

**Ameliorating summer reading setback
among economically disadvantaged elementary students***

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Abstract

In this longitudinal experimental study we tested the hypothesis that providing economically disadvantaged elementary school students with a supply of self-selected tradebooks would ameliorate summer reading setback. Thus, 852 students from 17 high poverty schools were randomly selected to receive a supply of self-selected tradebooks on the final day of school over a three-year period, while 478 randomly selected students from these same schools received no books and served as the control group. No further effort was provided in this intervention study. Outcomes on the state reading assessment indicated a statistically significant effect ($t=.015$) for providing access to books for summer reading along with a small, but significant ($d=.14$) effect size. Slightly larger effects ($d=.21$) were found when comparing the achievement of the poorest students in both groups.

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Central to much federal educational policy making over the half-century have been attempts to fund interventions that close the achievement gaps that exist on measures of reading proficiency. The rich-poor reading achievement gap is substantial and has been persistent. While there is evidence that rich-poor achievement gap has narrowed over time (Grissmer, Kirby, Berends & Williamson, 1994), the most recent National Assessment of Educational Progress in reading provides strong evidence of the pervasive nature of this seemingly intractable problem (Perie, Grigg & Donahue 2005). While 77 percent of more economically advantaged 4th grade students achieved above the Basic level proficiency, only 46 percent of poor students (eligible for free- or reduced-priced meals) achieved this modest level of reading development. The 27 point gap (203 vs. 230) is substantial and basically unchanged even with the advent of the latest federal initiative (No Child Left Behind Act of 2001) targeted to closing the achievement gap (2001-2006).

But the failure of the various federal educational initiatives to ameliorate the rich-poor achievement gap may be the result of a failure of policy makers to focus attention on what seems a primary source of the existing achievement gap: Summer reading setback. Summer reading setback is a well-established phenomenon (Allington & McGill-Franzen, 2003; Cooper, Nye, Charlton, Lindsay and Greathouse; Entwisle, Alexander, and Olson, 1997). Briefly, research on summer academic loss has provided reliable evidence that the reading achievement of economically disadvantaged students slides back a few months every summer. Cooper, et al (1996) reviewed 39 studies of summer academic loss and conducted a meta-analysis using 11 of the studies that provided sufficient data for that procedure. They found that "Middle-class students appeared to gain on grade-level equivalent reading recognition tests over summer while lower-class students lost on them. There were no moderating effects for gender or race..." (p. 227). They concluded, "On average, summer vacations created a [reading] gap of about 3 months between middle- and lower-class students" (p. 261).

Although the role that summer reading setback plays in the reading achievement gap between disadvantaged and advantaged students was discussed some 20-30 years ago (Hayes & Grether, 1983, Heynes, 1978; 1987), that discussion produced little educational

policy addressing either the issue or the impact. We designed this study as an initial step in an evidence base for interventions that might ameliorate summer reading setback and thereby narrow the persistent achievement gap between more and less economically advantaged children.

Understanding summer setback

Although there have been a number of studies establishing the problem summer reading setback, there have been far fewer studies that have explored the reason that summer setback occurs.

Additionally, not everyone finds a "summer setback" among poor children but, rather, they report a lack of reading growth during the summer months among poor children while reading growth continues during the summer months for more advantaged children. Entwisle, et al (1997; 2001), for instance, developed the "faucet theory" to explain the phenomenon. In their view, when the school "faucet" is turned on, that is when schools are in session, children of every economic background benefit roughly equally, but when the school faucet is turned off, as during summer vacations, reading proficiency among children from more advantaged families continued to develop while no similar growth was observed in economically disadvantaged children. Using a Spring to Fall assessment schedule, they reported that more advantaged children added 47 raw score points on reading

achievement tests over summer vacations during elementary school years while poor children added only 1 point.

On the other hand, Downey, von Hippel, and Broh (2004) analyzing, Early Childhood Longitudinal Study data, found that poor children fell about 2.5 months behind more advantaged students between K and grade 1. The achievement gap grew far faster during the summer than during the school year. This finding parallels those reported in the Cooper, et al (1996) meta-analysis. But whether poor children's reading proficiency decreases during the summer months or simply does not increase as much as more advantaged students seems largely irrelevant to the larger issue of the existing achievement gap. Irrelevant because in either case summer vacation periods seem to reliably produce differences in reading achievement among rich and poor children, small differences that expand over time such that Hayes and Grether (1983), using achievement data from the New York City public schools, estimated that as much as 80 percent of the reading achievement gap that existed at 6th grade could be attributed to summer setback.

Summer reading activity. The research available points to summer reading activity, or the lack of it, as one source of summer reading setback. Heyns (1978) found that reading activity was the only factor that was consistently correlated to reading gains during the

summer. She gathered a variety of data on children's experiences during the summer vacation period but found that the number of books read, the amount of daily leisure reading, and the frequency of library use explained a larger proportion of the variation on a standardized test of word recognition than other recreational and enrichment summer activities. She concluded, "The single summer activity that is most strongly and consistently related to summer learning is reading." (p. 161)

Similarly, Kim (2004) conducted a post hoc analysis of a school district sponsored voluntary summer reading program for 6th grade students and concluded that the effects of reading four or five books over the summer months on "on fall reading scores is potentially large enough to prevent a decline in reading achievement scores from spring to the fall." (p. 169) Though short on actual evidence, both Cooper and his colleagues (1996), Alexander, Entwisle and Olson (2001), and Philips and Chin (2004) also suggest that voluntary summer reading activity is central to the problem summer reading setback and recommend policies that enhance the access poor children have to books during the summer months.

Even federal policy makers seem convinced that voluntary summer reading activity is important and, thus, funded the No Child Left Behind Summer Reading Achievers project in a number of cities

(USDE, 2004). The rationale for this project recognized that summer reading loss "is especially acute among low-income and disadvantaged students, [thus] the pilot will encourage reading during the vacation to help ensure students come back to school prepared to learn and achieve." (p. 1). Given the evidence on the limited access that poor children have to books in the schools they attend and in their neighborhoods and homes (Allington, Guice, Baker, Michelson & Li, 1995; Constantino, 2005; Fryer & Levitt, 2002; Heyns, 1978; McGill-Franzen, Lanford & Adams, 2002; Neuman, 1986; Neuman & Celano, 2001), various researchers have implicated this more restricted access to books as a primary source of documented differences in rich/poor students voluntary reading activity (Allington & McGill-Franzen, 2003; Cooper, et al, 1996; Entwisle, et al, 1997; Phillips & Chin, 2004).

In this study we tested the effects of one low effort intervention design in ameliorating summer reading setback. Our primary objective was to ensure poor children had easy access to books for voluntary summer reading. We hypothesized that by providing economically disadvantaged students with a collection of self-selected books at the end of each school year we could positively impact their voluntary summer reading activity and achievement and thereby ameliorate summer reading setback.

Method

Participants and Design. Students from 17 high-poverty elementary schools in two school districts in a southeastern state participated in the study. The enrollment of students eligible for free and reduced price meals in these schools ranged from 65 percent to 98.5 percent. Most participating students were African-American or Hispanic (89%), with few Caucasian participants (5%). The age (rounded) distributions for each group of participants is given in Table 1.

Insert Table 1 about here

Principals in each of these schools had agreed to participate in the study and assist in the distribution of parental informed consent waivers. All students enrolled in first and second grade in these schools were given the parental consent letters to take home. We received 1713 parental consent forms. Initially, 1082 children were randomly selected to receive the summer books (treatment) and 631 children were randomly selected to serve as the no treatment (control) students. We selected substantially more treatment group students because of our concerns about participant attrition rates. For

treatment students to remain in the study they had to be enrolled in one of the 17 schools where the book fairs were conducted. Thus, any participant who moved out of the 17 elementary schools could not continue as a treatment group member. However, the achievement of control students could be accessed from the districts' student record files and so only the data for students who left the district would be lost. In the end, we had similar attrition for both groups. Attrition over the period of the study resulted in having data for 852 treatment (21.3% attrition rate) and 478 control (24.3% attrition rate) students. Much of the mobility in both groups of students was transfer between the 17 schools and so attrition rates were lower than we had anticipated originally.

When the summer book distributions began the participants had just completed first or second grade. For three consecutive summers (2002, 2003, 2004) the treatment children received a small supply of books for summer reading. The children in the control group received no tradebooks but were given one or two sticker books or puzzle books with little or no print at the same time the treatment children received their tradebooks. The groups were deemed equivalent on all relevant demographic characteristics at the end of the treatment period. There were no significant differences between students in the treatment and control groups on gender ($\chi^2 = 0.52, 1 df, p = .648$), free-lunch status

Comment [CZ1]: In year 3, they received puzzle books

($\chi^2 = 5.439$, 3 *df*, $p = .142$), race/ethnicity ($\chi^2 = 2.04$, 4 *df*, $p = .729$), age ($\chi^2 = 1.930$, 5 *df*, $p = .859$), or fall 2002 lexile level as assessed on the SRI ($t = -1.171$, *df* = 963, $p = .242$). The free lunch variable had four categories (free, reduced, not eligible, and not reported), and experimental group children had a slightly higher frequency of free-lunch eligibility at the beginning of the study.

Dependent Variables. Data collection began in fall, 2002, and ended in fall, 2004. We relied on the state mandated reading assessment as our primary measure of reading proficiency. The Florida Comprehensive Achievement Test is administered annually to all students in grades 3 through 8. The FCAT has demonstrated reliability, with scores on the FCAT reading portion available as developmental scale scores with a range from 0 to about 3000. Students should receive higher scores as they move from grade-to-grade according to their increased achievement (Florida Department of Education, 2001). We used the development scale scores in our analyses.

We elected to use the FCAT performances as our primary outcome measure because it is the high-stakes assessment that matters for both student promotion and school ratings. We compared the FCAT performances of participants in the treatment and control groups after three years of summer book distribution. In both groups there were students who were then enrolled in grades 3, 4, and 5.

While normal school progress would have had all participants in grades 4 or 5, the effects of retention in grade, in most cases mandated by state law (when grade 3 FCAT performances fail to obtain the benchmark performance), resulted in some students being left back in one or more years.

We used lexile levels as the measure to compare reading test achievement to the books that students self-selected. We calculated the average assessment lexile across the study period as a general indicator of the child's reading ability. Assessment lexiles (ALEX) were provided by a number of different tests administered by the school districts, including the Scholastic Reading Inventory and Stanford Diagnostic Reading Test. Data files provided by the school districts contained student reading achievement performance as estimated in lexile levels from these assessments. Using the same metric, lexiles, we obtained lexile levels for almost all of the books we made available for selection. Lexile estimates for each of the tradebooks were obtained from Scholastic.com, Lexile.com, or was manually configured using the Lexile Analyzer software found on the Lexile web site (www.lexile.com). Some materials chosen were non-prose, and lexiles were not obtained for these. Books at the beginning reading level (BR) were assigned a lexile score of zero.

Comment [C22]: I didn't think the FCAT gave a lexile level, unless Greg knows of a conversion technique.

Comment [C23]: We didn't find Lexiles on the AR site -- at one point we used AR to get F-K levels.

An average lexile for the tradebooks selected by each treatment student (TLEX) was then computed across the treatment period. With these two estimates, a third index, lexile difficulty, was computed by taking $LDIF = TLEX - ALEX$. (Because of missing data, this index was sometimes missing for one or more years for some subjects.) The latter index (LDIF) was used to evaluate the effects of selection of books at different levels of difficulty on students' reading progress.

Participant survey and reading log data. Survey data were gathered at the end of each summer from both treatment and control students using a shortened version of the Literacy Habits Survey (Paris, Pearson, Cervetti, Carpenter, Paris, DeGroot, Mercer, Schnabel, Martineau, Papanastasiou, Flukes, Humphrey, Bashore-Berg, 2004). This paper-pencil instrument was administered to students outside their classroom. The questions and possible responses were read aloud to the participants to ensure that they understood the questions being asked. Our primary interest was with items that requested information about summer reading activity, access to books, and home reading support, variables earlier studies have suggested were potentially important in understanding voluntary summer reading activity/inactivity.

Finally, we distributed a summer reading log to every treatment group participant. The log was accompanied by a pre-paid, pre-

addressed envelope for returning the log to the research team. Each log consisted of 12 pages, one for each book selected, which asked the participant to rate each book read on perceived difficulty and interestingness. The majority of each page was left blank with the direction to draw a picture of some favorite part of the book and write one or two sentences explaining what the picture illustrated. Unfortunately, even with the prepaid mailers and explanations of how to return the logs few children returned the summer reading logs (See Table 6 for return rates)

Summer Book Distribution. In the spring of each of the three years, we conducted a book fair at each school site. At the book fairs treatment students were brought in groups of 15 or so to the book fair area located in the school building. They were then given clipboards and pencils and were shown how to indicate which books they would like to receive (each book had a unique 3 digit order number posted on front cover). Students were told they could order 15 books and that they would receive 12 of those books to keep as their own (because of potential stock shortages we had students select more books than they would receive). Students then usually spent about 30 minutes reviewing the books available and indicating their selections on the order form. Once the order form was complete students returned to

their classrooms. The books selected were individually boxed and delivered to each treatment student on the final day of school.

Book Collections. Each year the research team reviewed and selected a large number (400-600) of tradebooks for inclusion in the book fairs. The books were selected with a concern for text difficulty and interestingness. Each year we selected books in four broad categories:

- Pop-Culture. These books featured characters and topics that were current in the broader popular media (television, movies, athletes, musicians, etc.). Examples in this category included books about Spiderman, Scooby Doo, Pokemon, Destiny's Child, and The Rock.
- Series books. Here we selected several titles from the most popular series books (as indicated by sales figures). Examples included, Junie B. Jones, Captain Underpants, The Magic Tree House, Goosebumps, Animorphs.
- Culturally relevant. This category included books by minority authors and/or featured minority characters or regional themes. Examples included, The Gold Cadillac (Taylor, 1987); Because of Winn Dixie (DiCamillo, 2002) ; Frederick Douglass Fights for Freedom (Davidson, 1968); and Aunt Flossie's Hat and Crab Cakes Later (Howard, 2001).

- Curriculum relevant. Each year we reviewed the state science and social studies standards for topics that would be studied by the participants the following school year. We then selected titles that fit those topics. Examples included: Slavery in Ancient Egypt and Mesopotamia (Greene, 2000); Postcards from Pluto: A tour of the Solar System (Leedy, 1993) Into the Rain Forest (Hammerslough, 2003).

Comment [CZ4]: Ancient Egypt is a 5th grade topic – Medieval Times might be a better example since that's on the third-grade list. ©

While each year we included titles reflecting each category, the numbers of books in each category varied over time. We attempted to avoid much overlap in titles each year. However, we did include some of the more popular titles from the previous year and worked to find sequels or additional books in a popular series or on a popular topic.

Overall, pop culture and series books were far more popular than book selections that were considered culturally relevant or curriculum related (Williams, 2005). In the final book fair nine of the ten most popular titles were from the pop culture of series book categories (e.g., Pop People: Little Romeo (Morreale, 2003); Hangin' with Hillary Duff (Scholastic, 2003); The Adventures of Super Diaper Baby (Pilkey, Hutchins & Beard, 2002)), while each of the ten least commonly selected books were from the culturally or curriculum relevant categories (e.g., J. C. Watts, Jr.: Character Counts (De Capua, 2000); Going to War in Ancient Egypt (Millard, 2001); Explorers of North

America (January, 2000); What's the Big Idea, Ben Franklin? (Fritz, 1996)).

Results

The most direct evidence of implementation comes from the number of books chosen by treatment children. On average, over 97% of children in the treatment group chose 14 or 15 books. At the end of treatment, the Literacy Habits Survey was also examined to provide behavioral evidence of treatment implementation. In particular, treatment-control group differences were examined for three items: "How often did you read this summer?" (LHSQ1: almost every day = 4, every week = 3, Once or twice this summer = 2, Not at all = 1); "Where do you get most of the books you read?" (LHSQ6: School = 1, Other = 0); and "Do you help your brother or sister or other children read and write?" (LHSQ10: Yes = 1, No = 0). The correlations of treatment membership with these implementation variables were: $r = .09$ ($p = .020$) for LHSQ1; $r = .28$ ($p < .001$) for LHSQ6; and $r = .02$ ($p = .522$) for LHSQ10. Though these correlations are relatively small, previous research suggests that it is likely that the only source from which the treatment students would obtain books for summer voluntary reading would be from this summer books program, which distributed tradebooks at their schools. If these self-reported

data are reliable, however, it suggests that our book distribution had a small positive effect on the frequency of summer reading.

Reading achievement. Descriptive statistics for comparing treatment and control groups are given in Table 2. Our first comparison tested the hypothesis that the FCAT performances of the treatment students would exceed those of the control group. A t-test found statistically significant differences ($t = 2.434$, $df = 1328$, $p = .015$) in the performance of the treatment ($\bar{X} = 1285.5$, $SD = 336.3$) and control students ($\bar{X} = 1238.3$, $SD = 345.0$) on the FCAT administered after three consecutive summer book distributions. The effect size was statistically significant but modest ($ES = .14$). Because the within-group score distributions were skewed (negatively), a nonparametric test was also performed. The Mann-Whitney U test yielded a difference of in ranks significant at $p < .074$ (679.6 and 640.4 units for the experimental and control groups, respectively).

Insert Table 2 about here

Because there was a slight difference in the frequency of free lunch between the experimental and control groups, these tests were also performed for students who were eligible for free lunch, excluding other SES categories. Additional descriptive statistics (such as median

and skewness) are given in Table 3 for free-lunch students in the treatment and control groups. A t-test found again statistically significant differences ($t = 3.280$, $df = 1088$, $p = .001$) in the performance of the free lunch eligible students in the treatment ($\bar{X} = 1259.39$, $SD = 324.5$) and control groups ($\bar{X} = 1191.42$, $SD = 335.1$) on the FCAT administered after three consecutive summer book distributions. The effect size was slightly larger ($ES = .21$). The Mann-Whitney U test yielded a difference of in ranks significant at $p < .005$ (565.77 and 509.40 units for the free lunch eligible students in the treatment and control groups, respectively).

Insert Table 3 about here

Relationship of book difficulty to achievement gains. Here we constructed an average difficulty for the books selected by computing mean lexile level of those books (ALEX). We also used student lexile reading level to create individual estimates of how difficult selected books were given each participants reading proficiency (TLEX). In Table 4, the correlations of the assessed and tradebook lexiles are given for each year. It can be seen that there is a substantial correlation from one year to the next for ALEX, but only small correlations between ALEX and TLEX, and among the yearly results for

TLEX. It does seem to be the case that children tend to choose books in line with their assessed lexile, but the relationship is weak. We had hoped to assess whether larger gains would occur when treatment students selected books that were matched to their reading level. It does not appear that children choose books in a way that makes examining this relationship possible.

Insert Table 4 about here

To explore this matter further, we separated treatment group children in two groups. The first showed increasingly harder choices in terms of tradebook lexile over the three years, while the second group did not show this pattern. The first group had a higher average FCAT score, as shown in Table 5 ($ES = .19$). While we realize this is a correlational effect, it does suggest that growth in reading proficiency is positively associated with the choice students make in terms of reading materials.

Insert Table 5 about here

Relationship of student logs to achievement gains. All students were encouraged to keep logs, which they were asked to place in the prepaid mailers and return to us as soon as they had completed reading each of the books selected. However, only about 17.5% of the treatment group children turned in a log in at least one year. The students who returned the logs are the only children we can be certain actually read the books they selected. Thus, it is of interest to explore how these children did relative to other treatment group members. The average DSS FCAT scores (2004) are shown in Table 6, for children who returned their logs 0-3 times. The variation between groups is significantly different from zero ($F = 13.76$; $df = 3, 622$; $p < .001$). It is clear that students who were more engaged had higher levels of reading achievement; however, this cannot be definitively linked to the summer reading program. In other words, factors beyond the access to self-selected tradebooks may well be at work here.

Insert Table 6 about here

Discussion

Summer reading setback has a demonstrated role in the existing rich/poor reading achievement gap. It has been previously suggested

that engagement in reading activity is an important factor in explaining summer setback. Differential access to books has been offered as one explanation for the reported differences in voluntary reading activity between rich and poor students. This study reports the first experimental attempt to determine whether providing poor children with access to a supply of books for summer reading will induce them to engage in reading activity and thereby ameliorate summer reading setback.

The findings we reported above indicate that our hypothesis; that providing easy access to books for summer reading will ameliorate summer reading setback, is tentatively supported. We found that the treatment group, which received the summer books, seemed to engage more often in voluntary summer reading and had significantly higher reading achievement than the control group. The effect size was statistically significant, if small.

We also found that when we asked the same question of the poorest students in the study the effects of the treatment were found to be larger, perhaps because these students have the most restricted access to books.

We had planned to use the summer reading log data to further evaluate the role of voluntary reading activity in summer reading setback. But few participants (<20%) returned the reading logs. So

while the reading log data show increasing reading achievement among students who returned the logs, we cannot reliably distinguish between those treatment students who actually read the books they selected and those that did not. Thus, we can only assume that providing the books increased reading activity, as tentatively suggested here by the responses on the Literacy Habits Survey, where the treatment students regularly reported being more likely to receive books from their school (the summer books we distributed). By year 3 these students were reporting more frequent reading activity suggesting that the summer book distribution did impact summer reading activity. Thus, increased reading activity appeared to ameliorate summer reading setback among the treatment group participants as suggested by the observed overall effect and the correlation between return of a reading log and FCAT achievement.

While the effect sizes were small ($ES = .14$ to $.21$), so was the treatment effort and cost. Borman and Dowling (2005) report on a three year summer school intervention with urban poor children. To limit costs they employed college student interns as the intervention providers. However, they found no significant differences in the reading achievement of the treatment and control students. However, they noted that attendance was extremely variable and when they reanalyzed their data including only students who attended regularly

for two or three summers, they reported an effect size of $d = .30$. In other words, assignment to summer school was not a reliable predictor of attendance at summer school. When regular attendance at summer school was the variable, summer setback was ameliorated. However, the cost of their summer school intervention was estimated at \$1500 per student annually while the cost of the books supplied in our intervention was approximately \$50 per student annually.

Policy considerations

This study provides the best evidence do date that ensuring easy access to books for summer reading is one potential strategy for addressing summer reading setback and, therefore, the rich/poor achievement gap. While the USDE Summer Reading Achievers program pilot did not produce reading gains in 7 of 8 grades studied (USDE, 2005) that report concludes, "No Child Left Behind Summer Reading Achievers Program participants had higher scores on average than control group students at all grade levels. Although no statistically significant differences in reading achievement were found for first graders and grades 3-8 the NCLB Summer Reading Achievers Program intervention did appear to have an effect the reading achievement levels." (p. 4) In our view it does seem the USDE pilot should be continued and, ideally, studied rigorously and longitudinally. We would include finer grained measures of summer reading activity in

an attempt to more reliably link reading activity to improvements in reading achievement.

Given the low cost and the seeming potential of providing poor children with a supply of self-selected books to read over the summer it is past time to determine whether such an activity can be scaled up. Such scaling up may result in an amelioration of summer reading setback and a narrowing of the rich/poor reading gap, particularly with student participation over time.

Theoretically, the self-teaching hypothesis suggested by Share and Stanovich (1995) suggests one reason why voluntary reading, during the summer or otherwise, would work to enhance reading development. According to the self-teaching hypothesis, each successful decoding encounter with an unfamiliar word provides an opportunity to acquire word-specific orthographic information. Such acquisition then influences reading automaticity and fluency, and, perhaps, comprehension and general reading development.

The self-teaching hypothesis, along with a variety of correlational data and cross-sectional data (Anderson, Wilson & Fielding, 1988; Cipelewski & Stanovich, 1992; Cunningham & Stanovich, 1998; Stanovich, 2000; Taylor, Fry & Maruyama, 1990) indicating links between reading volume and reading proficiency suggests one explanation for the effects of voluntary summer reading

activity on reading development. Likewise the evidence on the effects of an "extended reading" intervention (Kuhn, 2005, Kuhn, et al, in press) suggests that increasing daily reading activity improves student performance on a variety of reading skills. We suspect that expanding reading activity, at least during the summer months, improves students reading, if only because summer reading activity slows or reverses summer reading setback.

We would also note that we see the self-selection of summer books as important if only because Guthrie and Humenick (2004), in a meta-analysis of factors important to classroom reading achievement, reported such a large effect sizes ($ES=1.2$ and $ES=1.6$, respectively) for student choice and for access to interesting texts on reading achievement. At the same time, our analyses of the difficulty of selected books, in comparison to reported reading achievement levels, suggests that students select books based more "interestingness" than on our measure of text difficulty. Perhaps we should have provided a more restricted range of book difficulty, eliminating the books estimated to be the easiest to read. However, given the wide range of reading achievement represented in the treatment group each year, this would have likely created a situation where some children would not have been able to locate any books of an appropriate level of difficulty. Further research needs to be done on the effects of

providing books of different levels of difficulty for summer book reading.

Likewise, the most popular book choices were almost always drawn from our popular culture and series books categories. Beach (2006) found only a 4 percent overlap over a 30 year period among the titles listed in the American Library Association's (ALA) *Notable Books for Children* and the International Reading Association's (IRA) *Children's Choices* selections. He suggests this indicates that adults (ALA) and children (IRA) have very different preferences for reading matter. This represents yet another issue that needs to be resolved in developing voluntary reading interventions.

Conclusion

Almost 30 years ago Heyns (1978) suggested, "the unique contribution of reading to summer learning suggests that increasing access to books and encouraging reading may well have a substantial impact on achievement" (p. 172). Our data simply offer additional support for that not very new policy direction.

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Table 1. Age distribution of participants.

Age	Group		Total
	Control	Treat ment	
9	123	213	336
10	228	400	628
11	110	204	314
12	17	32	49
13	0	1	1
14	0	2	2
Total	478	852	1330

Table 2. Descriptive Statistics for the FCAT Developmental Scale Scores (DSS) in 2003 and 2004 (end of treatment).

County	Group		DSS 2003	DSS 2004
Beach	control	Mean	1208.75	1284.74
		N	138	266
		SD	293.703	309.466
	book	Mean	1232.48	1322.32
		N	260	487
		SD	344.883	332.538
Glades	control	Mean	1030.10	1180.11
		N	113	212
		SD	370.640	377.669
	book	Mean	1097.81	1236.50
		N	184	365
		SD	325.006	335.531
Total	control	Mean	1128.32	1238.34
		N	251	478
		SD	341.683	344.973
	book	Mean	1176.67	1285.56
		N	444	852
		SD	342.908	336.321

Table 3. Robust Descriptive Statistics for the FCAT Developmental Scale Score at End-of-Treatment (2004).

Group	Statistic	Value
Control	Mean	1238.34
	5% Trimmed Mean	1252.33
	Median	1295.50
	Skewness	-.700
	STD	344.97
	IQR	422
Book	Mean	1285.56
	5% Trimmed Mean	1292.38
	Median	1306.00
	Skewness	-.292
	SD	336.32
	IQR	425

Table 4. Correlations between assessed and tradebook lexiles.

	TLEX02	TLEX03	TLEX04	ALEX02	ALEX03
TLEX03	.174**				
TLEX04	.132**	.208**			
ALEX02	.133**	.190**	-.008		
ALEX03	.120**	.174**	-.052	.749**	
ALEX04	.242**	.161*	.125	.501**	.631**

** $p < .01$ level* $p < .05$ level

Table 5. Statistics for children increasing and not increasing in tradebook lexiles.

Group	Statistic	Value
Not increasing	Mean	1246.22
	5% Trimmed Mean	1251.15
	Median	1262.50
	SD	338.542
	IQR	441
Increasing	Mean	1310.18
	5% Trimmed Mean	1318.03
	Median	1330.00
	SD	332.886
	IQR	398

Table 6. DSS 2004 scores by frequency of log return.

Frequency of Return	Average DSS	N	SD
0	1273.7	512	327.846
1	1358.8	62	310.771
2	1551.6	35	381.216
3	1617.8	17	315.961