 2004). Research has established stark gender differences in grade retention; boys are more likely to be retained than girls at every level of the K-12 educational system (Dawson 1998; National Research Council, Committee on Appropriate Test Use 1999; Byrd and Weitzman 1994). Racial and ethnic differences in retention rates are also prominent. Heubert and Hauser (1999) report that age-grade retardation rates observed in Census data are relatively similar among racial and ethnic groups at ages 6 through 8, but age-grade retardation rates are 5 to 10 percent higher for blacks and Hispanics than for whites just three years later at ages 9 through 11. By ages 15 through 17, the rate of age-grade retardation ranges from 40 to 50 percent among blacks and Hispanics, but is much lower among whites at 25 to 35 percent. Beyond gender and race-ethnic differentials, a higher incidence of retention is associated with a disadvantaged socioeconomic background, hailing from a single-parent home, having been born to a teenage mother, having parents

with low measured IQ and education, and having parents with a health or behavioral problem (Corman 2003; Hauser et al. 2004).

Research on the implications of holding students back a grade can be somewhat schizophrenic, but the majority of research suggests that grade retention is associated with negative student outcomes. Meta-analyses of studies of retention effects have been particularly helpful in isolating the extent to which retention may hurt or harm students, and they generally show that grade retention is harmful to students. Prominent meta-analyses include Holmes (1989) and Jimerson (2001).

Holmes assessed 63 studies spanning almost 90 years from 1900 through the 1980s. When promoted and retained students were compared one to three years later, the retained students' average levels of academic achievement were at least 0.4 standard deviations below those of promoted students. In these comparisons, promoted and retained students were the same age, but the promoted students had completed one more grade than the retained students. Promoted and retained students were also compared after completing one or more grades, that is, when the retained students were a year older than the promoted students but had completed equal numbers of additional grades . Here, the findings were less consistent, but still negative. When the data were weighted by the number of estimated effects, there was an initially positive effect of retention on academic achievement after one more grade in school, but it faded away completely after three or more grades. When the data were weighted by the number of independent studies, rather than by the estimated number of effects on achievement, the average effects were negligible in every year after retention. Of the sixty-three studies reviewed by Holmes, fifty-four yielded overall negative effects of retention, and only nine yielded

overall positive effects. Holmes concluded, "On average, retained children are worse off than their promoted counterparts on both personal adjustment and academic outcomes."

Jimerson (2001) updated Holmes' (1989) classic meta-analysis using 20 studies of the association between retention and academic achievement and socio-emotional adjustment spanning 1990 to 1999. Jimerson's results are consistent with Holmes (1989), suggesting the associations between grade retention and student outcomes and characteristics have been quite stable over time. On average, retained students scored 0.39 standard deviations lower than students who were not retained on various academic achievement measures. Students who were retained scored 0.22 standard deviation units less than similar students who were not retained on socio-emotional outcomes.

Research suggesting grade retention has positive effects on student outcomes rests on two main sources. First, Alexander, Entwisle and Dauber (2003) argue in their book, *On the Success of Failure,* that grade retention in the early primary grades halts the downward slide of low-achieving students and prepares them to succeed in later grades. The positive effects appear for students who are retained only once after the first grade in a cohort of 1000 Baltimore students. Over time, even among this select group of students, the apparent positive effects of grade retention diminish, so retained students reap no long-term positive benefits. Critics have argued that the supposedly positive effects of grade retention actually reflect regression to the mean, and represent no real benefit in the first place (Shepard, Smith, and Marion 1996; Shepard, Smith, and Marion 1998). Moreover, Alexander et al's data show significant detrimental effects of grade retention on (a much larger number of) students retained in the first grade. Finally, their analyses control for some student characteristics subsequent to the retention decision

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(Hauser 2005). Second, Eide and Showalter (2001) instrument grade retention, using the difference in days between the cutoff date of kindergarten entry and the child's birthday in an analysis of the effects of grade retention on high school completion and later labor market earnings. They conclude that grade retention that grade retention "may have some benefit to students by both lowering dropout rates and raising labor market earnings" (p. 573), but these effects are actually statistically insignificant in their analysis.

Evidently, grade retention is a common and prominent means to remedy academic failure in the U.S. educational system. Yet, the practice does not appear to bestow many of the intended benefits upon students who are retained in grade. The NRC report on high stakes testing concludes, "Neither social promotion nor retention alone is an effective treatment, and schools can use a number of possible strategies to reduce the need for these either-or choices—for example, by coupling early identification of such students with effective remedial education" (National Research Council, Committee on Appropriate Test Use 1999, p. 278). Even the scant evidence available suggesting beneficial effects, such as Alexander et al (2003) and Eide and Showalter (2001), is plagued with methodological and logical errors or shows no statistically reliable benefits. Given the deleterious effects of grade retention on students, one must logically ask the question: In the current political climate, with its emphasis on ensuring student achievement and school accountability, is grade retention increasing?

Evidence concerning the repercussions of the current accountability regime is inchoate given the relative immaturity of many state and the federal accountability policies. But some evidence does exist. For example, Hanushek and Raymond

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(2005)conclude that school accountability practices, including high stakes testing, improve student test scores, but do not necessarily close extant inter-group gaps. An accountability regime characterized by high-stakes testing even increases the Black-white student test score gap via increased concentrations of minority students in schools, according to the authors. However, Hanushek and Raymond note that an accountability regime characterized by high stakes testing is not associated with increased special education placement rates.

Given the recency of NCLB, which became law in January 2002, its effects on retention practice cannot be assessed with the available data, either nationally or at the state level. What can be done, however, is to look at trends in retention during the decade preceding NCLB and the year following its passage.

Analytic Strategy

We begin with the CPS data, assessing trends in grade retention since 1996 overall and by race, gender and socioeconomic status. We then turn to data collected from the state educational agencies, comparing differences and similarities in the two sources of data. We ask three basic questions:

1) Given the diffusion of the accountability framework within education and the subsequent use of tests in retention decisions, have grade retention rates increased over the past decade?

2) Are there different trends in grade retention in subpopulation groups, e.g., those defined by race-ethnicity and socioeoconomic status, or at specific grade levels?

3) Are there regional and state variations in grade retention trends across time and, particularly, in the past decade? Do these data corroborate general trends observed in the CPS data?

Data and Methods

We use both Census and state data in our analyses of grade retention trends. In our first analyses, we use data from the October School Supplement to the Current Population Survey. Since 1994, the survey has collected data on children's grade of enrollment in the previous year as well as the current year. This allows us to construct a direct measure of the probability that children are retained in grade. We limited our sample to people aged 5 to 20 in each survey from 1996 through 2003.[1] Additionally, we eliminated those who were enrolled below kindergarten in the year prior to the survey, those who were enrolled above twelfth grade in the current year of the survey, twelfth grade repeaters,[2] and observations that were missing one or both of the enrollment variables. This yielded an unweighted sample of 184,717 cases. Finally we eliminated 2,046 cases (1.1 percent) reporting a grade progression other than single retention, normal promotion, or double promotion (skipping one grade) for a final analytical sample of 182,671 cases.

For the logistic regressions, we have further restricted the age range to ages 5 through 17 in order to include data on parent's education and occupation.[3] Cases with missing data are dealt with in two different ways, depending on the reason data were

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[1] We excluded data from the first two available years because of data quality issues.

[2] We have omitted students who were enrolled in the twelfth grade in the previous year because we have excluded students who are either not enrolled in school or enrolled above twelfth grade in the current year. Thus, by definition all students who were enrolled in twelfth grade in the previous year are in twelfth grade this year.

[3] Above age 17, youth are less likely to live with their parents, thus breaking the link between school enrollment and social and economic characteristics of householders.

missing. If an observation was missing income and head of household's education, it was dropped from the sample. On the other hand, observations missing data on occupation and spouse's education – because a household head was not in the labor force or was not married – we used a dummy variable adjustment procedure, which has been shown to be unbiased where data are missing because they could not exist (Allison 2002).

In addition to the year of the survey and the previous years' grade, we include both demographic and social background covariates. The demographic variables include gender, race, region, urban/rural residence, and the number of children living in the household. There are four categories of race-ethnicity: non-Hispanic black, non-Hispanic white, Hispanic (any race), and other. Region is also divided into four categories: Northeast, South, Midwest, and West. The urban residence dummy pertains to students who live in major central cities. It is important to note that children in the same household are not necessarily siblings because the CPS is a household rather than a family survey.

The social background covariates include logged household income, the household head's education and occupational status, the spouse's education and occupational status, and a dummy variable indicating whether the household head (and spouse) own their home. Again, because the CPS is a household survey the household head and spouse are usually, but not necessarily the child's parents. We divide the educational attainment measures into two variables in order to tease out piecewise linear effects of education before and after the high school to college transition.

We also collected data on grade retention rates from state educational agencies. We build on earlier retention data through the mid-1990s provided by the states to the

National Research Council, Committee on Appropriate Test Use (National Research

Council, Committee on Appropriate Test Use 1999, pp 138-146). We contacted states'

educational offices and requested whatever grade retention trend data, particularly since

the 1990s, were available, and we compiled these data together with the existing National

Research Council data. Not all states collect these data or responded to our request.

However, we are able to provide descriptive data on grade retention rates since the 1990s

for approximately 14 states across all regions of the U.S.

Incidence of Retention: CPS

We begin with a discussion of analyses employing CPS data. Overall, 2.70

percent of the CPS sample reported being retained in the year preceding the survey and

0.32 percent reported experiencing a double promotion or 'skipping' a grade.[4] Table 1

displays the weighted retention rates over time and by grade of enrollment in the previous

year of the survey. The proportion of students retained varies across grade levels. In

kindergarten 4.5 percent of students are retained in this time period and in first grade

almost seven percent of students are retained. This proportion decreases by two-thirds in

second grade and hovers between one and a half and two percent until eighth grade with

the exception of a jump to 2.3 percent in seventh grade. Ninth graders report the highest

probability of retention outside of the first two years of schooling at just over three

percent but this is still less than half the probability of first graders. In tenth and eleventh

grades, the proportion retained falls back down to around two percent.

<div align="center">TABLE 1 ABOUT HERE.</div>

The notable variation we saw in the percentage retained by grade is absent when we

disaggregate by year. Figure 1 plots the trend in overall retention rates. The absolute

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[4] For analytic purposes, the double-promotions are combined with normal progressions.

change is not very large; the largest distance between annual rates is 0.63 percent.

However, there is a clear increasing trend over this time period, and the retention rate

appears to level off near 3 percent per year.

FIGURE 1 ABOUT HERE.

How big is a difference of less than one percent at this level of retention? The

meaning of this difference can be illustrated in the following example. Assume that the

difference between the maximum and minimum proportion of students retained is real

and that the chance of being retained is independent and constant across grade levels.

Over the twelve years from kindergarten through 11th grade, 75.5 percent of students are

expected to reach their senior year of high school on time if subject to a 2.32 percent

retention rate. This figure drops to 69.8 percent never retained if 2.95 percent of students

are retained in each grade.

The assumptions made in these simulated examples are surely violated. For

example, analyses of data from NELS88 show that children are rarely retained twice

within the same level of schooling ((Andrew 2005); see also (Shepard and Smith 1989,

p. 8). However, these illustrative estimates are not much higher than previous estimates

of the proportion of children who have ever been retained (National Research Council,

Committee on Appropriate Test Use 1999). Table 2 shows the number of children

retained in each grade level in each year. Again, assuming that the chance of being

retained is independent across grade levels, we can construct period retention rates for the

synthetic cohort of students who progress through school at the observed rates of

retention in each year. These estimates are displayed in the bottom row of Table 2. As in

the calculation based on annual retention rates, the predicted proportion of students who

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enter 12th grade on time declines steadily from 75.7 percent in 1996 to 69.9 percent in 2003.

<div align="center">TABLE 2 ABOUT HERE.</div>

Retention and Race

<div align="center">FIGURES 2A+B ABOUT HERE.</div>

Figure 2a disaggregates the change in retention probabilities over time by race. Black students are at the highest risk of being retained, followed closely by Hispanics. White students and those of other races have the lowest percentages retained over time. The gap between black and white students is fairly constant until 2000 when black retentions begin to increase relative to whites. Likewise, the gap between Hispanics and whites is fairly constant until 1999.

Like the gaps over time, blacks and Hispanics experience more retention across grades than whites and students of other races. The gaps are most severe in kindergarten and first grade. After that the percentages seem to converge through the elementary and middle grades, and they slightly diverge in high school.

Retention and Gender

<div align="center">FIGURES 3A+B ABOUT HERE.</div>

Figure 3a disaggregates the yearly trends in retention by gender. This confirms results from previous studies that have shown that boys experience more retentions than girls. This finding appears in every year. The gap in the percentage of retentions between boys and girls is widest during the middle of this period, especially in 1999 and 2000; other than that they are remarkably parallel.

<div align="center">12</div>

Figure 3b shows the retention rates by gender and grade. Similar to the findings for race, the gap is widest in kindergarten and first grade and converges through the elementary and middle grades. The percentage of retained boys begins to grow relative to that of girls starting in seventh grade—perhaps a consequence of puberty—but comes back down to that of the girls in the eleventh grade.

Retention and Income

FIGURES 4A+B ABOUT HERE.

In figures 4a and 4b the trends are disaggregated by income quartile. There are no surprises here; children who come from the most prosperous families experience the least retentions. The biggest gap between adjacent categories over time is that between the lowest and second quartile. The smallest such gap is between the third and fourth quartiles, possibly indicating that there is a threshold effect of family income. Again figure 3b shows the familiar pattern - the biggest income differences in retention rates occur during kindergarten and first grade; rates converge during the middle grades and then diverge again during high school.

Multivariate Analysis: Simple Logistic Regression

The first logistic regression (equation 1) predicts retention in the year prior to the survey as a function of the grade in which a student was enrolled in the previous year, the year of the survey, and both demographic and social background variables.

$$\text{logit}(P(Y_i = 1)) = \alpha_j X_{ij} + \alpha_k W_{ik} + \sum_h \beta_h Z_{ih} \tag{1}$$

Where Y_i indicates whether student *i* reports being retained, α_j is the intercept for year X_j, α_k is the intercept for grade W_k, and β_h is the coefficient for demographic and social

background covariate Z_h. Estimates from this model are listed in the first panel of Table 3. As written, we have explicitly divided the effects of the various groups of variables into two classes. We conceptualize the α s as additive intercepts that adjust for the mean levels of retention in each grade level and year and the β s are the effects of individual characteristics holding the grade and year specific levels constant. In both of the following models, the social background and demographic characteristics are expressed as deviations from their means to facilitate interpretation.

The intercept for each grade is significantly different from that of the omitted category, kindergarten, and the effects of previous year's grade follow the trends shown in Table 1. Average first graders are more likely to be retained than kindergartners. The rest of the grade levels have lower intercepts. The intercepts for students in ninth, tenth and seventh grades in order are the next higher intercepts relative to kindergarten with the other covariates held constant. The intercepts for year of survey also follow the trend in Table 1. The intercept for 1997 is not reliably different than the omitted category (1996) but the differences are significant for each subsequent year.

The effects of race-ethnicity and gender are in the expected directions but only the black-white difference is significant at even the 5 percent level. Exponentiating the coefficient indicates that black students are 32 percent more likely to be retained during this period than white students. The difference between boys and girls is also significant. Boys are 25 percent more likely to be retained than are girls. Additional children living in the household also increase one's chances of experiencing retention, all else being equal; each child increases the odds of retention by 8 percent.

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The differences between places of residence are all significant. Relative to children in the Northeast, Southeasterners are 25 percent more likely to be retained. Both Midwesterners (25 percent) and Westerners (22 percent) are less likely to be retained compared with their Northeastern counterparts. Residing in a major central city increases the odds of being retained by close to 35 percent relative to students in smaller cities, suburban, and rural areas.

Only four of the social background variables significantly affect the likelihood that a student was retained in the past year. Each year of father's postsecondary education reduces the likelihood of retention by 4.5 percent. Students whose parents own their home are 14 percent less likely to be retained. Income is also negatively associated with retention. An increase of 10 points in the spouse's occupational status score decreases the odds of retention by just over 4 percent.

INSERT TABLE 3 ABOUT HERE.

Multivariate Results: Logit with Interaction Constraints (LIC)

The LIC model (equation 2) is similar to the model in equation 1, except it introduces constrained grade level and year interactions for each demographic and social background covariate (Frederick and Hauser 2005; Hauser and Andrew 2005).

$$\text{logit}(P(Y_i = 1)) = \alpha_j X_{ij} + \alpha_k W_{ik} + \sum_h \beta_h Z_{ih} + \lambda_j \left(\sum_h \beta_h Z_{ih} \right) + \lambda_k \left(\sum_h \beta_h Z_{ih} \right) \qquad (2)$$

In this model $\alpha_j, \alpha_k, \beta_h, X_j, W_k,$ and Z_h are defined as above. The coefficients λ_j and λ_k scale the effects of the social background and demographic covariates by the same amount for each grade level and year respectively. These estimates are listed in the second panel of Table 3. Compared to the simple logistic regression, the LIC model

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reduces the AIC by 13.95 and is the preferred model according to the likelihood ratio test. Due in part to the large sample size, the LIC actually increased the BIC by 161. There appear to be real differences in the effects of the covariates across grades and years, but the evidence in favor of the LIC model is not unequivocal.

The interpretation of the LIC coefficients can be counterintuitive. As mentioned above each λ is a scalar which increases or decreases the effects of the linear predictor (the demographic and social background covariates). Because we treat grade level and year as nominal categories, the β coefficients are the effects for the omitted category – kindergarteners in 1996. The effects for other grades and other years are obtained by factoring the linear predictor out of equation 2. This yields a total scalar of $1 + \lambda_j + \lambda_k$. Thus, negative signs do not imply a change in the direction of the effect unless $\lambda_j + \lambda_k < -1$, which is never the case in these estimates.

The composite scalars are listed in Table 4. Because they combined additively, the trends are easily summarized in Figure 5. All else equal, the magnitudes of the coefficients on social background characteristics generally increase with grade level, but there are two spikes – at grades 3 and 9. The increased effects of social background at these key promotional gates indirectly suggest that retention decisions are being made with high stakes tests in mind, either as a result of poor test scores or in anticipation of low test scores. Holding grade-level constant, the scalars for year have decreased since 1996. There is a large drop between 1996 and 1997. The scalar increases slightly until 2001, excepting a spike in 1999. Net of the grade differences, in the final two years under examination, the magnitude of the scalar declined, providing suggestive evidence of a

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more meritocratic system, that is, a system in which the influence of social background has diminished.

TABLE 4 ABOUT HERE

FIGURE 5 ABOUT HERE

Incidence of Retention: State Reports

Generally, grade retention rates in the CPS data do not appear to have increased markedly since the mid-1990s amid the shift to a more rigorous accountability and testing regime. Do state-level reports of retention data corroborate this picture of grade retention trends? To answer this question, we collected data from state educational agencies and combined them with existing data on grade retention rates by state.[5] These data are presented in Table 5 for each state by year and grade. Perhaps not surprisingly, state retention rate data confirm many of the broader trends observed in the CPS data. Overall growth in state retention rates is marginal though some slight upward growth is observed over time in some grades in some states. Sudden spikes are observed in retention rates for some states, but retention rates generally return to previous levels in the next school year. Absolute levels of grade retention by region reflect noted disparities in the literature: Southern states have considerably higher rates of retention than other states. Data on the state of New York are limited, but it appears that, at least in the case of 9th grade retention, rates for New York are more comparable to states in the South than neighboring states in the Northeast and in the Midwest.

Some broad patterns are apparent in the state data, and particular states present interesting case studies. For example, when growth in retention did occur from the early 1990s through the present, this growth was often concentrated in kindergarten and the

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[5] We have not attempted to reconcile state-to-state differences in the definition of retention.

early primary grades. Tennessee and Texas both evince this pattern. Based on trend data for Tennessee for the 1980s through the 2003-04 school year, we see that kindergarten retention steadily grows over time with a 1 percent jump between the 2000-01 and 2001-02 school years. The state maintained a similar rate of retention in the next year. Texas shows a similar pattern with about a 1.0 percent increase in kindergarten retention between the 1998-99 and 2003-04 school years. Texas also saw nearly a 1 percent increase in the retention rate in second grade in the same time span, 40 percent of which occurred between the 2000-01 and 2001-02 school years. In approximately the same time span, Texas also saw about a 1.5 percent increase in grade retention in the third grade as well. Connecticut similarly exhibits a 1 percent increase in kindergarten grade retention in the same time period. In the available data, grade retention rates at higher grades show overall decline or stability in these states.

In contrast, retention rates in Kentucky in the primary grades remain relatively stable across time for the data available, but grade retention increases in the secondary grades. Growth in retention rates for the secondary grades is characterized by unusual spikes in this state. For example, grade retention in the 9th grade alone jumps a comparatively large 2 percent in the 1998-1999 school year. In the following school year (1999-2000), the same general cohort of students was subject to a 1.2 percent increase in retention. Alabama follows a similar trend line. In the available data, grade retention decreases in the primary grades but increases after about the 2000-01 school year for all secondary grades. In the 9th, 10th, and 12th grades, this increase was steady and retention rates did not permanently decline in subsequent years. In the 4-year span from the close

of the 2000-01 school year to the 2004-05 school year, retention increased 1.5 percent in the 9th grade alone in Alabama.

Another common pattern in the state data was a sharp spike in retention rates in one year, followed by a return the previous level in the next school year. This pattern was observed in Wisconsin. Overall, Wisconsin exhibited low and relatively stable retention rates characteristic of other Midwestern states, but in stark contrast to many Southern states. Despite the relative stability of retention rates in the state of Wisconsin, there is an unusual spike in 8th grade retention in the 2000-01 school year, when the retention rate unexpectedly doubled, jumping 1 percent. Yet, the 8th grade retention rate returned to normal within the next year or so. The same pattern occurs in Maine in multiple grades. Between the 2000-01 and 2001-02 school years, grade retention jumped about 2.25 percent in kindergarten before returning to the previous level of retention in the following year. Grade retention jumps 2 percent in the 3rd grade in the 1999-2000 school and similarly returns to the previous level in the next year. At the same time, overall retention rates in Maine show little movement. North Carolina also shows similar spikes in grade retention rates in the 3rd, 5th, and 8th grades—key gateway grades—in the 2001-02 school year.

Ohio represents one particular example of the spike pattern observed in other states. Trend data on grade retention rates for the state of Ohio show that in the 1999-2000 school year, *all* primary grades (K-8) exhibit increases in grade retention rates on the order of 2.5 to 3.7 percent, but retention rates returned to previous levels in the next school year. Yet, at least for kindergarteners, retention rates jump right back up again in the 2001-02 school year. Twelfth grade retention jumped a seemingly improbable 8

percent between 2003-04 and 2004-05 – from 3 to 11 percent – but this is likely

attributable to the introduction of a more demanding high school exit examination in

2004-05.

Despite several temporary spikes, retention rates have not been highly responsive

to the introduction and expansion of the accountability framework associated with high

stakes testing. Some states, such as New Mexico, show growth in overall retention rates

since the introduction of NCLB in January 2002 or since the 1990s under states'

individual accountability initiatives, but this trend is not uniform. Instead, if retention

rates do increase over time in states, this increase is concentrated in kindergarten and the

early primary grades or key transition grades such as the 9th grade. Alternatively, if

increases in grade retention rates are apparent and appear to be concurrent with the

accountability and standards movement, these increases are usually reversed in the next

year or soon thereafter. Thus, the story in grade retention rates over time, if any, appears

to be that states do exhibit short-term increases in grade retention rates associated with

the accountability movement, but reverse the increases in the next year. It is possible that

the spike and subsequent reversal in retention rates may mask other, possibly deleterious

trends for students such an increase in special education placement rates for students who

do not necessarily require special education. However, recent evidence indicates that at

least in the case of special education placement, students who were previously retained

are not now placed in special education classrooms. For example, Hanushek and

Raymond (2005) find no increase in special education placement rates attributable to the

accountability and standards movement.

Displaying retention trend data by grade did illustrate an important point. Though states' overall retention rates often showed little to no growth – and even decreases in grade retention from the early 1990s on, this larger trend often masked important underlying trends, such as increased kindergarten retention. In future work, we hope to disaggregate retention trend data further by socio-demographic and educational groups within larger states for which the CPS provides comparable and reliable data.

1Conclusion

Comparing data from the October Current Population survey and the state education agencies yields two consistent findings. First, there has not been an abrupt and sustained increase in the levels of retention in the decade of accountability that foreshadowed NCLB or after passage of NCLB. The CPS data do indicate increasing levels of retention since 1996, but these continue a longer trend that began in the 1970s (Frederick and Hauser 2005). Some spikes are observed in the data, particularly the state data. It is difficult without more detailed data to explain these sudden increases and subsequent corresponding declines in grade retention rates. Immediately available information suggests that at least in the case of Ohio, these spikes may be tied to the use of tests to make promotion decisions. This spike pattern also mimics other trends observed in the accountability literature vis-à-vis student test scores. Koretz (2002) observes a similar sharp decline in student test scores with the introduction of new accountability tests, which are typically followed by a subsequent sharp increase in test scores within a few years. It may be the case that tests are in fact being used to make promotion decisions but that as test scores return to previous levels due to coaching (as Koretz suggests) or some other mechanism, the retention rate returns to previous levels.

The trends observed by Koretz (2002) and seen in the states' data jointly suggest this may be the case. However, this is by no means a definitive conclusion based on our data and remains to be tested in future research.

Second, both sources of data suggest retention very early in a student's career – in kindergarten and first grade – may have been somewhat more responsive to the increasing popularity of accountability regimes. This trend is troubling. Even Alexander, Entwisle and Dauber (2003), who endorse grade retention, conclude that students who are retained in the first grade experience the greatest negative consequences, both academically and emotionally. As state testing regimes mature under NCLB, and more data become available, it will be possible to see how these trends continue. However, we note that testing in the lower grades is not mandated by NCLB, so any link between NCLB and increased retention in kindergarten or first grade must be anticipatory, rather than a direct consequence of the federal law.

Given the tentative conclusions that can be made with the present data, more research is clearly needed. In addition to breaking grade retention rates out by socio-demographic and educational groups, we will continue to exploit the CPS data to monitor grade retention trends. An additional year of these data will soon become available. We are also obtaining more detailed data on states' individual accountability regimes. We hope to combine this information with CPS data in order to more closely track the relationship between grade retention and testing. It is our hope that with these more detailed data, we will be able to address fully the questions of if and how much accountability regimes, particularly after the passage of NCLB, affect student promotion decision. For the time being, we conclude that grade retention rates have not been

dramatically responsive to the increasing popularity of accountability regimes, both prior to and immediately after the passage of NCLB. However, for particular groups, such as first-graders, accountability regimes characterized by high-stakes testing appear to have marked effects. Time will tell if this remains the case.

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Table 1: Percentage Retained by Grade and By Year					
	By Grade			By Year	
	On-Time	Retained		On-Time	Retained
Kinder	95.50	4.50	1996	97.68	2.32
First	93.29	6.71	1997	97.56	2.44
Second	97.70	2.30	1998	97.34	2.66
Third	97.87	2.13	1999	97.19	2.81
Fourth	98.26	1.74	2000	97.09	2.91
Fifth	98.53	1.47	2001	97.05	2.95
Sixth	98.23	1.77	2002	97.41	2.59
Seventh	97.63	2.37	2003	97.09	2.91
Eighth	98.17	1.83			
Ninth	96.90	3.10			
Tenth	97.76	2.24			
Eleventh	97.91	2.09			

Table 2: Percentage Retained by Previous Year Grade and Year of Survey								
	1996	1997	1998	1999	2000	2001	2002	2003
Kinder	4.97	3.82	3.92	4.01	5.00	5.26	4.29	4.77
First	5.62	6.63	7.13	4.52	6.99	6.71	6.87	9.12
Second	1.67	2.17	2.75	2.22	2.79	2.45	2.32	1.99
Third	1.57	1.78	2.24	3.38	2.11	1.71	1.67	2.49
Fourth	1.61	1.72	1.16	1.75	1.64	2.21	1.93	1.86
Fifth	1.38	1.04	1.16	1.31	2.11	1.49	1.69	1.55
Sixth	1.37	1.36	1.95	1.93	2.55	1.88	1.85	1.25
Seventh	1.76	1.73	2.18	3.05	3.07	2.28	1.90	2.94
Eighth	1.02	1.51	1.79	2.75	1.94	1.86	1.73	2.01
Ninth	3.13	2.93	2.21	4.04	2.67	4.11	2.29	3.45
Tenth	1.95	2.20	2.39	2.23	2.09	2.29	2.73	2.01
Eleventh	1.30	1.79	2.55	2.46	1.97	3.32	1.70	1.54
Proportion of the Synthetic Cohort that Enters 12th Grade "On Time"								
Percent	75.72	74.70	72.60	71.05	70.05	69.59	72.97	69.92

Table 3: Results from Logits Predicting Retention in the Year Prior to the Survey				
Variable	*Simple Logit*		*Logit with Interaction Constraints*	
	coef.	**se**	**coef.**	**se**
Previous Year's Grade				
First Grade	0.3525	0.066	0.2009	0.279
Second Grade	-0.7648	0.088	-1.0418	0.366
Third Grade	-0.8854	0.091	0.1772	0.402
Fourth Grade	-0.9656	0.094	-1.0294	0.385
Fifth Grade	-1.0740	0.097	-0.7887	0.401
Sixth Grade	-1.1398	0.100	-0.5057	0.407
Seventh Grade	-0.7069	0.087	0.1384	0.371
Eight Grade	-1.0917	0.100	-0.4634	0.418
Ninth Grade	-0.4661	0.082	0.6575	0.374
Tenth Grade	-0.6433	0.090	0.1666	0.388
Eleventh Grade	-0.7574	0.098	-0.1834	0.429
Year of Survey				
1997	0.0440	0.082	-0.5840	0.350
1998	0.2355	0.080	-0.3765	0.334
1999	0.2203	0.081	-0.0013	0.313
2000	0.2585	0.081	-0.2953	0.336
2001	0.2702	0.078	-0.0831	0.313
2002	0.1730	0.080	-0.2250	0.324
2003	0.2329	0.080	-0.3170	0.327
Demographic Characteristics				
Black	0.2837	0.066	0.2596	0.076
Hispanic	0.0747	0.065	0.1063	0.068
Other Race	0.0227	0.087	0.0129	0.089
Male	0.2234	0.039	0.2281	0.052
Midwest	-0.2844	0.062	-0.3283	0.079
South	0.2301	0.055	0.2174	0.067
West	-0.2497	0.061	-0.2665	0.074
Major Central City	0.3016	0.071	0.3081	0.085
Number of Children in Household	0.0773	0.015	0.0798	0.019
Social Background Characteristics				
Head's Occupation	-0.0012	0.001	-0.0020	0.001
Head's K-12 Education	-0.0076	0.012	-0.0086	0.012
Head's Postsecondary Education	-0.0459	0.014	-0.0495	0.016
Spouse's Occupation	-0.0044	0.001	-0.0042	0.002
Spouse's K-12 Education	-0.0071	0.013	-0.0016	0.013
Spouse's Postsecondary Education	0.0099	0.006	0.0099	0.006
Logged Income	-0.1821	0.032	-0.1816	0.045
Home Ownership	-0.1472	0.049	-0.1495	0.054

Lambda j				
First Grade			-0.0804	0.137
Second Grade			-0.1475	0.177
Third Grade			0.5837	0.241
Fourth Grade			-0.0350	0.195
Fifth Grade			0.1516	0.217
Sixth Grade			0.3396	0.233
Seventh Grade			0.4536	0.220
Eight Grade			0.3342	0.235
Ninth Grade			0.6009	0.230
Tenth Grade			0.4255	0.223
Eleventh Grade			0.2993	0.230
Lambda k				
1997			-0.3441	0.147
1998			-0.3328	0.142
1999			-0.1236	0.155
2000			-0.3021	0.148
2001			-0.1962	0.145
2002			-0.2189	0.149
2003			-0.2966	0.143
Missing Head's Occupation	0.0839	0.074	0.0905	0.073
Missing Spouse's Occupation	0.1312	0.045	0.1545	0.052
Constant	-1.3857	0.336	-1.4320	0.454
Observations	123799		123799	
Log Likelihood	-12594.91		-12569.937	

Table 4: Combined Scalar for Each Grade Level in Each Year								
	Year							
Grade	1996	1997	1998	1999	2000	2001	2002	2003
Kindergarten	1	0.6559	0.6672	0.8764	0.6979	0.8038	0.7811	0.7034
First	0.9196	0.5755	0.5868	0.7961	0.6175	0.7234	0.7007	0.6230
Second	0.7721	0.4280	0.4393	0.6485	0.4699	0.5759	0.5531	0.4754
Third	1.3558	1.0117	1.0230	1.2322	1.0537	1.1596	1.1369	1.0592
Fourth	1.3208	0.9768	0.9881	1.1973	1.0187	1.1247	1.1019	1.0242
Fifth	1.4724	1.1284	1.1396	1.3489	1.1703	1.2763	1.2535	1.1758
Sixth	1.8121	1.4680	1.4793	1.6885	1.5099	1.6159	1.5931	1.5154
Seventh	2.2657	1.9216	1.9329	2.1421	1.9635	2.0695	2.0467	1.9690
Eighth	2.5998	2.2558	2.2670	2.4763	2.2977	2.4037	2.3809	2.3032
Ninth	3.2008	2.8567	2.8680	3.0772	2.8986	3.0046	2.9818	2.9041
Tenth	3.6262	3.2822	3.2935	3.5027	3.3241	3.4301	3.4073	3.3296
Eleventh	3.9255	3.5814	3.5927	3.8019	3.6234	3.7293	3.7066	3.6289

Table 1. Percentages of Students Retained in Grade in Selected States by Grade-Level Year

Grade Level	PK	K	1	2	3	4	5	6
State								
Alabama								
1994-95		4.6	7.7	2.8	2.4	2.1	2.1	3.2
1995-96		4.4	7.9	2.9	2.3	2.3	2.4	2.9
1996-97		5.1	8.5	3.3	2.5	2.1	2	2.9
2000-01	4.56	5.43	7.18	2.84	2.32	1.82	1.85	3.14
2001-02	2.55	5.25	6.8	2.61	2.12	1.85	1.6	3.08
2002-03	1.4	5.54	6.68	2.41	2.03	1.83	1.47	3.11
2003-04	1.34	5.37	6.45	2.33	1.96	1.68	1.47	3.32
2004-05	1.58	4.91	6.43	2.3	1.79	1.55	1.42	2.74
Arizona								
1979-80		5.2	7.7	4	2.4	1.9	1.4	1.3
1985-86		8	20	8	5	4	4	4
1994-95	18	1.4	2.4	.9	.6	.4	.4	1.0
1995-96	18.9	1.6	2.4	1.0	.6	.4	.4	.9
1996-97	14.8	1.7	2.2	1.0	.7	.5	.5	1.1
Arkansas								
1997-98								
1998-99								
California								
1988-89	5.7	4.4	1.8	1.1	0.6	0.5	0.5	1
Connecticut								
1998-99		3.3	4.2	2.3	1.6	0.9	0.7	0.7
1999-2000		3.9	4.3	1.9	1.9	.8	.9	.8
2000-01		3.9	4.3	1.8	1.7	1.0	.9	.9
2001-02		3.9	4.3	1.6	1.4	.8	.6	.8
2002-03		4.2	4.5	1.9	1.6	.8	.8	.8
2003-04		4.5	4.2	1.8	1.4	.6	.7	.8
Delaware								
1979-80			11.4	5.1	2.9	2.4	3.1	2.4
1985-86		5.4	17.2	4.9	2.8	2.3	3	3.2
1994-95		2.1	5.8	2.1	1.1	0.7	0.6	1.4
1995-96		1.6	5.3	2	1.9	0.8	0.9	1.3
1996-97		2	5	2.4	1.4	0.9	1	1.9

Grade Level	7	8	9	10	11	12	Total
State							
Alabama							
1994-95	7.3	5.8	13.1	7.2	6.1	3.8	5.4
1995-96	6.7	5.4	12.1	7.2	6.2	3.5	5.2
1996-97	6.1	4.4	12.6	6.7	5.2	3.1	5.1
2000-01	6.12	4.33	10.52	8.18	5.78	4.01	4.86
2001-02	5.06	3.29	10.97	8.34	6.02	4.45	4.68
2002-03	5.1	3.26	11.59	8.53	6.58	4.18	4.76
2003-04	5.61	3.78	11.72	8.03	5.91	3.86	4.76
2004-05	5.59	4	12.02	8.72	5.47	4.55	4.78
Arizona							
1979-80	3.1	2.3	4.4	2.4	2.5	6.9	3.5
1985-86	8	7	6	3	2	14	7.2
1994-95	2.5	2.2	5.3	3.5	2.3	8.7	2.3
1995-96	2.3	2.2	5.4	3.5	2.6	9.7	2.4
1996-97	2.7	2.3	7.0	5.0	3.1	10.2	2.8
Arkansas							
1997-98							2.3
1998-99							4.2
California							
1988-89	0.7						
Connecticut							
1998-99	1.9	1.2	9.1	5.4	4	2.5	
1999-2000	1.3	1.0	9.1	5.8	4.7	2.5	
2000-01	1.4	.8	8.5	5.2	3.7	2.5	
2001-02	1.3	1.0	8.2	5.3	4.1	2.3	
2002-03	1.3	.8	8.6	4.9	3.7	2.2	
2003-04	1.1	.7	7.6	4.4	3.6	2.2	
Delaware							
1979-80	7.9	8.1	13.1	12.6	7.7	6.6	7.0
1985-86	9.6	7.7	15.6	16.8	8.7	7.5	8.1
1994-95	3.4	1.7					
1995-96	2.8	1.6					
1996-97	3.4	2.8					

Grade Level	PK	K	1	2	3	4	5	6
State								
District of Columbia								
1979-80			15.3	10	7.2	7.2	6.3	3.1
1985-86			12.7	8.4	7.4	5.4	4.6	2.8
1991-92			12.9	10.8	8.9	6.9	6.5	3
1992-93			10.4	8.2	7.4	8	6.2	3.3
1993-94			11.1	7.9	6.3	6.1	5.3	3.5
1994-95			12.7	8.5	6.2	5.9	5.8	2.4
1995-96			11.4	8.7	7.4	7	5.5	2.3
1996-97			14.7	11.3	10.8	8	6.1	4.1
Florida								
1979-80		6.1	13.7	7.4	7	5.9	4.6	5.5
1985-86		10.5	11.2	4.7	4.5	3.8	2.6	3.5
1994-95	3.1	3	3.3	1.5	1.1	0.8	0.6	3.3
1995-96	1.8	3.1	3.6	1.9	1.2	0.9	0.7	3.7
1996-97	3.6	3.6	4.1	2.2	1.5	1	0.7	4.4
Georgia								
1979-80			11	4.7	3.8	2.8	2.5	2.6
1985-86		8	12.4	6.7	7.8	5.2	3.9	5.3
1994-95		3.8	3.5	1.5	1.1	0.7	0.6	1.5
1995-96		3.7	3.7	1.9	1.2	1	0.7	1.7
1996-97		3.6	3.8	2.1	1.5	1	0.8	1.9
1997-98		3.7	4	2.4	1.7	1.3	1.1	2.1
1998-99		4.32	4.3	2.41	1.7	1.2	1.03	2.22
1999-2000		4.5	4.5	2.5	1.77	1.31	1.02	2.32
2000-01		4.64	4.7	2.79	2.24	1.76	1.3	2.46
2001-02		4.26	4.08	2.41	1.94	1.68	1.27	2.73
2002-03								
2003-04								
Hawaii								
1979-80			1.1	0.7	0.5	0.4	0.4	0.4
1985-86		2	1.6	1	0.7	0.5	0.4	0.5
Indiana								
1994-85								
1995-96								
1996-97								

Grade Level State	7	8	9	10	11	12	Total
District of Columbia							
1979-80			20.5			16.6	
1985-86	10.6	6.6					7.3
1991-92	17.3	17.6	15.2	22.1	18.3	11.8	
1992-93	18.5	16.4	16.5	26	23.8	12.7	
1993-94	15.6	15.2	19.5	23.7	18.6	14.1	
1994-95	12.2	13.6	16.1	22.1	15.1	13.9	
1995-96	11.9	12.1	16.2	24.3	15.9	13.3	
1996-97	15.4	16.5	18.7	21.8	21.7	13.6	
Florida							
1979-80	10.4	8.3	10.2	11.5	7.5	4.4	8
1985-86	7.9	5.8	12.1	11.9	8.9	3.5	7.2
1994-95	4.7	3.6	11.1	9.3	7.8	5.3	4.1
1995-96	4.7	3.6	12.8	10.8	7.8	5.2	4.4
1996-97	4.9	4	14.3	12.1	8.6	5.7	5
Georgia							
1979-80	5.3	7.4	13.3	10.8	7.9	4	6.5
1985-86	6.7	7.5	18.1	12.2	8.7	4.5	8.5
1994-95	1.8	1.9	11.6	7.5	5	3	
1995-96	2.1	2.2	12.6	7.7	5.2	3.2	
1996-97	2.4	2.2	13.1	8.2	5.6	3.4	
1997-98	2.5	2.1	12.4	8.7	5.4	3.5	
1998-99	2.96	2.7	13.23	8.4	5.79	3.1	4.2
1999-2000	2.81	2.67	13.37	8.99	6.38	3.74	4.3
2000-01	3.27	2.88	13.4	9.17	7.06	4.59	4.6
2001-02	2.81	2.61	12.31	7.85	5.82	3.57	4.1
2002-03							3.9
2003-04							3.9
Hawaii							
1979-80	0.2	2.3	13.1	10.1	8.5	5.2	3.8
1985-86	2.1	2.8	8.9	6.9	5.5	0.8	2.6
Indiana							
1994-85							1.4
1995-96							1.6
1996-97							1.4

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Grade Level	PK	K	1	2	3	4	5	6
State								
Kentucky								
1979-80		2.3	12.6	5.7	3.4	2.2	1.8	1.9
1985-86		4	5.3	4.9	3	2.3	1.9	2.7
1992-93						0.68	0.61	1.47
1994-95						1.1	0.7	1.9
1995-96						1.1	0.8	1.8
1996-97						1.15	0.8	1.66
1997-98						1.23	0.87	2.05
1998-99						1.34	1.22	1.99
1999-2000						1.36	0.85	1.95
2000-01						1.15	0.71	2.02
2001-02						0.97	0.52	1.94
2002-03						0.74	0.54	1.8
2003-04						0.62	0.41	1.58
Maine								
1995-96	0.87	2.44	2.19	1.25	0.76	0.43	0.25	0.53
1996-97	0	2.52	2.39	1.3	0.7	0.32	0.26	0.52
1997-98	4.27	2.38	2.04	1.14	0.64	0.42	0.24	0.51
1998-99	0	2.68	2.26	1	0.57	0.3	0.23	0.51
1999-2000	0.96	2.85	2.14	1.02	2.53	0.36	0.23	0.59
2000-01	0	2.96	2.34	1.15	0.51	0.38	0.43	0.64
2001-02	1.63	5.26	2.07	0.93	0.63	0.31	0.22	0.72
2002-03	0	3.02	2.04	1.09	0.55	0.47	0.26	0.47
2003-04	4.51	3.27	2.15	0.99	0.57	0.33	0.32	0.43
Maryland								
1979-80				7.6	3.5	3.3	2.5	2.5	1.8
1985-86								
1994-95		0.8	2	1.1	0.7	0.5	0.2	2.1
1995-96		0.9	2.3	1.2	0.7	0.5	0.3	2.3
1996-97		1.1	2.8	1.5	1	0.7	0.4	2.5
Massachusetts								
1994-95	0.4	2	3	1.1	0.5	0.3	0.2	0.6
1995-96	0.2	1.9	3.1	1.3	0.6	0.3	0.2	0.6
1996-97								
1997-98	0.4	2	3.2	1.3	0.7	0.5	0.3	0.7

Grade Level	7	8	9	10	11	12	Total
State							
Kentucky							
1979-80	4.2	3.6	5.8	4.2	2.8	3.2	4.4
1985-86	5.4	3.8	9.6	6.3	4.6	3.4	5.3
1992-93	2.26	1.37	7.86	5.52	3.4	2.59	2.84
1994-95	2.7	1.6	10.7	6.9	4	2.3	3.6
1995-96	2.7	1.9	10.7	6.8	4.1	2.2	3.62
1996-97	2.6	1.81	10.28	6.49	3.74	2.26	3.52
1997-98	2.82	1.94	10.41	6.74	4.33	2.06	3.71
1998-99	2.75	1.99	12.55	6.88	4.25	2.3	4.03
1999-2000	2.54	1.61	11.84	8.03	4.38	2.46	3.97
2000-01	2.23	1.48	11.17	7.51	4.35	2.1	3.67
2001-02	1.97	1.37	10.81	7.59	4.32	2.31	3.55
2002-03	1.76	1.36	10.03	7.5	4.3	2.47	3.38
2003-04	1.57	1.13	10.79	6.91	4.11	2.11	3.27
Maine							
1995-96	1.02	0.95	3.56	2.42	1.77	1.62	1.44
1996-97	1.05	1.01	3.78	2.58	1.72	1.2	1.47
1997-98	0.93	1.11	3.78	2.38	2	1.46	1.43
1998-99	0.9	1.3	4.1	2.53	1.67	1.2	1.22
1999-2000	0.93	0.99	4.58	3.19	2.19	1.2	1.59
2000-01	1.48	1.3	5.09	3.65	2.38	1.23	1.82
2001-02	1.05	1.21	5.26	3.29	2.39	1.65	1.78
2002-03	0.81	0.98	4.14	3.33	2.14	1.59	1.64
2003-04	1.1	1.06	4.59	3.04	2.41	1.29	1.67
Maryland							
1979-80	8.5	7.6	8.36	11.3	6.2	4.4	5.8
1985-86							5.5
1994-95	3.2	2.4	13.1	7.1	4.8	4.7	3.1
1995-96	3.3	2.3	12.2	6.6	4.7	5.3	3.2
1996-97	3.7	2.6	10.3	6.1	4.3	5.5	3.2
Massachusetts							
1994-95	1.5	1.5	6.3	4.5	3.3	2.2	
1995-96	1.4	1.5	6.3	4.5	3.6	1.9	
1996-97							
1997-98	1.4	1.4	6.8	4.3	3.2	2.1	

	PK	K	1	2	3	4	5	6
1998-99	1	2.4	3.6	1.5	0.9	0.6	0.4	0.8
1999-2000	0.5	2.8	3.9	1.9	1.3	0.7	0.5	1
2000-01	1.6	2.5	3.7	1.7	1.6	0.7	0.5	1.2
Grade Level	PK	K	1	2	3	4	5	6
State								
Michigan								
1994-95								
1995-96								
Mississippi								
1979-80			15.1	6.9	4.8	5	5.6	5.1
1985-86		1.4	16.1	7	5.3	5.7	6	5.6
1994-95	0	4.9	11.9	6.1	4.9	6.2	7.1	8.3
1995-96	22.2	4.8	11.6	5.8	4.6	5.6	6.3	7.5
1996-97	16.7	5.4	11.9	6.6	5.4	6.1	6.6	7.7
New Hampshire								
1979-80			8.6	3.3	2	1.3	1.1	0.9
1985-86		4.4	9.1	3.7	1.5	1.1	1	7
New Mexico								
1990-91		2.2	6.1	2.8	1.5			
1991-92		1.6	4.8	2	1.1			
1992-93		1.5	4.3	1.7	1.2			
1993-94		1.3	4.2	1.9	1			
2001-02								
2002-03								
2003-04								
New York								
1994-95								
1995-96								
1996-97								
1998-99								
1999-2000								
2000-01								
2001-02								
2002-03								

Grade Level	7	8	9	10	11	12	Total
State							
1998-99	1.6	1.7	7.4	4.6	3.3	1.9	
1999-2000	1.8	1.5	8.1	4.7	3.6	1.8	
2000-01	1.7	1.5	8.4	4.3	3.2	2.1	
Michigan							
1994-95			7.8	5.6	3.8	2	
1995-96			4.8	3.9	2.7	1.7	
Mississippi							
1979-80	13.5	11.1	12.4	11.7	8.1	6	8.9
1985-86	11.2	9.3	12.9	12.6	9	5.7	8.9
1994-95	15.4	13.2	21	13.5	9.5	6.5	9.6
1995-96	14.2	11.5	20.9	12.9	7.9	5.5	9.5
1996-97	15.6	12.9	19.7	12.8	7.7	5.2	9.8
New Hampshire							
1979-80	2.5	2.8	7.7	4.9	3.6	3.6	3.6
1985-86	3.3	3.2	10.5	5.5	4.2	4.9	4.2
New Mexico							
1990-91							
1991-92							
1992-93							
1993-94							
2001-02							1.5
2002-03							1.4
2003-04							2.2
New York							
1994-95			16.2				
1995-96			18.2				
1996-97			19.5				
1998-99			20				
1999-2000			16.9				
2000-01			15.6				
2001-02			14.9				
2002-03			15.3				

Grade Level	PK	K	1	2	3	4	5	6
State								
North Carolina								
1979-80		4.5	9.8	6.0	4.5	3.2	2.8	3.4
1985-86		6	9.3	5	5.7	2.7	2.1	8.1
1987-88		7.4	7.7	3.8	2.8	2	1.3	2.2
1988-89		6.8	7.2	2.9	2.7	1.6	1.1	2.3
1989-90		5.3	5.5	2.1	2	1.1	0.8	1.6
1990-91		3.7	4	1.6	1.4	0.8	0.6	1.5
1991-92		2.9	4.1	1.9	1.5	0.7	0.6	1.4
1992-93		3	4.1	2	1.6	0.7	0.5	1.3
1993-94		3.3	4.8	2.4	1.9	0.9	0.7	1.6
1994-95		3.5	4.7	2.4	1.9	1	0.7	1.7
1995-96		3.8	5	2.8	2.1	1.3	0.8	2.2
1996-97		4.2	5.7	3.1	2.5	1.4	1	2.6
1998-99		4.9	6.3	3.6	2.9	1.6	1.2	3
1999-2000		6	7.1	3.9	3.5	1.8	1.4	3.4
2000-01		6.4	7.1	3.9	3.4	1.9	2	3.5
2001-02		6.7	6.6	3.7	5.3	2.3	3.1	3.2
2002-03		6.6	6.5	3.3	3.7	1.5	1.9	2.7
2003-04		6.1	5.9	3	3.2	1.2	1.5	2.3
Ohio								
1994-95			4	1.6	1.2	0.9	0.9	1.9
1995-96		7.6	4.1	1.7	1.1	0.8	0.7	1.6
1996-97		3.3	4.7	2	1.8	1.1	0.9	1.8
1997-98		3.4	5.1	2.4	2.3	1.4	1.1	2.5
1998-99		4.1	5.5	2.5	2.4	1.6	1.2	2.5
1999-2000		6.9	8.9	6.2	6	5.1	4.9	5.7
2000-01		3.6	4.3	1.8	1.3	1	0.6	2
2001-02		5.3	3.6	1.5	1.1	1.4	0.7	1.4
2002-03		5.3	3.5	1.3	0.8	0.6	0.4	1.1
2003-04		5.3	3.1	1.1	0.9	0.6	0.6	1
2004-05		2.9	2.9	1.2	1	0.4	0.7	1
South Carolina								
1977-78			8.3	4.4	3.5	2.7	2.6	3.5
1994-95			7	2.2	1.9	1.4	1.7	2.4
1995-96			6.8	2.6	2	1.4	1.6	2.4
1996-97			7	2.9	2.1	1.7	1.8	2.8

Grade Level	7	8	9	10	11	12	Total
State							
North Carolina							
1979-80	6.8	7.1	14.1	14.8	8.6	4.2	6.9
1985-86	7.9	11	13.9	13.2	9.3	3.9	7.7
1987-88	3.6	3	9	7.6	4.5	2.2	4.5
1988-89	3.5	2.8	9.6	7.8	4.5	1.8	4.2
1989-90	2.6	2.2	10.4	7.4	4.3	1.7	3.6
1990-91	2.7	2	10.8	7.9	4.6	1.9	3.3
1991-92	2.4	1.9	11.3	7.8	4.6	1.9	3.3
1992-93	2.4	1.8	12.8	8.3	4.9	1.8	3.4
1993-94	2.5	2.1	13.4	10	5.7	2	3.8
1994-95	2.6	1.8	15	10.2	5.9	1.9	4
1995-96	3.2	2.3	15.7	10.2	6.1	2.2	4.3
1996-97	3.4	2.8	15.8	10.3	6.8	2.1	4.7
1998-99	3.4	2.4	16.9	10.1	6.5	2.1	5
1999-2000	3.5	2.6	16.1	9.5	6.4	2	5.2
2000-01	3.4	2.3	14.6	8.4	6	2.1	5
2001-02	3.4	3.6	14.7	8.4	5.7	2.3	5.3
2002-03	3.1	3	14.2	8.6	6.1	2.6	4.9
2003-04	2.7	2.7	14.3	8.1	5.9	2.8	4.7
Ohio							
1994-95	2.9	2.3	9.1	5.2	2.9	4.4	
1995-96	2.1	1.8	8.1	4.8	2.7	3.9	
1996-97	2.9	3.1	11.4	5.9	3.2	4.2	
1997-98	3.7	3.5	10.8	5.6	3.5	4.4	
1998-99	3.7	3.1	9.7	4.9	3.2	4.6	
1999-2000	6.2	5.9	10.9	7	4.7	5.4	
2000-01	2.7	2.2	7.8	4.1	2.8	3.4	
2001-02	2.3	1.6	7.4	3.5	2.4	3.6	
2002-03	1.9	1.4	2.7	3.8	2.6	3.1	
2003-04	1.9	1.6	6.2	3.3	2.4	3	
2004-05	1.6	1.6	5.9	2.7	2	8.6	
South Carolina							
1977-78	3.8	2.6				2.6	
1994-95	3.3	2.2					
1995-96	3.8	2.7					
1996-97	3.9	2.9					

Grade Level	PK	K	1	2	3	4	5	6
State								
Tennessee								
1979-80		2.4	10.7	5.6	3.9	3.1	3.3	2.8
1985-86		3.9	10.9	5.1	3.9	3.3	3.2	3.2
1991-92								
1992-93								
1993-94								
1994-95								
1995-96								
1996-97		4.3	5.5	2.5	1.8	1.2	1.4	2.7
1999-2000		4.1	4.7	2.1	1.6	1.1	1.2	2.7
2000-01		4.2	5.1	2.4	1.7	1.4	1.6	2.8
2002-03		5.3	4.6	2.3	1.9	1.3	1.3	2.7
2003-04		5.5	4.4	1.9	1.4	1.1	1.2	2.4
Texas								
1992-93		1.6	7.7	2.5	1.5	1.2	1.1	2.3
1993-94		1.4	6	2.1	1.2	0.9	0.8	2
1994-95		1.5	5.8	2.2	1.3	1	0.9	1.7
1995-96		1.7	5.9	2.6	1.5	1	0.8	1.7
1996-97		1.3	5.4	2.3	1.4	1	0.6	1.7
1997-98		1.4	5	2.3	1.4	1	0.6	1.5
1998-99		1.7	5.4	2.8	1.8	1.2	0.7	1.6
1999-2000		2	5.9	3	2.3	1.2	0.7	1.5
2000-01		2.3	5.8	3.1	2.2	1.3	0.8	1.6
2001-02		2.6	5.8	3.5	2.5	1.4	0.8	1.5
2002-03		2.7	5.9	3.5	2.5	1.3	0.7	1.4
2003-04		2.9	5.9	3.5	2.9	1.6	0.9	1.4
Vermont								
1994-95		1.9	1.7	1	0.5	0.6	0.3	0.3
1995-96		1.5	1.6	1.1	0.7	0.3	0.2	0.3
1996-97		2.1	2.4	1.2	0.6	0.5	0.4	0.4
Virginia								
1979-80		6.2	11	6.3	5.3	4.4	4.2	4.2
1985-86		8.3	10.2	4.8	4.2	3.7	2.9	3.4
1993-94		3	3.9	2	1.3	1.1	0.7	3.1
1994-95		3.5	4.2	2.1	1.5	1.2	0.7	3.4

Grade Level	7	8	9	10	11	12	Total
State							
Tennessee							
1979-80	7.3	5.6	8.5	6.3	4.1	6.1	5.4
1985-86	8.1	6.1	9.6	8.6	7	5.9	6.2
1991-92							4.2
1992-93							3.9
1993-94							3.9
1994-95							3.5
1995-96							3.4
1996-97	7.2	5.7	13.4	9.5	7	5.8	5.2
1999-2000	5.5	4.1	11.4	8	6.1	4.3	4.3
2000-01	5.6	4.1	12	8.3	6	4.7	4.5
2002-03	4.1	3.4	10.7	7.5	6.4	4.9	4.2
2003-04	3.7	2.7	11.1	7.7	5.4	4.3	4
Texas							
1992-93	3.2	2.3	16.7	8.5	6.1	4.1	4.4
1993-94	3	2.2	16.5	8.2	5.7	3.8	4
1994-95	2.7	1.9	16.8	7.9	5.4	3.9	4
1995-96	2.9	2.1	17.8	7.9	5.5	4.2	4.3
1996-97	2.9	1.9					
1997-98	2.6	1.8					
1998-99	2.8	1.9					
1999-2000	2.9	2					
2000-01	2.8	1.9					
2001-02	2.5	1.9					
2002-03	2.2	1.6					
2003-04	2.3	1.7					
Vermont							
1994-95	1.5	1.6	3.9	2.6	2.2	4.8	1.7
1995-96	1.5	1.3	4.9	3	2.2	3.4	1.7
1996-97	1.5	1.3	4.8	2.6	2.2	4.4	1.8
Virginia							
1979-80	7.7	12.6	11.5	8.3	6.3	7.4	7.4
1985-86	8.1	9.7	13.9	8.8	6.1	7	7.2
1993-94	5.4	6.2	12.2	8.3	6.3	6.6	4.6
1994-95	5.2	6.3	13.4	8.6	6.6	6.5	4.9

	Grade Level	PK	K	1	2	3	4	5	6
1995-96			3.9	4.3	2.4	1.9	1.6	1.1	3.6
1996-97									
1997-98									
1998-99									
1999-2000									
2000-01									
2001-02									
2002-03									
2003-04									
2004-05			4.18	3.42	2	1.28	0.9	0.55	3.45

Grade Level	PK	K	1	2	3	4	5	6
State								
West Virginia								
1979-80		1.7	10.8	3.4	2.2	1.9	1.8	1.4
1985-86		4.4	7.5	3.3	2.7	2.3	2.2	1.8
1994-95		4.7	4.9	2	1.5	0.9	0.9	1.3
1995-96		4.7	5.4	2.2	1.4	0.8	0.7	1.3
1996-97		5.8	6.7	3.7	2.5	2	2.1	3.5
Wisconsin								
1993-94								
1994-95								
1995-96								
1996-97		1.2	2.2	1	0.5	0.3	0.2	0.6
1997-98		1.6	2.7	1.2	0.67	0.41	0.32	0.66
1998-99		1.6	2.5	0.94	0.57	0.36	0.26	0.87
1999-2000		1.6	2.2	1	0.56	0.36	0.29	0.79
2000-01		1.8	2	0.92	0.53	0.39	0.23	0.94
2001-02		1.8	1.7	0.82	0.54	0.32	0.18	0.78
2002-03		1.8	1.4	0.78	0.53	0.61	0.25	0.66
2003-04		1.8	1.4	0.62	0.48	0.54	0.23	0.56

	7	8	9	10	11	12	Total
1995-96	5.3	6	13.2	8.4	6.2	6.4	4.9
1996-97							5.5
1997-98							5.8
1998-99							6.2
1999-2000							5.8
2000-01							5.4
2001-02							5.2
2002-03							5.5
2003-04							4.6
2004-05	4.67	4.04	11.73	6.22	4.82	5.74	4.15

Grade Level	7	8	9	10	11	12	Total
State							
West Virginia							
1979-80	3.5	2.5					3.4
1985-86	4.6	2.5					3.5
1994-95	3.7	3					2.6
1995-96	3.5	2.7					2.6
1996-97	4.6	2.9					3.8
Wisconsin							
1993-94							2.2
1994-95							2.1
1995-96							2.3
1996-97	1	0.8	8.5	7.9	6.3	4.4	2.8
1997-98	1.1	0.83	9.2	7.9	6.1	4.3	3
1998-99	1.29	0.82	9.5	7.36	5.98	3.7	2.9
1999-2000	1.1	0.81	9	7.3	6	4.3	2.9
2000-01	1.1	1.8	8.4	7.4	5.8	4.7	2.9
2001-02	1.14	1.18	8.2	6.5	5.4	3.9	2.6
2002-03	0.94	0.7	6.5	5.6	5.1	3.3	2.3
2003-04	0.89	0.79	6.5	5.1	5.1	3.3	2.2

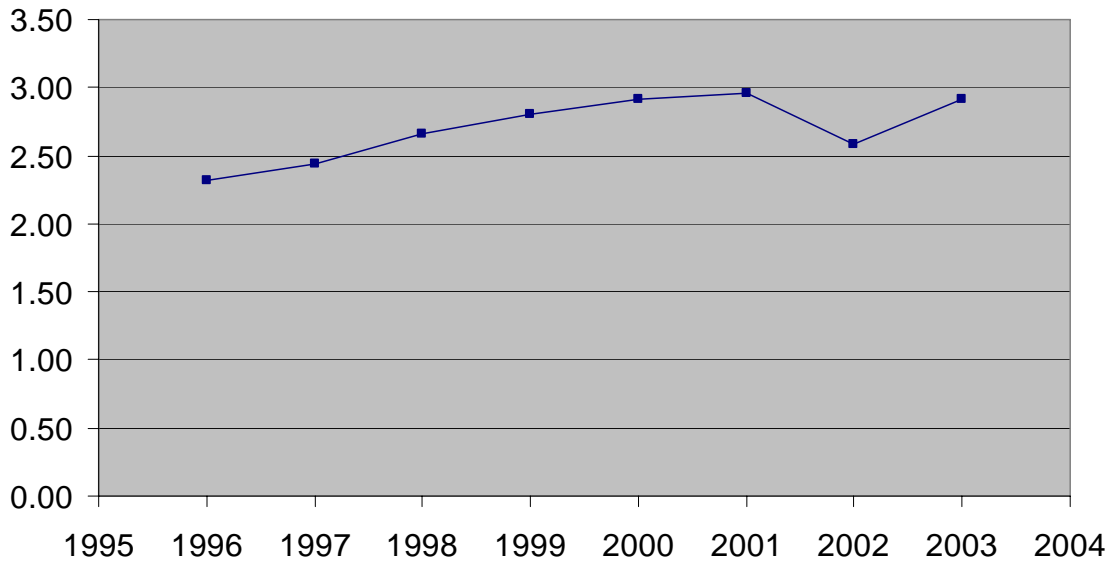Figure 1: Total Percentage of Students Retained between 1996-2003

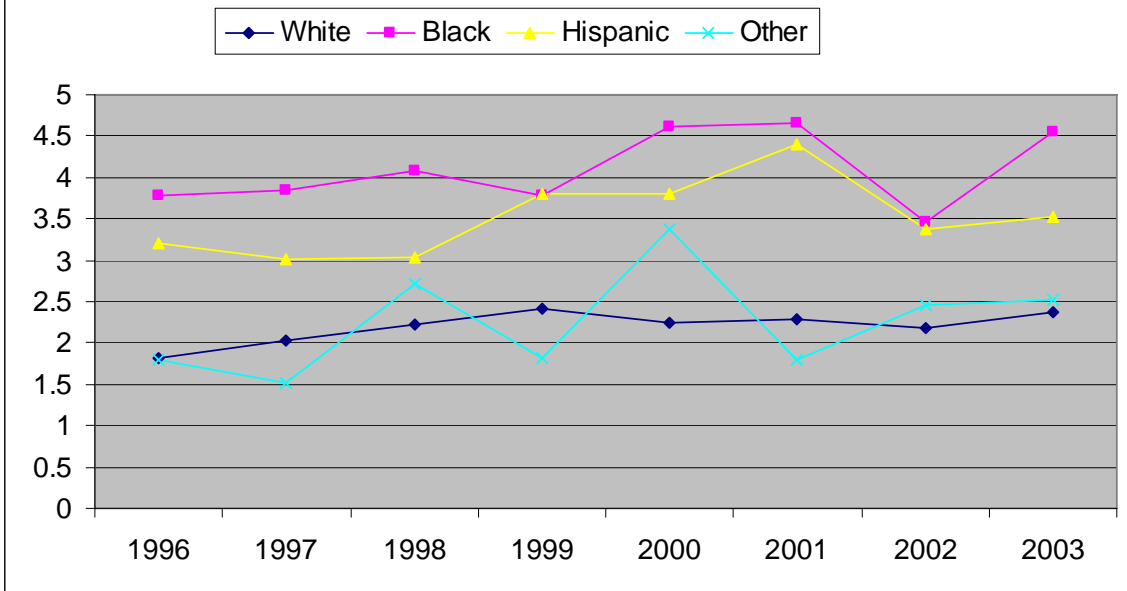**Figure 2a: Percentage Retained by Year and Race**
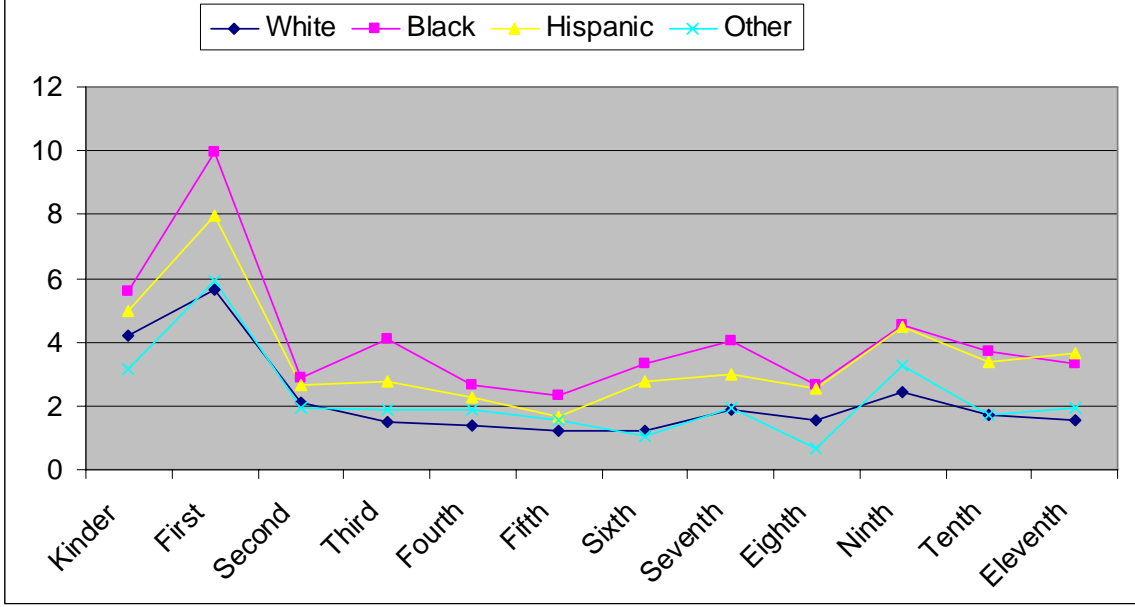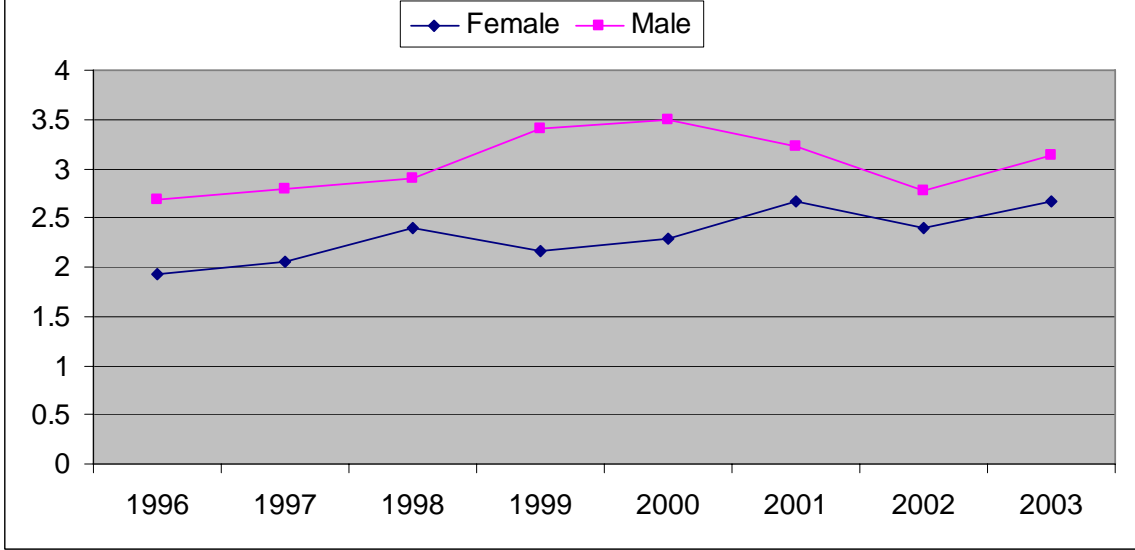
Figure 2b: Percentage Retained by Grade and Race

Figure 3a: Percentage Retained by Year and Gender

Figure 3b: Percent Retained by Grade and Gender

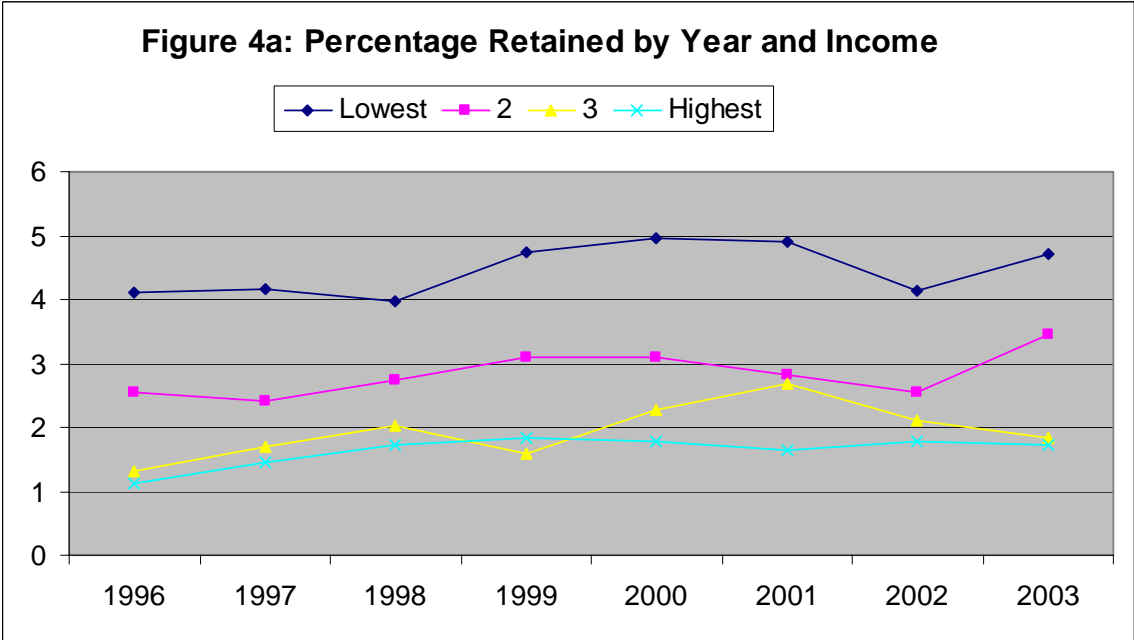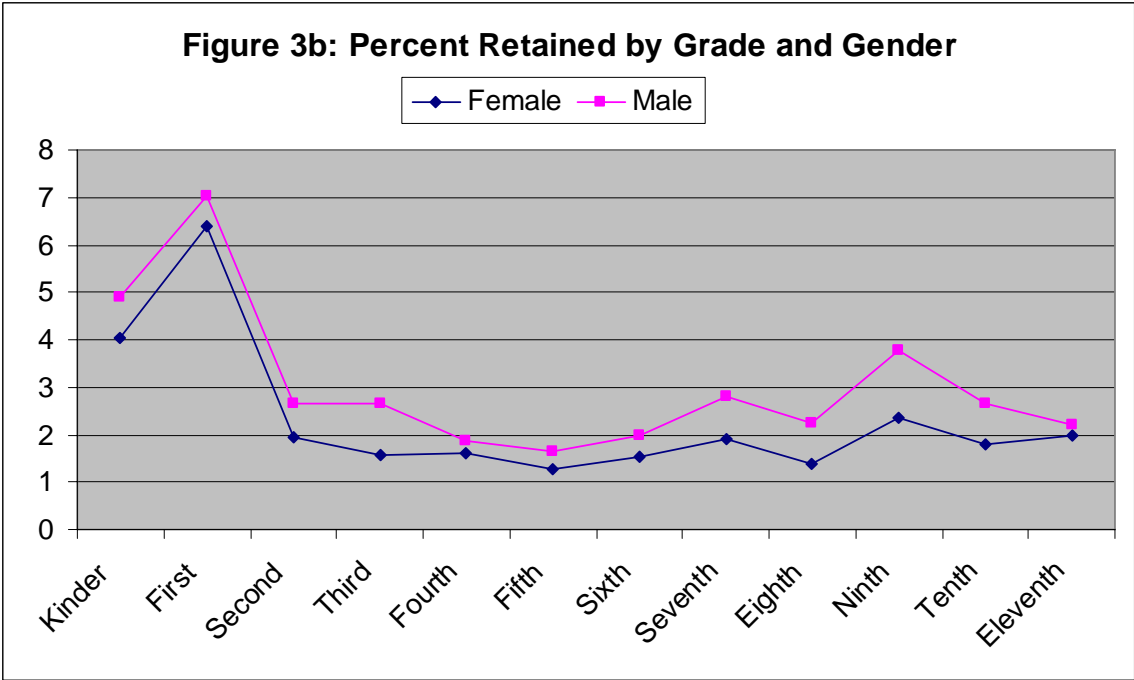**Figure 4a: Percentage Retained by Year and Income**

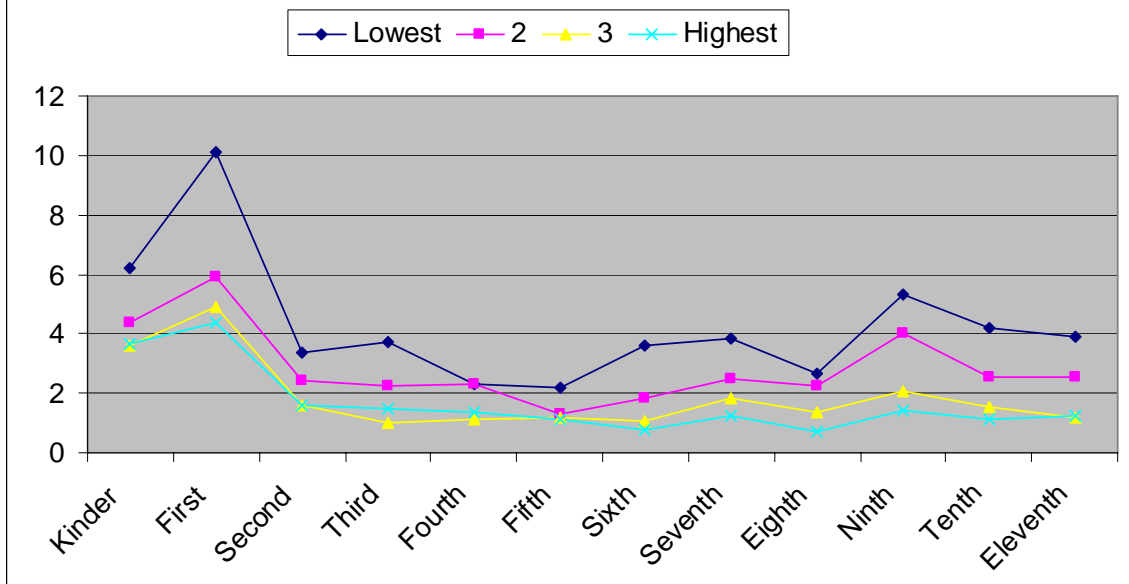**Figure 4b: Percentage Retained by Grade and Income**

Figure 5: Change in Scalar Values by Grade Level and Year of Survey

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