

# **The Effect of Office Discipline Referrals, Race, Gender, and Beginning of the Year Fluency Scores on Reading Comprehension for Fifth Grade Students**

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## Abstract

We examined the effect of office discipline referrals (ODR), race, gender, and beginning of the year fluency scores on reading comprehension for fifth grade students at four rural elementary schools located in the southeastern part of the United States. Multiple regression analysis was used to determine if the variables significantly predicted the end of year reading scores. The fifth grade students' (N = 517) beginning of the year oral reading fluency scores (BOYORF) and an end of the year oral reading fluency scores (EOYORF) were obtained from the Dynamic Indicators of Basic Early Literacy program (DIBELS). The number of ODRs recorded for each student was retrieved from the student information system (SIS) from each school. BOYORF was a significant predictor of EOYORF scores. Chi-square results showed that ODR levels did not have a significant effect on end of year oral reading fluency category for intensive and strategic students.

**Keywords:** Reading Achievement, Behavior Problems, Discipline, Punishment, Reading Education, Reading Research, Reading Fluency

## 1. Introduction

### 1.1 Problem

Academic difficulties especially with reading comprehension affect all subject areas (Good & Kaminski, 2011). Students who were already struggle academically get further behind when they miss instructional time due to misbehavior (McIntosh, 2005). Essentially, office discipline referrals (ODRs) contribute to the achievement gap (Gregory, Skiba, & Noguera, 2010). Moreover, multiple researchers have demonstrated an achievement gap and a discipline gap based on race and gender (Arcia, 2007; Miles & Stipek, 2006). Boys and minorities are more frequently the subject of ODRs, and they typically lag behind girls in reading achievement (Moffitt, Caspi, Rutter, & Silva, 2001; Skiba, Michael, Nardo, & Peterson, 2002). Though a link between reading difficulties and missed instructional time has been established, the quantitative relationship between ODRs and reading achievement has not been determined.

### 1.2 Purpose of the Study

The purpose of this study was to examine the effect of office discipline referrals, race, gender, and beginning of the year oral reading fluency (BOYORF) scores on the reading comprehension skills of fifth grade students at four rural elementary schools in a southeastern state located in the United States. The impact of ODRs on students classified as *intensive* and *strategic*, based on *DIBELS* scores, was examined as well. The indicator for reading comprehension was the students' *DIBELS* Oral Reading Fluency (ORF) scores at the end of the 2012-2013 school year. *DIBELS* is a commonly used screening tool to identify the reading and comprehension skills of students in Kindergarten through sixth grade. Good and Kaminski (2002) found concurrent and predictive validity of *DIBELS*, particularly the measure of oral reading fluency (ORF) with standardized tests which measure comprehension.

In addition to raw ORF scores, many schools categorize students into three groups based on their BOYORF score (*intensive*, *strategic*, and *benchmark*). Good and Kaminski (2002) have determined that *intensive* students read less than 95 words correctly on the BOYORF assessment while *strategic* students read between 96 and 110 words correctly on the BOYORF assessment. *Benchmark* students read more than 111 words correctly on the BOYORF assessment. *Intensive* and *strategic* students normally receive targeted remediation and support (Good & Kaminski, 2002). By the end of the year, students are classified as *intensive* if they read less than 104 words a minute while students are classified as *strategic* if they read

between 105 and 129 words a minute; students are classified as *benchmark* if they read more than 130 words a minute (Good & Kaminski, 2002).

The impact of ODRs, race, and gender on reading comprehension for students was analyzed with the ultimate goal of determining whether, and to what extent, there was an interaction among these variables and which variables predicted the end of the year oral reading fluency score. Student performance on the end of the year *DIBELS* ORF assessments for students who began the year classified as *intensive* and *strategic* was compared to the level of ODRs (no ODRs, 1-2 ODRs, and 3 or more ODRs) they received during the data collection period as well.

### 1.3 Significance of the Study

This study examined the link between ODRs, race, gender, and BOYORF scores and the impact on reading comprehension in hopes that educators will recognize the effect of lost instruction due to ODRs and the importance of early intervention for students with lower BOYORF scores. Additionally, the study attempted to quantify the educational impact of ODRs on reading comprehension; in other words, how did students with varying numbers of ODRs perform from the beginning of the year *DIBELS* assessment to the end of the year assessment? Did students with more ODRs score lower on the EOYORF assessments than students with fewer ODRs, and did race, gender, and BOYORF scores play a significant role in student performance? Finally, how did ODRs affect student performance on the end of year oral reading fluency (EOYORF) assessment for those already classified as *intensive* and *strategic*?

### 1.4 Research Questions

The following research questions guided this study:

1. Do office discipline referrals (ODR), race, gender, and beginning of the year oral reading fluency (BOYORF) significantly predict the reading comprehension scores of fifth grade students on the end of the year (EOY) *DIBELS* assessment?
2. If so, which of these variables have the highest predictive value of end of the year oral reading fluency scores (EOYORF)?
3. For students receiving remediation, is there a statistically significant relationship between office discipline referral (ODR) categories and end of year reading fluency classification (EOYORF)?
- 4.

## 2. Review of Literature

Learning to read with fluency and accuracy is a skill that has implications for all other academic subjects in school (Good & Kaminski, 2011). Students who learn to read for understanding can apply the same comprehension skills in reading to subjects such as science, social studies, and math (Good & Kaminski, 2002). Those who do not develop this skill in elementary school become increasingly at risk for negative outcomes academically and socially, particularly when academic deficits are accompanied by externalizing behavior problems (Fleming, Harachi, Cortes, Abbott, & Catalano, 2004). Students who struggled with reading fluency early in their schooling were likely to experience frustration, a lack of self-esteem, and ultimately a general disengagement from the learning process (Nelson & Roberts, 2000).

### 2.1 Reading Difficulties and Behavior Problems

Rutter and Yule (1970) offered three hypotheses about the relationship between reading difficulties and the onset of behavior problems. They proposed that behavior problems can occur first and contribute to reading problems, that reading difficulties lead to frustration which manifests itself in externalizing behavior problems, and that there are factors such as low intelligence and socio-economic status (SES) that contribute

to both (Rutter & Yule, 1970). Sanson, Oberklaid, Pedlow, and Prior (1991) maintained that behavior and reading problems acted as risk factors for each other and that difficulties in either domain impacted the other area. Others suggested that behavior problems were born out of a cycle of academic failure and that these negative externalizing actions were the result of frustration and continued fear of failure (Benner, Nelson, Smith, & Roberts, 2002; Nelson & Roberts, 2000). Halonen, Aunola, Ahonen, and Nurmi (2006) found that students with early reading difficulties first displayed internalizing behaviors through first grade followed by externalizing behaviors as the child progressed through elementary school. Other studies have shown that motivation, metacognition, and psychological factors have an impact on learning as well (Sideridis, Morgan, Botsas, Padeliadu, & Fuchs, 2006; Smith-Bonahue, Larmore, Harman, & Castillo, 2009).

Horn and Packard (1985) conducted a meta-analysis of 58 studies and found that behavior problems preceded reading difficulties and served as predictors for future academic struggles. Similarly, in a longitudinal study, McGee, Williams, Share, Anderson, and Silva (1986) concluded that behavior problems occurred prior to reading problems and that the manifestation of reading difficulties led to more behavior problems. McIntosh, Horner, Chard, Boland, and Good (2006) found that lacking reading skills, such as phonological awareness, were significant predictors of non-response to positive behavior support systems. Additionally, McIntosh, Sadler, and Brown (2012) suggested that DIBELS data should be analyzed in kindergarten in order to identify students who may develop behavior problems in future years.

Moffitt (1993) observed that students who misbehaved typically paid less attention and received less help from the teacher than students who did not display externalizing behavior problems. Moreover, Koth, Bradshaw, and Leaf (2009) reported that disruptive students typically did not improve their behavior after an initial reprimand by the teacher, leading to more reprimands and more lost instructional time for the entire class.

On the other hand, some researchers have argued that reading problems preceded behavior problems and that early reading difficulties were a significant predictor of future behavior concerns (Fleming et al., 2004). McIntosh, Horner, Chard, Boland, and Good (2006) discovered that struggles with phonological awareness for students in kindergarten was a significant predictor of office discipline referrals (ODR) in later elementary grades. Multiple researchers have also concluded that early reading difficulties were directly correlated to the start of antisocial and negative behaviors (Cullinan & Epstein, 2001; Hawkins, Catalano, & Miller, 1992; McEvoy & Welker, 2000). Cornwall and Bawden (1992) found that reading difficulties could be contributing factors to the onset of aggressive behaviors.

Still other researchers have concluded that reading and behavior problems co-exist due to neurological conditions that affect learning and behavior (Greenham, 1999; Rourke & Fuerst, 1991). The research literature contained frequent instances where learning disabilities and attention deficit hyperactivity disorder (ADHD) co-occurred (Greenham, 1999; Spencer, Bierderman, & Wilens, 1999). Children with both reading difficulties and ADHD were considerably more at risk for school failure and social difficulties than students without these diagnoses (Mayes, Calhoun, & Crowell, 2000; Weiner, 2004).

## **2.2 Reading Difficulties, Behavior Problems, and Gender**

In numerous studies and through anecdotal observations, boys have demonstrated more reading and behavior problems than girls have (Moffitt, et. al, 2001; Mullis, Martin, Kennedy, & Foy, 2007). Boys were also more likely to be diagnosed with ADHD, which was a strong predictor of reading difficulties and externalizing behavior problems (Hinshaw, 1992). Shaywitz, Shaywitz, Fletcher, and Escobar (1990) reported that boys were four times as likely as girls to be diagnosed with ADHD. Inattentiveness and hyperactivity were strongly associated with poor reading ability regardless of gender (Maughan, Pickles, Hagell, Rutter, & Yule, 1996).

Girls with reading difficulties were more likely to demonstrate internalizing behavior concerns while boys with reading difficulties were much more likely to show aggressive and antisocial behavior (Willcutt, Betjemann, Pennington, Olson, DeFries, & Wadsworth, 2007). Nationwide, boys comprised 71% of all referrals leading to school suspensions in 2002 and that percentage has remained constant for the prior thirty years (Skiba & Rausch, 2004). Skiba, Michael, Nardo, and Peterson (2002) reported that every study of gender and school discipline has demonstrated that “boys are referred to the office and receive a range of disciplinary consequences at a significantly higher rate than girls” (p. 4).

### **2.3 Disproportionate Discipline**

Disproportionate discipline based on race has been explored in multiple studies. Townsend (2000) reported that Black students were suspended three times more than any other ethnic group. Several other researchers have also found that Blacks were the subject of ODRs more frequently than other groups (Christle, Jolivet, & Nelson, 2007; Costenbader & Markson, 1998; Gregory, 2008; Skiba, 2008). Skiba, Michael, Nardo, and Peterson (2002) found that boys and Black students were over-represented in every category of school discipline. In addition, researchers demonstrated that Black students, particularly boys, were referred for ambiguous reasons like “disrespectful behavior” or because they “appear threatening” (Verdugo & Glenn, 2002, p. 13). Skiba (2003) maintained that White students were most often referred for clear rule violations such as smoking, vandalism, truancy, and obscene language, while Black students were commonly referred for subjective reasons like disrespect, excessive noise, and loitering.

According to Skiba (2003), both race and gender played a role in discipline referrals and suspensions. In the United States, 53% of all students referred and, subsequently, suspended were Black boys, though they constituted only 28% of total student enrollment; Black girls accounted for 28.3% of all referrals and suspensions, while White boys and girls comprised only 2.5% and .7% of all referrals and suspensions, respectively (Skiba, 2003).

Research literature on whether the disproportionate discipline of Black boys is the result of some deep-seeded racism is contradictory (Skiba, 2003; Vavrus & Cole, 2002; Verdugo & Glenn, 2002), but Monroe (2006) maintained that the way teachers responded to Black boys was markedly different from their responses to behavior problems by other groups of students. Teachers often tried to control Black boys more rigidly than White boys believing that they were not sufficiently disciplined at home (Skiba, 2003). Monroe (2006) argued further that Black boys were referred more than other ethnic groups because White teachers lacked an understanding or appreciation (or both) of Black culture.

### **2.4 Validity of using ODRs to Measure Discipline**

Office discipline referrals (ODRs) were frequently used to assess behavior in schools and have the potential to shape school policy (McIntosh, Frank, & Spaulding, 2010; Sugai, Sprague, Horner, & Walker, 2000). ODRs have also been used to identify school wide patterns in student behavior and to monitor progress for students receiving behavior interventions (Jolivet & Nelson, 2010; Taylor-Green & Kartub, 2000). Others have found that ODRs possessed strong predictive validity as they related to future negative outcomes (McIntosh, Flannery, Sugai, Braun, & Cochrane, 2008). In addition, ODRs were considered a valid and reliable index of student behavior even though their use varied from school to school and across the nation (Irvin, 2004).

Studies on the use of ODRs in elementary schools have yielded interesting results. Wright (1998) found that the percentages of ODRs in one elementary school were stable, but their use was quite different at another elementary school in the same district. Other researchers found a wide variety in the use of ODRs in different schools at the elementary level with the percentages of students receiving one referral ranging from

10% to 39% (Sugai, et al., 2000). Moreover, several researchers have shown that the amount of ODRs increased as the child aged with the largest number of referrals belonging to fifth grade students (Putnam, Luiselli, Handler, & Jefferson, 2003; Rusby, 2007).

## **2.5 DIBELS ORF as an Indicator of Reading Ability**

The Dynamic Indicators of Basic Early Literacy Skills (DIBELS) was designed to measure various reading skills for students in Kindergarten through sixth grade. Multiple skills are assessed by DIBELS such as initial sounds fluency, phonemic segmentation fluency, nonsense word fluency, oral reading fluency, and retell fluency. Oral reading fluency (ORF) is the primary measure of reading comprehension (Good & Kaminski, 2011).

The ability to read fluently, defined as the ability to read smoothly, accurately, and with expression, is a vital component of reading comprehension (Hasbrouck & Tindal, 2006; Kuhn & Stahl, 2003). Non-fluent readers often read slowly, without expression, and ignore punctuation; a lack of fluency is correlated with a failure to comprehend leading students to lose interest in reading altogether over time (Gibson, 2011). Since fluency is associated with practice, readers who do not like to read typically do not develop their fluency skills (Hasbrouck, Innot, & Rogers, 1999).

ORF has consistently been found to be a strong predictor of reading comprehension (Fuchs, Fuchs, Hosp, & Jenkins, 2001; Hintze, Shapiro, Conte, & Basile, 1997). Good and Kaminski (2002) reported predictive and concurrent validity coefficients for third and fourth grade students over thirteen separate assessments; the researchers also found that ORF scores were correlated to the Iowa Test of Basic Skills (ITBS) for third grade students.

Numerous researchers have found that low SES was often correlated with low reading achievement (Au, 2000; Chall, Jacobs, & Baldwin, 1990; Guthrie & Greaney, 1991; Molfese, Modglin, & Molfese, 2003). Home environment for lower income students may have affected reading achievement as well since many of these students had less access to reading materials in the home and fewer verbal and reading interactions with their parents (Desimone, 2001; Heath, 1991). Bowey (1995) found that lower SES pre-school students were less phonologically aware than wealthier students were. Duncan and Seymour (2000) reported that low SES was correlated with deficits in letter and word identification.

## **3. Research Design and Methodology**

### **3.1 Research Design**

A correlational research design was chosen to examine the relationship between the outcome and predictor variables. In this study, ODRs, race, gender, and the students' beginning of the year ORF scores were regressed on the end of the year ORF scores using multiple regression analysis.

### **3.1 Population and Sample**

The population for this study was all students enrolled at four rural elementary schools located in a southeastern state located in the United States. During the 2012-2013 school term, the four schools were similar demographically in that 65-78% of the students were minorities, 24-35% of the students were non-minorities. Each school was located in a rural, high minority, high poverty school setting in a *southeastern state*.

The schools were also similar in terms of poverty rate in that 70-85% of the students at each site were economically disadvantaged (ED). The number of students who were eligible for Free or Reduced Lunch in the National School Lunch Program determined ED status. For the purposes of privacy and confidentiality, the actual names of the schools and towns in which the schools were located were not used.

The sample consisted of all students in the fifth grade at each of the four sites. For the purposes of confidentiality, the names of the students in the sample were not revealed. In the data collection tables, students were classed by ODRs, ORF scores, race, and gender.

### **3.2 Instrumentation**

Pas, Bradshaw, and Mitchell (2011) found that ODRs were a valid and reliable measure of problem behavior among students. ODRs were also predictive agents in that students who received multiple ODRs were more likely to experience negative educational outcomes such as suspension and dropping out of school than students with fewer or no ODRs (McIntosh, et al., 2008).

Discipline data were stored in the school's student information system (SIS) and the four schools in the study used either Power school or Infinite Campus to store student data. The data included demographic information, attendance and discipline records, and assessment results for each child.

According to K-12 Solutions (2013), the developers of Infinite Campus, the program is the largest American-owned student information system product in the country, serving 5.3 million students in 43 states. Power School is owned by Pearson, and the company's website claims that data for over 10 million students in all 50 states and 65 countries are contained in the system (Pearson Education, Inc, 2013). The pros and cons of these two SIS were not addressed in this study. Demographic, attendance, and discipline data can be collected from either program.

Discipline referrals were recorded by the classroom teachers and sent to an administrator when misbehaviors occurred. Behaviors that led to a discipline referral were specified in the student handbook of each site. The administrator then disciplined the student, generally following the prescribed punishment for the referred behavior and entered a resolution for the behavior event in the Infinite Campus or Power School system.

Reading comprehension was measured by the ORF scores on the end of the year DIBELS assessment. According to Good and Kaminski (2011), ORF measures the phonics, word attack skills, reading fluency and accuracy, and reading comprehension of students. The ORF assessment was administered individually to students who had one minute to read a passage aloud while the examiner recorded the number of errors, pauses, or deletions. Three passages were given to students and the median score on the three readings was used as the ORF score for the assessment. Good and Kaminski (2011) found that ORF scores have a criterion-related validity ranging from .52 to .91.

ORF has been found to be an efficient measure of comprehension and a consistent predictor of reading achievement on standardized tests (Fuchs, et al., 2001). Some researchers have expressed concern about the reliability of ORF as a measure of reading comprehension, however. Samuels (2006) maintained that during the read aloud the student could be more focused on reading the words quickly and accurately rather than comprehending the passage. Still, there was enough research to uphold the use of ORF as a means of measuring reading comprehension (Samuels, 2006). In addition, reading ability, regardless of the measure used to assess it, was a widely used indicator for student achievement at the elementary school level since reading skills were less contingent on specific state curriculum than other subjects (Fleming, et al, 2004).

### **3.3 Procedure**

The principals at each of the four schools were contacted to secure permission to conduct this study. The schools provided demographic data, ODRs, and ORF scores for all fifth grade students. The fifth grade students at each site were classified as either minority (coded 1) or non-minority (coded 0) and by gender (males were coded 1 and females were coded 0) in the data table. The number of ODRs represented the

actual number of referrals the student received during the data collection period regardless of the severity of the incident(s). Since ORF was a measure of the number of words a student read correctly in one minute the number, BOYORF and EOYORF were represented by the median number of words the student read correctly during these assessments. The discipline data were retrieved from the SIS at each site.

#### 4. Results

Data were collected from 522 student records. The sample included 340 (65.1%) minority students and 177 (33.9%) non-minority students. Two hundred and seventy-three students (52.2%) were boys and 249 (47.8%) were girls. Five student records were omitted from analysis due to extreme values on one or more variables. Data from the remaining 517 student records were assessed for normality, linearity, and multicollinearity. No major violations were detected.

To address research questions 1 and 2, a standard multiple regression analysis was conducted using EOYORF as the criterion variable and race, gender, BOYORF, and ODRs as the predictor variables. The regression results showed that the overall model significantly predicted students' end of year ORF scores,  $F(4, 512) = 210.95, p < .001$ . The adjusted  $R^2 = .62$  indicating that the model accounts for 62% of the variance in EOYORF scores. As shown in Table, only BOYORF scores and ODRs significantly contributed to the model with BOYORF having the highest predictive value. Neither gender nor race was found to be a significant predictor in this sample.

The analysis demonstrated that BOYORF scores and ODRs were significant predictors of EOYORF. Although gender and race were not significant predictors, Girls ( $M = 133.78, SD = 34.29$ ) in the sample outperformed boys ( $M = 124.83, SD = 34.73$ ) and non-minorities ( $M = 129.19, SD = 38.72$ ) outperformed minorities ( $M = 128.39, SD = 33.03$ ) on the EOYORF assessment.

To address research question 3, the data from students receiving reading remediation were analyzed to determine if their progress reading might be related to office referrals. Of the 517 students studied, 208 received remediation. By the end of the school term, 103 (49.5%) of the remediated students had received at least one office referral while 105 (50.5%) had not. For the students receiving office referrals, 10 (9.7 %) progressed in reading so that remediation was no longer considered necessary whereas 19 (18.1 %) of the students receiving no office referrals made similar progress. Although almost twice as many students with no office referrals made progress, results from a chi-squared test of independence indicated the difference in the proportions was not statistically significant,  $\chi^2(1) = 3.05, p = .08$ .

#### 4.1 Findings Related to the Literature

The findings were consistent with the literature in that boys and minorities received more ODRs than girls and non-minorities, and students with at least one ODR scored lower than students with no ODRs on the EOYORF assessment (Gregory, et al., 2010; McIntosh, 2005; Rodney, Crafter, Rodney, & Mupier, 2002; Skiba, et al., 2002). As expected BOYORF was the most significant predictor of EOYORF scores.

It was expected the results of this study would be consistent with the research literature with girls significantly outperforming boys, non-minorities significantly outperforming minorities, and students with no ODRs significantly outperforming students with one or more ODRs (Moffitt, et al., 2001; Monroe, 2006; Mullis, et al., 2007; Skiba, 2003). Regression analysis, however, showed that neither gender nor race were significant predictors of EOYORF scores for the sample.

It was also expected that ODRs would have a significant effect on the reading progress for intensive and strategic students receiving remediation. Since these students already had difficulties with reading fluency, it was assumed that the lost instruction resulting from ODRs would have a greater impact on their EOY fluency category. Furthermore, researchers have shown that reading problems and behavior problems

often co-exist (Greenham, 1999; Rourke&Fuerst, 1991). In general, students who began the year in either the intensive or strategic category remained in the same category at the end of the year regardless of the level of ODRs.

#### **4.2 Implications for Action**

The results of this study provide practical implications for teachers and school officials particularly in rural areas. Since BOYORF was a significant predictor of EOYORF scores, schools should use the data to provide reading remediation to struggling students in order for them to be more successful on the EOY assessment. Students who begin the year classified as either intensive or strategic need additional instructional support, and where these students begin the year is the greatest predictor of where they will end the year in terms of reading comprehension.

BOYORF should be the determining factor in identifying the students who need extra support. This support could take the form of small group instruction from a reading interventionist several days a week or computer-assisted instruction in fluency and comprehension. Financial constraints continue to plague public schools, particularly those in rural, high poverty areas, but Federal Title 1 funds are available to schools with a high percentage of students from low-income families. All of the schools in this study received Title 1 funds. These funds can be used to pay the salaries of intervention teachers, paraprofessionals, and reading specialists; the funds can be used to purchase reading support programs like DIBELS (Good & Kaminski, 2002).

Although the number of ODRs was not as strong as a predictor of EOYORF, the results showed that a weak, negative correlation exists. Academic support can be provided to struggling students as described previously, but behavior support should also be implemented. For students receiving remediation but failing to progress in reading, 45% received at least one ODR. This fact suggests that the lowest performing students are the most likely to receive an ODR and more likely to miss instruction they need as a result.

#### **4.3 Recommendations for Further Research**

This study could be improved upon by analyzing different student populations. The findings of this study were based on students who attended rural schools with high minority and economically disadvantaged populations. Future research should be conducted in more affluent communities and those in urban and suburban areas in order to determine if the sample affected the results. In other words, would BOYORF remain the greatest predictor of EOYORF using a different population, and would any of the other variables be a significant predictor of EOYORF? Additionally, these findings were for fifth grade students only. It would be interesting to see if the results were consistent for students in different grades. Finally, this study initially included 517 students. A larger sample could yield different results.

Future researchers could also choose to correlate the findings with standardized state assessments that purport to measure reading comprehension. Using EOYORF as an independent variable and the achievement scores from a standardized reading assessment as the dependent variable could generate some interesting results; it is the scores on state assessments that often determine if children are promoted to the next grade level and if the school is considered a failing school or not. It is the scores on state assessments that are typically given a position of preeminence over all other assessments even though the DIBELS data are useful and provide a better picture of what students know and are able to do. DIBELS scores are not tied to accountability indicators for schools, and they are not considered high-stakes. Attempting to correlate ODRs, race, gender, and fluency scores with end of the year state assessments in reading could lead policy makers to examine the impact of various factors on reading achievement rather than blaming teachers or schools in general for underperforming students.

**Tables****Table 1***Coefficients for Model Variables*

|        | B     | $\beta$ | <i>t</i> | <i>p</i> | Bivariate <i>r</i> |
|--------|-------|---------|----------|----------|--------------------|
| Race   | .17   | .002    | .02      | .93      | -.01               |
| Gender | -.99  | -.01    | -.46     | .61      | -.11               |
| BOYORF | .76   | .76     | 27.5     | < .001   | .79                |
| ODRs   | -1.55 | -.07    | -2.6     | .01      | -.24               |

**References**

- Arcia, E. (2007). A comparison of elementary/K–8 and middle schools' suspension rates. *Urban Education, 42*, 456–469.
- Au, K. H. (2000). A multi-cultural perspective on policies for improving literacy achievement: equity and excellence. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research* (Vol. 4, pp. 835–851). Mahwah, NJ: Erlbaum.
- Benner, G. J., Nelson, J. R., Smith, D. J., & Roberts, M. L. (2002). The effects of a strategy to reduce the problem behaviors of students with emotional and behavioral disorders. *Academic Exchange Quarterly, 11*, 144–148.
- Bowey, J. A. (1995). Socioeconomic status differences in preschool phonological sensitivity and first grade reading achievement. *Journal of Educational Psychology, 87*(3), 476–487.
- Chall, J. S., Jacobs, V. A., & Baldwin, L. E. (1990). *The Reading Crisis: Why poor Children Fall Behind*. Cambridge, MA: Harvard University Press.
- Christle, C., Jolivette, K., & Nelson, C.M. (2007). School characteristics related to high school dropout rates. *Remedial & Special Education, 28*(6), 325–339.
- Cornwall, A., & Bawden, H. N. (1992). Reading disabilities and aggression: A critical review. *Journal of Learning Disabilities, 25*(5), 281–288.
- Costenbader, V., & Markson, S. (1998). School suspension: a study with secondary school students. *Journal of School Psychology, 36*(1), 59–82.
- Cullinan, D. & Epstein, M. H. (2001). Comorbidity among students with emotional disturbances. *Behavioral Disorders, 26*, 200–213.
- Desimone, L. (2001). Linking parent involvement with student achievement: Do race and income matter? *The Journal of Educational Research, 93*(1), 11–30.
- Duncan, L. G. & Seymour, P. H. (2000). Socio-economic differences in foundation-level literacy. *British Journal of Psychology, 91*, 145–166.
- Fleming, C. B., Harachi, T. W., Cortes, R. C., Abbott, R. D., & Catalano, R. F. (2004). Level and change in reading scores and attention problems during elementary school

- as predictors of problem behavior in middle school. *Journal of Emotional and Behavioral Disorders*, 12(3), 130-144.
- Fuchs, L. S., Fuchs, D., Hosp, M. K., & Jenkins, J. R. (2001). Oral reading fluency as an indicator of reading competence: A theoretical, empirical, and historical analysis. *Scientific Studies of Reading*, 5(3), 239–256.
- Gibson, L. (2011). A preliminary investigation of supplemental computer-assisted reading instruction on the oral reading fluency and comprehension of first-grade African American urban students. *Journal of Behavioral Education*, 20(4), 260-282
- Good, R. H., & Kaminski, R. (2002). *Dynamic Indicators of Basic Early Literacy Skills* (Sixth ed.). Eugene, OR: Institute for the Development of Education Achievement.
- Good, R. H., & Kaminski, R. A. (2011). *DIBELS Next technical manual*. Eugene, OR: Dynamic Measurement Group. Retrieved on October 3, 2012 from <https://dibels.org/next/index.php>.
- Greenham, S. L. (1999). Learning disabilities and psychosocial adjustment: A critical review. *Child Neuropsychology*, 5, 171–196.
- Gregory, A. B. (2008). Adolescent trust in teachers: implications for behavior in the high school classroom. *School Psychology Review*, 37(3), 337-353.
- Gregory, A., Skiba, R. J., & Noguera, P. A. (2010). The achievement gap and the discipline gap: two sides of the same coin? *Educational Researcher*, 39, 59–68.
- Guthrie, J. T., & Greaney, V. (1991). Literacy acts. In M. L. Kamil, P. B. Mosenthal, P. D. Pearson, & R. Barr (Eds.), *Handbook of Reading Research* (Vol. 3, pp. 835–851). Mahwah, NJ: Erlbaum.
- Halonen, A., Aunola, K., Ahonen, T., & Nurmi, J. E. (2006). The role of learning to read in the development of problem behaviour: A cross-lagged longitudinal study. *British Journal of Educational Psychology*, 76(3), 517– 534.
- Hasbrouck, J. E., Innot, C., & Rogers, G. H. (1999). Read naturally: a strategy to increase oral reading fluency. *Reading Research & Instruction*, 39(1), 27-38.
- Hasbrouck, J., & Tindal, G. (2006). Oral reading fluency norms: a valuable assessment tool for reading teachers. *The Reading Teacher*, 59(7), 636-644.
- Hawkins, J. D., Catalano, R. F., & Miller, J. Y. (1992). Risk and protective factors for alcohol and other drug problems in adolescence and early adulthood: Implications for substance abuse prevention. *Psychological Bulletin*, 112(1), 64–105.
- Heath, S. B. (1991). The sense of being literate: Historical and cross-cultural features. In S. McCormick, *Instructing Students who have Literacy Problems* (p. 43). Upper Saddle River, NJ: Pearson Education.
- Hinshaw, S.P. (1992). Externalizing behavior problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin*, 111(1), 127-155.
- Hintze, J. M., Shapiro, E. S., Conte, K. L., & Basile, I. M. (1997). Oral reading fluency and authentic reading material: Criterion validity of the technical features of CBM survey-level assessment. *School Psychology Review*, 26(4), 535-553.
- Horn, W. F., & Packard, T. (1985). Early identification of learning problems: a meta-analysis. *Journal of Educational Psychology*, 77(5), 597-607.
- Irvin, L. G. (2004). Validity of office discipline referral measures as indices of school-wide behavioral status and effects of school-wide behavioral interventions. *Journal of*

- Positive Behavior Interventions*, 6(3), 131-147.
- Jolivette, K., & Nelson, C. M. (2010). Adapting positive behavior interventions and supports for secure Juvenile Justice Settings: Improving facility-wide behavior. *Behavioral Disorders*, 36, 28-42.
- K-12 Solutions (2013). Infinite Campus overview. Retrieved October 5, 2013 from <http://www.k12solutionsgroup.com/campus.html>.
- Koth, C. W., Bradshaw, C. P., & Leaf, P. J. (2009). Teacher observation of classroom adaptation—checklist: development and factor structure. *Measurement and Evaluation in Counseling and Development*, 42(1), 15-30.
- Kuhn, M. R., & Stahl, S. A. (2003). Fluency: a review of developmental and remedial practices. *Journal of Educational Psychology*, 95, 3-21.
- Maughan, B., Pickles, A., Hagell, A., Rutter, M., & Yule, W. (1996). Reading problems and antisocial behaviour: Developmental trends in comorbidity. *Child Psychology & Psychiatry & Allied Disciplines*, 37(4), 405-418.
- Mayes, S. D., Calhoun, S. L., & Crowell, E. W. (2000). Learning disabilities and ADHD. *Journal of Learning Disabilities*, 33, 417-424.
- McEvoy, A. & Welker, R. (2000). Antisocial behavior, academic failure, and school climate: A critical review. *Journal Of Emotional And Behavioral Disorders*, 8(3), 130-140.
- McGee, R., Williams, S., Share, D. L., Anderson, J., & Silva, P. A. (1986). The relationship between specific reading retardation, general reading backwardness and behavioural problems in a large sample of Dunedin boys: A longitudinal study from 5 to 11 years. *Journal of Child Psychology and Psychiatry*, 27, 597-610.
- McIntosh, K. (2005, March). *Use of DIBELS ORF trajectories to predict office discipline referrals*. Paper presented at DIBELS Summit 2005, Ratin, and N. M.
- McIntosh, K., Flannery, K., Sugai, G., Braun, D. H., & Cochrane, K. L. (2008). Relationships between academics and problem behavior in the transition from middle school to high school. *Journal of Positive Behavior Interventions*, 10(4), 243-255.
- McIntosh, K., Frank, J., & Spaulding, S. (2010). Establishing research-based trajectories of office discipline referrals for individual students. *School Psychology Review*, 39(3), 380-394.
- McIntosh, K., Horner, R. H., Chard, D. J., Boland, J. B., & Good, R. H. (2006). The use of reading and behavior screening measures to predict non-response to school wide positive behavior support: A longitudinal analysis. *School Psychology Review*, 35, 275-291.
- McIntosh, K., Sadler, C. A., & Brown, J. A. (2012). Kindergarten reading skill and response to instruction as risk factors for problem behavior. *Journal of Positive Behavior Interventions*, 14, 17-28.
- Miles, S. B. & Stipek, D. (2006). Contemporaneous and longitudinal associations between social behavior and literacy achievement in low-income elementary school children. *Child Development*, 77, 103-117.
- Moffitt, T. E. (1993). Adolescence-limited and life-course-persistent antisocial behavior: A developmental taxonomy. *Psychological Review*, 100, 674-701.
- Moffitt, T. E., Caspi, A., Rutter, M., & Silva, P. A. (2001). *Sex Differences in Antisocial Behavior*. Cambridge: Cambridge University Press.

- Molfese, V. J., Modglin, A., & Molfese, D. L. (2003). The role of environment in the development of reading skills: a longitudinal study of preschool and school age measures. *Journal of Learning Disabilities, 36*(1), 59–67.
- Monroe, C. (2006). Misbehavior or misinterpretation? *Kappa Delta Pi Record, Summer 2006, 42*(4), 161-165.
- Mullis, I. V. S., Martin, M. O., Kennedy, A. M. & Foy, P. (2007). PIRLS 2006 international report: IEA's progress in international reading literacy study in primary schools in 40 countries. Chestnut Hill, MA: Boston College. Retrieved August 22, 2012 from <http://timss.bc.edu/pirls2006/index.html>
- Nelson, J. R., & Roberts, M. L. (2000). Ongoing reciprocal teacher-student interactions involving disruptive behaviors in general education classrooms. *Journal of Emotional and Behavioral Disorders, 8*, 27-37.
- Pas, E. T., Bradshaw, C. P., & Mitchell, M. M. (2011). Examining the validity of office discipline referrals as an indicator of student behavior problems. *Psychology In The Schools, 48*(6), 541-555.
- Pearson Education Inc., (2013). Powerschool overview. Retrieved July 5, 2013 from <http://www.pearsonschools.com/products/powerschool/>
- Putnam, R. F., Luiselli, J. K., Handler, M. W., & Jefferson, G. L. (2003). Evaluating student discipline practices in a public school through behavioral assessment of office referrals. *Behavior Modification, 27*(4), 505-523.
- Rodney, W., Crafter, B., Rodney, E., & Mupier, R. (2002). Variables contributing to grade retention among African-American adolescent boys. *Journal of Educational Research, 92*(3), 185-190.
- Rourke, B. P., & Fuerst, D. R. (1991). Learning disabilities and psychosocial functioning. New York: Guilford Press.
- Rusby, J. (2007). A descriptive study of school discipline referrals in first grade. *Psychology In The Schools, 44*(4), 333.
- Rutter, M., & Yule, W. (1970). Reading retardation and antisocial behavior—the nature of the association. In M. Rutter, J. Tizard, & K. Whitmore (Eds), *Education, Health and Behavior* (240-255). London: Longmans.
- Samuels, S. J. (2006). Toward a model of reading fluency. In S. J. Samuels & A. E. Farstrup (Eds.), what research has to say about fluency instruction (pp. 24-46). Newark, DE: International Reading Association.
- Sanson, A.V., Oberklaid, F., Pedlow, R., & Prior, M. (1991). Risk indicators: assessment of infancy predictors of preschool behavioural maladjustment. *Journal of Child Psychology and Psychiatry, 32*, 609-626.
- Shaywitz, S. E., Shaywitz, B. A., Fletcher, J. M., & Escobar, M. D. (1990). Prevalence of reading disability in boys and girls: results of the Connecticut longitudinal study. *Journal of the American Medical Association, 264*, 998-1000.
- Sideridis, G. D., Morgan, P. L., Botsas, G., Padeliadu, S., & Fuchs, D. (2006). Predicting LD on the basis of motivation, metacognition, and psychopathology: an ROC analysis. *Journal Of Learning Disabilities, 39*(3), 215-229.
- Skiba, R. (2003). *Children left behind: The disproportionate impact of school discipline on students of color*. Retrieved April 3, 2013 from [http://www.soros.org/initiatives/baltimore/events/school\\_20031118/](http://www.soros.org/initiatives/baltimore/events/school_20031118/)

- Skiba, R. (2008). Safety without suspensions. *Educational Leadership*, 66(1), 38.
- Skiba, R., Michael, R., Nardo, A., & Peterson, R. (2002). The color of discipline: sources of racial and gender disproportionality in school punishment. *Urban Review*, 34(4), 317-342.
- Skiba, R., & Rausch, M. (2004). *The relationship between achievement, discipline, and race: an analysis of factors predicting ISTEP scores*. Retrieved October 1, 2012 from <http://ceep.indiana.edu/ChildrenLeftBehind/pdf/2D.pdf>
- Smith-Bonahue, T., Larmore, A., Harman, J., & Castillo, M. (2009) Perceptions of parents and teachers of the social and behavior characteristics of children with reading problems *Learning Disabilities--A Contemporary Journal*, 7(2), 19-34.
- Spencer, T., Bierderman, J., & Wilens, T. (1999). Attention deficit hyperactivity disorder and comorbidity. *Pediatric Clinics of North America*, 46, 916–928.
- Sugai, G., Sprague, J. R., Horner, R. H., & Walker, H. M. (2000). Preventing school violence: the use of office discipline referrals to assess and monitor school-wide discipline interventions. *Journal of Emotional and Behavior Disorders*, 8(2), 94-101.
- Taylor-Green, S. J., & Kartub, D. T. (2000). Durable implementation of school-wide behavior support: the high five program. *Journal of Positive Behavior Interventions*, 2, 233-235.
- Townsend, B. L. (2000). The disproportionate discipline of African American learners: reducing school suspensions and expulsions. *Exceptional Children*, 66(3), 381-91.
- Vavrus, F., & Cole, K. (2002). I didn't do nothin': the discursive construction of school suspensions. *The Urban Review*, 34(2), 109.
- Verdugo, R., & Glenn, B. (2002). Race-ethnicity, class and zero-tolerance policies: a policy discussion. Retrieved August 31, 2013 from [eus.sagepub.com/cgi/reprint/35/1/50.pdf](http://eus.sagepub.com/cgi/reprint/35/1/50.pdf)
- Weiner, J. (2004). Do peer relationships foster behavioral adjustment in children with learning disabilities? *Learning Disability Quarterly*, 27(1), 21–30.
- Willcutt, E. G., Betjemann, R. S., Pennington, B. F., Olson, R. K., DeFries, J. C., & Wadsworth, S. J. (2007). Longitudinal study of reading disability and attention-deficit/hyperactivity disorder: Implications for education. *Mind, Brain, and Education*, 4, 181– 192.
- Wright, J. B. (1998). Compiling school base-rates for disruptive behavior from student disciplinary referral data. *School Psychology Review*, 27(1), 138.