

Exploring the Association Between Grade Retention and Dropout: A Longitudinal Study Examining Socio-Emotional, Behavioral, and Achievement Characteristics of Retained Students

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Previously published research has not moved beyond studying the general association between retention and high school dropout. This longitudinal study seeks to evaluate within-group differences, exploring the characteristics of those students who are retained and subsequently drop out as compared to those students who are retained and do not drop out. A transactional-ecological view of development is presented to assist in situating the findings within a framework of long-term outcomes across development. The results of this study suggest that there are early socio-emotional and behavioral characteristics that distinguish which retained students are most likely to drop out of high school. In addition, maternal level of education and academic achievement in the secondary grades were also associated with high school graduation status. These findings provide information that extend beyond the association between grade retention and later dropout. In particular, this investigation suggests that it is especially important to attend to the socio-emotional and behavioral adjustment of children throughout their schooling to facilitate both their immediate and long-term academic success.

Keywords: Longitudinal study, Grade retention, Dropout, Socio-emotional adjustment, Aggression, Social skills, Maternal level of education, Achievement

With a growing emphasis on standards and accountability, it is crucial that educational professionals attend to the research addressing the outcomes associated with intervention strategies and utilize this knowledge to inform school practices (Stoiber & Kratochwill, 2000; Kratochwill, Stoiber, & Gutkin, 2000; Kratochwill & Stoiber, 2000). Retaining children at grade level is an intervention strategy that has been steadily increasing throughout the last three decades (U.S. Department of Commerce, Bureau of Census, 1966; 1990). Research published in the last decade has indicated that by 9th grade some 30% to 50% of students will have been retained at least once in their academic careers (Alexander, Entwisle, & Kabbani, 1999; McCoy & Reynolds, 1999; Shepard & Smith, 1989). Overall, it has been estimated that approximately 2.5 million students are retained each year (Dawson, 1998; Shepard & Smith, 1990). This extra year of schooling is estimated to cost U.S. taxpayers over 14 billion dollars annually (Dawson, 1998).

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Several state and federal politicians have sought to end what is known as “social promotion,” where a student is automatically advanced to the next grade with his or her peers (Clinton, 1998, 1999; Education Week, 1998). This political trend has been perceived by many involved in education as a directive to retain students who do not meet or who fall below state performance standards. However, research from the past century fails to demonstrate the effectiveness of grade retention for improving either academic achievement or socio-emotional adjustment (Jimerson, 2001a, 2001b).

The Association Between Retention and Dropout

There are few studies examining the efficacy of early grade retention that extend through high school. Those studies that are longitudinal through high school or beyond consistently demonstrate that retained students are more likely to drop out than matched comparison groups of equally low-achieving but socially promoted peers (Jimerson, 1999). Moreover, there is a substantial amount of literature examining high school dropout that identifies grade retention as a predictor variable (Alexander et al., 1999; Ensminger & Slusarick, 1992; Grissom & Shepard, 1989; Rumberger, 1987, 1995).

A recent systematic review of seventeen studies examining factors associated with dropping out of high school prior to graduation suggests that grade retention is one of the most powerful predictors of school dropout (Jimerson, Anderson, & Whipple, 2002). Each of the seventeen studies found that grade retention was associated with subsequent school withdrawal. Several of these studies include statistical analyses controlling for many individual and family level variables commonly associated with dropping out (e.g., socio-emotional adjustment, SES, ethnicity, achievement, gender, parental level of education, and parental involvement). This research review revealed the consistent finding that students retained during elementary school are at an elevated risk for dropping out of high school (Jimerson et al., 2002). Research indicates that retained students are between 2 and 11 times more likely to drop out during high school than non-retained students (Alexander et al., 1999; Bachman, Green, & Wirtanen, 1971; Cairns, Cairns, & Neckerman, 1989; Ensminger & Slusarick, 1992; Fine, 1989, 1991; Grissom & Shepard, 1989; Lloyd, 1978; McDill, Natriello, & Pallas, 1986; Nason, 1991; Pallas, 1986; Roderick, 1994, 1995; Rumberger, 1987, 1995; Shepard & Smith, 1989, 1990; Stroup & Robins, 1972; Tuck, 1989). In fact, grade retention has been identified as the single most powerful predictor of dropping out (Rumberger, 1995).

Correlates of High School Dropout

Over five decades of research has revealed several correlates of high school dropout. Prior research has identified various demographic status variables, individual characteristics, psychological and behavioral measures, and family factors associated with withdrawal from high school (Rumberger, 1987, 1995). Demographic factors include low SES, neighborhood-level variables, gender, ethnic minority status, and low parental education (Cairns et al., 1989; Ensminger, Lamkin, & Jacobson, 1996; Fine, 1989; Oakland, 1992; Weis, Farrar, & Petrie, 1989). However, these demographic factors do not address the dropout process. Achievement problems and failing grades continue to be strong correlates (Ekstrom, Goertz, Pollack, & Rock, 1986; Ensminger & Slusarick, 1992; Garnier, Stein, & Jacobs, 1997; Lloyd, 1978), but these factors may simply be early indicators of dropping out rather than involved in causal pathways.

To complete this picture, other studies have identified social and behavioral influences associated with school withdrawal such as behavior problems, poor peer relationships, and family level variables (Cairns & Cairns, 1994; Ensminger & Slusarick, 1992; Garnier et al., 1997; Parker & Asher, 1987). All of these measures have been shown to predict later high school dropout. A limitation to most of these

studies is the reliance on survey and/or interview data and few begin in the early years of a child's academic life. Jimerson, Egeland, Sroufe, and Carlson (2000) conducted a prospective longitudinal study of high school dropouts and reported an association between demographic, family, individual, and school performance variables and later high school dropout by age 19. A strength of this study is that these variables were followed throughout the student's development, from infancy through high school.

It should be noted that many of the factors that predict dropout are known to be interrelated. For instance, socio-emotional problems, behavior problems, and low academic achievement are strongly correlated with one another. Thus, disentangling precise causation and connections to later outcomes can be difficult at best. It continues to be important to further examine primary characteristics that have been associated with later school withdrawal.

Socio-emotional Adjustment and Academic Achievement

Socio-emotional adjustment and behaviors at school have consistently been shown to be related to academic achievement and may contribute to a negative achievement trajectory over time. Egeland, Kalkoske, Gottesman, and Erickson (1990) found that children who were classified as acting out or withdrawn in preschool had 1st and 2nd grade achievement scores significantly below those of same grade children rated as competent. Behavior problems in the classroom have consistently been found to be negatively correlated with verbal ability and reading readiness (Richman, Stevenson, & Graham, 1982). Furthermore, reading problems and antisocial behaviors often co-occur during the early years of schooling (Hinshaw, 1992; Loeber, 1990).

Rutter, Tizard, and Whitmore's (1970) study suggested that even with IQ held constant, low reading skills were more common in conduct-disordered children than in children who displayed no behavioral difficulties. In another examination, Horn and Packard (1985) conducted a meta-analysis of factors related to learning problems and found that impulse control and internalizing behavior problems measured in kindergarten or 1st grade were as effective at predicting later academic achievement as were intellectual ability and language variables. Ledingham and Schwartzman (1984) found an increased risk for grade retention and special education placement amongst primary grade children who displayed aggressive behaviors. In a longitudinal achievement study, Jimerson, Egeland, and Teo (1999) reported that socio-emotional and behavior problems accounted for negative trends in achievement trajectories, even when controlling for previous levels of achievement. Overall, the confluence of the available research literature indicates that poor socio-emotional adjustment and conduct-disordered behaviors are associated with past, present, and future achievement trajectories (Hinshaw, 1992; Martin & Hoffman, 1990).

A Transactional-Ecological Developmental Framework

It is helpful to consider developmental trajectories utilizing a transactional-ecological model, as emerging research suggests that high school dropout is best understood as a developmental process (Jimerson et al., 2000). The transactional-ecological model of development places an emphasis on the bidirectionality between individuals and their multiple environments or ecological contexts (Nastasi, 1998) across time (Sameroff & Chandler, 1975). The primary focus of the transactional model is the contact between the individual and the environment, whereby multilevel ecological systems (micro, meso, exo, and macro) interact to influence student dropout behavior (Bronfenbrenner, 1979). These transactions are altered by one another, each subsequently influencing other interactions in an ongoing and continuous fashion (Jimerson et al., 2000). As such, from this perspective, behavior is considered

a product of the individual's past and current circumstances, ecological contexts, and previous developmental history (Sameroff, 1992; Sroufe, Egeland, & Carlson, 1999). Accordingly, interventions designed to influence dropout behavior can occur at any or all of the multiple systems levels in transactions to effect change in the individual student's behavior.

A wealth of previous retention research has found multiple variables within a child's developmental history that contribute to an increase in the likelihood that she or he will be retained in elementary school (e.g., parental level of education, parental involvement with school, poorer peer acceptance, more problem behaviors; see Jimerson et al., 1997 for further information).

Thus, it is important to recognize the interplay between a child's developmental history and school experiences, as well as other ecological contexts (Cairns & Cairns, 1994; Dryfoos, 1990; Evans & DiBenedetto, 1990; Jimerson, 1999; Kirsch, Jungeblut, Jenkins, & Kolstad, 1993; Kronick & Hargis, 1990; Sroufe et al., 1999). It is important to note that this transactional perspective does not suggest that grade retention alone inevitably leads to negative academic outcomes. On the contrary, high school dropout is likely a result of a multiplicity of factors co-occurring throughout development, all of which contribute to an increasingly deleterious trajectory over time. There is a developmental tendency for numerous factors to reinforce the continuation of a pathway that has already been embarked upon (Jimerson et al., 2000; Sameroff & Fiese, 1989; Sroufe, 1997).

It is clear that particular school, family, and individual characteristics are associated with an increased likelihood of grade retention (Jimerson, 1999) and these characteristics will subsequently influence a child's developmental and achievement trajectories. Thus, simply repeating a grade is unlikely to address the combination of factors that contribute to low achievement or socio-emotional adjustment problems, which prompted the decision to retain the student in the first place. Overall, the transactional model of development provides a framework that can aid in the interpretation of achievement, socio-emotional, and behavioral outcomes commonly associated with grade retention. It also serves to emphasize the necessity of effective prevention and early intervention strategies, which should be rooted in a systems perspective that focuses upon multiple factors involved in the dropout process.

The Current Longitudinal Study

It has been established that there is a strong connection between high school dropout and grade retention (Jimerson et al., 2002). This current longitudinal study moves beyond generalities to examine specific behavioral and academic variables of retained students in order to increase our understanding of what places children at risk for later high school dropout. Both retained students and dropouts present a variety of profiles; however, certain early characteristics may increase the possibility that a retained student will drop out. This longitudinal study is the first to explore characteristics associated with those students who are retained and drop out, in contrast to those who are retained and continue on to graduate from high school. While many studies have demonstrated the strong association between grade retention and dropout, no studies to date have examined within-group characteristics of retained students to explore processes that may provide further understanding of this association. This 12-year longitudinal study provides information addressing the following questions:

1. Do family characteristics differentiate which retained students are more likely to drop out? Maternal level of education and value of education will be compared between those retained students who drop out and those who persist during 11th grade.

2. Do socio-emotional and behavioral characteristics differentiate which retained students are

more likely to drop out? Socio-emotional and behavioral adjustment in kindergarten, 2nd grade, and 8th grade will be compared between those retained students who drop out and those who persist during 11th grade.

3. Do achievement characteristics differentiate which retained students are more likely to drop out? Academic achievement in 2nd, 4th, 5th, 7th, 8th, 9th, 10th, and 11th grades will be compared between retained students who drop out and those who persist during 11th grade.

METHODS

Participants

The current study explored factors associated with longitudinal academic and behavioral outcomes of students who were followed from kindergarten through 11th grade. Students who had been retained in kindergarten, 1st, or 2nd grade ($n = 58$), either through a transitional classroom placement ($n = 18$) or by traditional early grade retention ($n = 40$) were included in this study. To reduce between-group confounding effects, 14 students were excluded because they had received special education services prior to 1st grade, had been held out of kindergarten prior to enrollment, were of minority status, had transferred into the school district during kindergarten, or had a substantial physical limitation. As reported in previous research, there was no difference between the dropout rates of students retained in a transitional classroom or by traditional grade retention (19% and 20%, respectively) (Jimerson & Ferguson, 2002). Furthermore, previous analyses demonstrate the appropriateness of combining the transitional classroom and traditional grade retention groups (Ferguson, Jimerson, & Dalton, 2001). Attrition due to relocation outside of the school district was 20% through the 8th grade. See Ferguson (1991) and Ferguson and Mueller-Streib (1996) for additional information regarding the research samples.

Measures

Mother's Level of Education and Value of Education. To secure the mother's level of education data, parent surveys were mailed in the Spring of the student's 2nd grade year and again in the 8th grade; there was an 86% response rate. Mother's level of education was rated using a six-point rating scale (i.e., 1-6): "middle/junior high school," "some high school," "high school graduate," "some college," "college graduate," or "graduate school." A "value of education" Likert-like rating scale (i.e., 1-7) was also secured measuring the value that mothers attached to education (i.e., "How important is education for your child's future?").

Socio-emotional and Behavioral Adjustment. Teacher ratings provided information regarding kindergarten students' aggression and personal-social functioning using the Kindergarten-Personal-Social Functioning scale (K-PSF). The 2nd grade teachers were asked to rate, "Does this child exhibit 'aggressive' physical or verbal behaviors?" on a scale of "No," "Some," or "Yes" (scored as 0, 1, or 2, respectively). An additional measure of socio-emotional and behavioral adjustment was a "Teacher Rating Scale" (Ferguson et al., 2001), which was comprised of six items (Social Skills, Performance, Engagement, Success, Self-Esteem, and Attentiveness) utilizing a 1-9 rating scale (very poor skills to extremely high skills). The composite of this rating was called Total Teacher Rating (TTR) and was measured in the Spring of 2nd grade. An example of one of the "Success" items is, "experiences success in classroom academics." An example of one of the "Self-Esteem" items is, "expresses self-

confidence and self-assuredness.” In 2nd grade, a combination score was compiled utilizing measures of aggression, counseling referral (dichotomous), and special education referral (dichotomous). Aggression was examined by asking 2nd grade teachers to rate, “Does this child exhibit ‘aggressive’ physical or verbal behaviors?” on a scale of “No, Some, Yes” (scored as 0, 1 or 2, respectively). In the 8th grade, multiple core teachers were asked the same question regarding the student’s aggressive behaviors as was recorded in the 2nd grade. The mean from the multiple teachers’ ratings was utilized in the current analyses. Teachers’ ratings of kindergarten personal-social functioning levels were used as a covariate in the aggression analyses. “Needs additional work” endorsements on the three “personal-social functioning” items (“I handle problems and frustrations in acceptable ways,” “I have a positive self-image,” and “I cooperate with others”) were tallied from semester and year-end kindergarten report cards to construct a variable with a possible high score of six. This index reflects students’ kindergarten personal-social functioning, with higher scores indicating a deficit in personal-social functioning (K-PSF), as rated by teachers.

Achievement. Academic achievement was assessed at various grade levels with a combination of measurements throughout this longitudinal study. The Science Research Associates’ (SRA) Survey of Basic Skills Series Test was administered in the 2nd and 5th grades. This is a norm-based test that is group administered to the students. The Stanford Achievement Test, 8th Edition (SAT) was administered in the 8th grade. National percentile rankings on the achievement composite scores were utilized for this study. Composite grade point averages (GPAs) were calculated using 7th, 8th, 9th, and 10th grade fourth quarter marks. The Armed Services Vocational Aptitude Battery (ASVAB) was administered in 11th grade; this study used the Academic Ability Composite from the ASVAB. Scores from the 2nd grade SRA were used as a covariate in the achievement analyses in order to control for prior achievement.

High School Status. High school status was determined in 11th grade by examining the student’s enrollment records. Each student was classified as either a dropout or currently enrolled. Dropout status was defined as a retained student who was no longer enrolled in high school and who did not graduate or complete a high school equivalency exam. Overall, among the current sample, 19% of the retained students dropped out of high school by 11th grade, compared to only 2% of the promoted students (Jimerson & Ferguson, 2002).

RESULTS

A series of *t*-tests were used to examine mean differences between the retained students who dropped out and those who remained enrolled at 11th grade (see Table 1). To control for statistical Type I error (i.e., reporting a significant difference, when in fact there is no significant difference) only results significant at $p < .01$ or $p < .001$ are discussed as “significant differences.” The findings of this 12-year longitudinal will be presented as they relate to each of the study questions:

1. Do family characteristics differentiate which retained students are more likely to drop out?

Mothers’ educational status was found to differ significantly between the two groups, where the retained students who dropped out had mothers who reported lower levels of educational attainment ($t = 2.51, p < .01$). Mothers’ value of education was found to differ at $p < .05$. The mothers of retained students who later dropped out had previously reported a lower value of education for their children ($t = 2.34, p < .05$).

Table 1

T-test comparisons of family characteristics, socio-emotional/ behavioral indices, and achievement measures between retained students who stayed in high school and retained students who dropped out.

	Stayed In High School			Dropped Out of High School			
Variable	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>p</i>
Family Characteristics							
Mother's level of education	3.64	.83	42	2.50	.76	8	.01
Mother's Value of education	.77	.43	22	.29	.49	7	.05
Socio-emotional/Behavioral							
Kindergarten K-PSF	.38	.96	39	2.00	2.40	9	.001
2 nd grade aggression	.21	.36	47	.50	.54	8	.001
2 nd grade combination	.41	.65	47	1.13	1.12	8	.001
2 nd grade TTR	111.48	25.56	34	88.14	35.17	7	.01
2 nd grade TTR self-esteem	19.09	4.26	34	12.00	6.35	7	.001
8 th grade aggression	.85	.74	46	1.44	.73	9	.05
Achievement							
2 nd grade SRA composite	71.00	21.40	44	59.00	24.27	8	.20
5 th grade SRA composite	65.00	23.64	43	49.00	12.93	6	.20
8 th grade SAT composite	49.00	24.00	45	30.00	19.42	5	.40
7 th grade GPA	2.95	.86	46	1.46	1.09	9	.001
9 th grade GPA	2.77	.90	43	1.28	.93	6	.001
10 th grade GPA	2.81	.81	38	1.02	.49	3	.001
11 th grade ASVAB	58.13	22.28	32	29.50	10.61	2	.05

Self-esteem from TTR

2nd grade combination is aggression, counseling referral, and special education referral

2. Do socio-emotional and behavioral characteristics differentiate which retained students are more likely to drop out?

Several of the socio-emotional and behavioral measures indicated mean group differences. The kindergarten personal-social functioning (K-PSF) was found to be significant, with the high school dropouts indicating lower personal-social functioning ($F = 10.57, p < .01$). All of the measures of the children at 2nd grade were statistically significant, such that the retained group who dropped out displayed more aggression ($F = 9.69, p < .01$), had lower self-esteem ratings on both the teacher report ($F = 18.04, p < .001$) and the TTR ($F = 6.95, p < .01$), and had higher ratings on the combination score ($F = 11.04, p < .001$), which included measures of aggression, counseling referral, and special education referral. Although not statistically significant at $p < .01$, the retained group who dropped out also

continued to display more aggression in later years as measured by teacher report in the 8th grade ($F = 4.72, p < .05$).

3. Do achievement characteristics differentiate which retained students are more likely to drop out?

When examining the achievement variables, no significant differences were apparent during elementary school (grades 2, 4, 5). However, during junior high and high school (grades 7, 9, 10) retained students who remained in school received higher grade point averages than retained students who eventually dropped out ($p < .001$). In addition, although not significant at $p < .01$, the 11th grade ASVAB scores of retained students who remained in school were higher than the retained students who dropped out ($p < .05$).

DISCUSSION

This longitudinal study is the first to examine within-group differences between retained students who stay in high school and retained students who drop out of high school. This is an important contribution to the literature, as it moves beyond identifying general risk factors towards examining specific within-group risk factors of retained students. Ultimately, this may inform and facilitate the design of appropriate prevention and intervention programs that may enhance the socio-emotional adjustment and educational success of students who are at risk for early school failure and grade retention. Within this study, socio-emotional and behavioral characteristics, academic achievement, mother's educational level, and the mother's value of education, were examined in relation to high school dropout among a population of retained students.

The results of these within-group analyses are consistent with the general dropout literature, which indicates that student level variables including lower self-esteem, problematic behavior, and lower academic achievement are associated with an increased risk of dropping out. Supporting the findings of previous research, family level variables such as lower maternal educational attainment and lower maternal value of education also characterized those retained students who later dropped out of high school relative to the retained students who persisted. Within this particular longitudinal study, socio-emotional and behavioral variables at each age were consistently associated with dropping out. The measures of academic achievement during elementary school did not differentiate future dropouts from those who persisted. However, in junior high and continuing through high school, the retained students who dropped out demonstrated lower grade point averages. Considering a developmental transactional framework, these results highlight the need to attend to indicators of low self-esteem and aggressive behaviors early in a child's life to promote later academic success while preventing deleterious outcomes such as high school dropout.

Continuing this thread of early identification, prevention, and intervention, it may be useful to interpret the findings through a transactional-ecological lens. This study and others (e.g., Jimerson et al., 2000) indicate that early measurable factors and behaviors are highly associated with later high school dropout. The transactional-ecological developmental model views this early developmental history as an important influence on subsequent development including both socio-emotional adjustment and academic success. Without effective early prevention or intervention programs, the developmental trajectories of children at risk of poor academic performance will likely lead to subsequent academic failure, perhaps even high school dropout. Thus, it is important to consider the confluence of factors that begin early in a child's life. Specifically, low self-esteem and aggression can combine to promote a negative academic trajectory that leads to later school dropout status. Furthermore, the results of this study and others suggest that grade retention is generally ineffective as an intervention to

address these early problems, regardless of when the retention occurs. Often grade retention is implemented as an early intervention to provide a “year to grow;” however, research has consistently failed to demonstrate the effectiveness of grade retention in improving either the self-esteem or aggressive behaviors of these students (Hagborg, Masella, Palladino, & Shepardson, 1991; Jimerson, 1999; Jimerson et al., 1997; McCoy & Reynolds, 1999).

Limitations and Future Directions

While this study is the first of its kind, and the longitudinal methodology and prospective research design are advantageous in providing information through high school, there are limitations that should be acknowledged. As with most longitudinal studies of retained students, the sample size is relatively small. Also, regarding statistical analyses, the use of *t*-test analysis to compare groups includes the assumption of “homogeneity of variance” (the variance of groups is similar); however, several of the variables included in this study have considerable differences in the variance between groups [variance may be examined by comparing the standard deviations (*SD*) in Table 1]. In addition, these results should be considered preliminary until subsequent studies replicate these findings or provide further insights regarding the developmental trajectories of children who experience grade retention in elementary school.

The interactions of the individual student with the multiple influences of the school as an institution is an important focus. From a transactional perspective, the school as an organization is a salient part of each student’s developmental history. Further research is needed to focus upon how the student’s educational experience is affected by the multilayered school culture. “Though the individual attributes matter, their impact cannot be understood without reference to how they relate to the understandings that different students have of events within the institution” (Tinto, 1986, p. 366). The transactional model reminds us to consider how school completion outcomes occur within an ecological context of the school as an institution (Ruddock, 1996).

The transactional-ecological perspective regarding student dropout promotes a focus upon the multiple processes that contribute to school completion outcomes for students. This involves a host of process variables, which prompts many research questions. For example, what processes are relevant to those students who voluntarily drop out of school compared to those who are pushed out by academic failure over time? What ecological and unique individual variables or attributes impact the dropout process? What personal, social, and organizational influences prevent the dropout process? What processes influence those who drop out and subsequently return to school?

CONCLUSIONS

Ultimately, the research is unequivocal in identifying that grade retention does not appear to address the needs of these students at risk of academic failure. Findings from this study should not be misinterpreted as an indication that retention was an effective intervention strategy for the retained students who did not drop out of high school. There is a need for further research comparing the retained students who completed high school with matched comparison groups of similarly low achieving but socially promoted students. This study highlights the association of early socio-emotional and behavioral adjustment and high school dropout among a group of retained students. These findings have direct implications for school psychologists and other educational professionals. In particular, rather than focusing on the unsupported academic intervention of grade retention, it is time to implement prevention and intervention programs that have been empirically demonstrated to meet the needs of these students in facilitating both positive academic success and socio-emotional adjustment.

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