Impact of Library-Based Summer Reading Clubs on Primary-Grade Children's Literacy Activities and Achievement

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ABSTRACT

The purpose of this study was to examine the literacy activities and achievements of primary-grade children participating in summer reading clubs (SRC) and determine whether participation in SRC impacted primary-grade children's literacy activities and achievements. To address these research aims, 90 second- and third-grade children were randomly assigned to either a treatment (Marathon) or control (Sprint) group. Children and their caregivers completed questionnaires on children's literacy activities, and children's achievements were measured using direct assessment of their decoding and reading comprehension skills. Results of this study suggested that primary-grade children who elect to participate in SRC engage in frequent literacy activities and are average decoders and comprehenders. Participation in SRC does not seem to impact children's literacy activities or achievements. However, by the end of the summer, all children made significant gains in reading comprehension. Implications including how to increase the effectiveness of SRC are discussed.

Summer reading clubs (SRCs) are a common type of program offered by public libraries during the summer months. Today more than 95% of public libraries offer SRCs (Fiore 2007). Public libraries envision SRCs as an important resource that fosters a love of reading among participants and increases library use. To this end, the Association for Library Service to Children argues the importance of providing SRCs for all youth (Association for Library Service to Children 2010). Although there are many SRCs across the country, little is known about the effectiveness of SRCs with respect to enhancing children's reading activities and achievements and preventing summer slide.

This study sought to fill this important gap in the literature by examining the impacts of SRC on primary-grade children's reading activities and achievements via a partnership between researchers at the Crane Center for Early Childhood Research and Policy (CCEC) and

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Columbus Metropolitan Library (CML). The SRC at CML is an ideal context in which to examine the impact of SRCs, as it is one of the largest summer reading programs available in public libraries in the United States, with 67,000 children and youth participating in 2011 (Columbus Metropolitan Library 2011). The SRC is a CML flagship program and is heavily supported by the library administration, the board of trustees, and local donors. Given the amount of effort and financial support ascribed to CML's SRC and hypothesized positive benefits for SRC participants, this study examines the effectiveness of SRC and, particularly, whether SRC is effective in preventing summer slide.

Summer Slide

Summer slide refers to the well-documented decline in children's reading achievement that occurs during summer vacation (Borman and Boulay 2004). Summer slide has been shown to be cumulative, such that after many years of experiencing summer slide, children may be 2 or more years behind their peers in reading skills (Alexander, Entwisle, and Olson 2001). Moreover, some research suggests that the annual accumulation of summer slide is a major factor in the growing achievement gap between successful and unsuccessful children throughout the primary grades (Paris et al. 2004), and the extant literature suggests that children who are poor readers are more susceptible to summer slide given their lack of motivation to practice reading during the summer months (Stanovich 1986).

The potential for library programs to affect children's reading activities and achievements is perhaps the greatest in the summer months, when children are not in school and their access to books may be limited, contributing to the summer slide. Given that children's independent reading is associated with literacy achievement (Heyns 1978; Allington et al. 2010), SRCs available at community libraries have great potential to stem summer slide by increasing children's participation in reading activities. However, as noted previously, there is little empirical research on how participation in SRC may contribute to children's reading activities and achievement. Despite anecdotes in the literature of the importance of such programs (e.g., Celano and Neuman 2001), there are few carefully controlled studies that permit causal claims regarding the effects of such programming.

Summer Reading and Literacy Activities and Achievements

In light of the potential for SRCs to remediate summer slide, research has sought to examine the characteristics of children who do elect to participate in SRCs. An examination of participants of the Guys Read Program at the Hennepin County Library showed that primary-grade boys who chose to participate in the summer reading program all seemed to enjoy reading and considered themselves good readers (O'Brien et al. 2008). A recent study of more than 1,200 children who enrolled in the CML SRC found that the majority of children were highly motivated readers who considered themselves to be good readers and who tended to read fre-

quently (Justice et al. 2013). Although this work is important for helping us learn more about the characteristics of children who participate in SRCs, the study did not examine the reading skills of these youths; thus, it is unclear whether SRC participants are good readers. Because summer slide can be more detrimental to children who are poor readers, it is important to understand whether children who are poor readers are participating in SRCs. Thus, the first aim of this study was to examine the reading skills of SRC participants as well as other characteristics, such as literacy activities and motivation to read. The second aim of this study was to examine whether and to what extent SRC affected children's literacy activities and achievement. In the following sections, we review the available evidence indicating potential for SRCs to affect children's literacy activities and achievement.

Literacy Activities

A major focus of SRCs is to encourage increased participation in literacy activities during the summer months. Many programs, including CML's SRC, encourage children to track their amount of reading and often provide rewards for meeting particular benchmarks (e.g., CML provides a prize, such as a coupon to a local water park, for every 4 hours of reading). This focus is supported by research demonstrating positive associations between children's frequency of independent reading and literacy achievement (Whitehurst and Lonigan 1998; Stanovich 2000; van Kleeck 2003). For example, research by Barbara Heyns (1978) found that children's participation in literacy activities strongly correlated with summer learning. Heyns argues that programs that encourage reading (e.g., SRCs) can help to prevent summer slide.

In addition, a small number of research studies have examined the extent to which programming similar to SRC affects children's participation in literacy activities. Although the results are promising, these studies of summer reading programs have featured programs by entities other than libraries. For example, two studies by James S. Kim (2006, 2007) examined the effects of voluntary summer reading on the summer reading activities of primary-grade children. The voluntary programs were implemented via partnership between the researcher and local schools. In both studies, primary-grade children were assigned to either a control condition or a treatment condition; children in the treatment condition received books in the mail during the summer months. In the first study, results indicated that there were no significant differences between the amount of independent reading between the treatment and control groups (Kim 2006). However, children in the treatment group did report significantly more home literacy activities, including reading with a family member. In the second study, children in the treatment group reported engaging in more reading activities during the summer than children in the control group (Kim 2007).

In a subsequent study, James S. Kim and Thomas G. White (2008) examined the voluntary summer reading of 400 third-, fourth-, and fifth-grade children and found that there were no significant differences in the amount of summer reading for children in the control group

compared to children who were given books to read during the summer. However, there was a significant difference between the control group and children who were given books to read and taught strategies for improving reading and comprehension, indicating that prompting children to engage with the books led to increased summer reading activity. Finally, James Kim and Jonathan Guryan (2010) investigated 370 fourth-grade children's voluntary summer reading and found that children in the treatment group reported reading more books than children in the control group did. In sum, the mixed results of these studies indicate that summer reading programs may or may not affect children's literacy activities. Again, however, these studies were not conducted in the public library setting. Therefore, this study sought to examine the impact of library-supported SRCs on primary-grade children's summer literacy activities.

Literacy Achievement

Evidence supporting the potential for SRCs to influence children's literacy achievement is also mixed. Much of this evidence is drawn from studies of voluntary summer reading programs that were administered by entities other than libraries (Schacter 2003; Schacter and Jo 2005; Kim 2006, 2007; Kim and White 2008; Kim and Guryan 2010; Allington et al. 2010). In the ongoing work by Kim and colleagues (Kim 2006, 2007; Kim and White 2008; Kim and Guryan 2010), children's voluntary summer reading and reading achievement were investigated. In the first two studies (Kim 2006, 2007), primary-grade children were assigned to receive either 8 or 10 books over the summer months or a business-as-usual control condition. Results indicated that there were no significant differences between the two groups in end-of-summer measures of silent and oral reading. A study by Kim and Guryan (2010) included a treatment group that participated in family literacy activities over the summer. Again, there were no significant impacts on end-of-summer measures of reading comprehension or vocabulary between the treatment groups (books only and books plus literacy activities) and control group.

However, one study by Kim and White (2008) included a treatment group that also provided children with strategies for improving oral reading and comprehension. Teachers provided modeling and guided practice for fluency and five different comprehension strategies over three different lessons during the third week of the intervention. Results of this study showed that children who received both the books and the strategies showed a significant increase on a measure of silent reading in comparison to the children in the control group. Richard L. Allington and colleagues (2010) also reported the results of a non-library-based summer reading program implemented with first and second graders attending high-poverty schools. For 3 consecutive years, children selected 12 to 15 books to take home with them over the summer months based on their own interests. After 3 years of treatment implementation, as compared to children in a control condition who did not receive any books, children who received summer reading selections had significantly higher scores on a stan-

dardized reading achievement test. In sum, the studies on community- and school-based summer reading programs provide mixed evidence of the effectiveness of voluntary summer reading. Moreover, as these studies did not examine library-based SRCs, it is unknown whether the results are generalizable to SRCs as they are currently implemented in libraries across the country.

To our knowledge, only a few studies have examined the effects of participation in a library-based SRC (Carter 1988; Los Angeles County Public Library Foundation 2001; Roman and Fiore 2010). For instance, Vivian Carter (1988) investigated the vocabulary and comprehension scores of 279 primary-grade students who either did or did not participate in an SRC. Results indicated that children who participated in SRC increased their vocabulary and comprehension scores, whereas children who did not exhibited summer slide: these children had vocabulary and comprehension scores that decreased over time. Similarly, the Dominican National Study and a study of children who participated in the Los Angeles County Public Library SRC found that children who participated in library-based SRCs did not experience summer slide (Los Angeles County Public Library Foundation 2001; Roman and Fiore 2010). Although these findings are intriguing, each of these studies was quasi-experimental in nature; thus, the findings should be viewed cautiously. Because random assignment was not used, it is unknown whether the results were influenced by preexisting differences between the two groups of children.

In summary, the evidence supporting voluntary summer reading is mixed, with many studies finding no significant impact of voluntary summer reading. However, many these studies were not completed in conjunction with existing public library SRCs and therefore cannot truly speak to how effective SRCs are in preventing summer slide. Thus, the current study aimed to fill the gap by investigating how participation in SRC influenced children's reading achievement as well as their literacy experiences. Therefore, the aims of the current study are twofold: (*a*) to examine the literacy activities and achievements of primary-grade children who elect to participate in an SRC and (*b*) to determine whether and to what extent participation in SRC impacts primary-grade children's literacy activities and achievements. Concerning the first aim, for the sake of thoroughness, we also examined the correlations between children's literacy activities and achievements.

The Study

Participants

Participants in this study were 90 second- and third-grade children who voluntarily participated in the SRC implemented by the CML in the summer of 2012. The majority of children were female (60%, $n = 54$) and in second grade (61%, $n = 55$). The average age for the children was 8 years, 8 months (SD = 8 months, Min = 7 years, 3 months, Max = 11 years). Information on the socioeconomic status of the children was available from questionnaires completed

by the children and/or their primary caregivers and included eligibility for free/reduced lunch at school and the mothers' highest level of education. For the former, 29% of the children were eligible for free/reduced lunch during the school year ($n = 20$; information was missing for 22 children). For the latter, 34% of the children's mothers held a high school diploma as their highest degree earned ($n = 25$), whereas 34% held a bachelor's degree ($n = 25$), and 32% held a graduate degree ($n = 23$; information was missing for 17 children). The majority of children primarily spoke English at home (97%, $n = 74$).

Study Procedures

All study procedures were conducted at the CML main branch as a part of the library's SRC program. The CML is located in the city of Columbus, which is the state capital and largest city in Ohio, with a population of over 800,000. The population of Columbus is ethnically diverse and is considered highly educated, with 87% of adults completing high school and 32% obtaining a bachelor's degree (US Census Bureau 2012). The main branch is the flagship of the library system. It serves a large number of children from both inner-city Columbus and surrounding suburbs. The CML SRC was established in 1937 and is one of the largest SRCs in the nation.

This study utilized a delayed-treatment design to examine the impacts of an 8-week SRC. To participate in the study, children's caregivers provided informed consent during a 2-week assessment window at the beginning of the summer. Once children were consented into the study, researchers randomly assigned children to one of two conditions (i.e., Sprint or Marathon, as described later). Study procedures for children in both conditions included (*a*) completion of pretest measures, (*b*) completion of one midsummer checkup phone call, and (*c*) completion of posttest measures. The pretest assessment occurred at the same time as consent, during the 2-week assessment window at the beginning of the summer. Caregivers completed a family background questionnaire, and children completed a child survey and formal measures of reading attitudes, decoding, and reading comprehension. The checkup phone call occurred during the 8-weeks of SRC; research staff spoke with caregivers or children, who answered questions about their involvement in literacy activities. The posttest occurred at the end of the 8-week SRC program. At this time, children completed the same child survey and formal measures of reading attitudes, decoding, and reading comprehension. Gift card incentives were given at the time of consent and again at the completion of the study.

Marathon Condition

Children in the Marathon condition ($n = 45$) participated in the SRC as it is typically implemented by the CML. These children were instructed to read books of their own choosing for 20 minutes a day for 36 days, resulting in a total of 12 hours read over about 8 weeks. Each

child received a reading record in the form of a booklet. The booklet included space for the children to place a sticker after they completed their 20 minutes of reading per day. Children also tracked the titles of the books they read. Children visited the library throughout the 8 weeks to pick up incentives; an incentive was earned for every 4 hours of reading (i.e., 12 completed spaces on the reading record). These incentives were planned by the library for all SRC participants.

Sprint Condition

Children in the Sprint condition ($n = 45$) followed an experimental variation of the CML SRC in which they implemented the program in a condensed period near the end of the summer. For the purposes of this study, the Sprint condition provided a delayed-treatment group that served as the control group. Children in the Sprint condition were instructed to read as usual for the first 8 weeks of the summer but participated in a special 2-week SRC in August, after posttest measures had been completed.

Measures

The battery of measures included assessments of the children's literacy activities and achievement. Literacy activities were assessed via caregivers' and children's reports of literacy activities. Literacy achievement was assessed using direct measures of the children's literacy skills.

Activities

Caregiver surveys were used to ascertain children's reading activities. Four items on the caregiver questionnaire gauged children's participation in reading activities. These items were adapted from the Home Literacy Environment questionnaire (Griffin and Morrison 1997). Questions included (*a*) how often do you or another family member visit the library with your child; (*b*) how often do you or another family member read aloud to your child; (*c*) how often does your child look at books by himself/herself; and (*d*) how often does your child ask you to read to him/her, look at books, or tell stories? The item regarding library use was rated on a 6-point scale (e.g., 0 = *do not visit*, 5 = *more than four times a month*), whereas the remaining three items were rated on a 5-point scale (e.g., 0 = *hardly ever*, 4 = *two or more times a day*). Cronbach's alpha for the four items was calculated to be .51, which indicated moderate to poor internal consistency. As this suggests that these items do not measure a single construct, the items were maintained as separate indices of reading activities, and the raw score for each item was used in analyses.

Caregivers and children also completed a midsummer phone call about the child's summer reading activities. Questions administered during the phone call were adapted from the Literacy Habits Survey (Paris et al. 2004). Caregivers or children were asked: How often in the last week did your child (1) read for fun, (2) read at bedtime, (3) read with parents, and

(*4*) go to the library? These questions were open ended so that parents could answer with any number that represented the frequency of these literacy activities. The purpose of the phone call was to examine how children's literacy activities in the middle of the summer were influenced by participation in SRC. The raw scores for each item were used in analyses.

Achievement

Literacy achievement was assessed using the Test of Word Reading Efficiency (TOWRE; Torgesen, Wagner, and Rashotte 1999) and the Gates-MacGinitie Reading Comprehension test (MacGinitie et al. 2000). The TOWRE measures children's ability to read printed words and decode pseudowords accurately and fluently (Torgesen et al. 1999). Two subtests were administered: (*a*) Sight Word Efficiency and (*b*) Phonemic Decoding Efficiency. The measures have adequate psychometric characteristics (e.g., concurrent validity, internal consistency), according to the test manual. For the Phonemic Decoding Efficiency subtest, children read a list of pseudowords for 45 seconds, and the number of pseudowords pronounced correctly (i.e., in accordance with rules of English phonology and orthography) were tallied. Pseudoword reading provides information about what the child understands about letter-sound correspondences, phonics, and decoding strategies. The Gates-MacGinitie Reading Comprehension test assesses how well a child can read and understand entire passages (MacGinitie et al. 2000). The measure has adequate psychometric characteristics (e.g., concurrent validity, internal consistency). The Gates-MacGinitie Reading Comprehension test has different versions depending on the grade of the child. Both versions (second and third grade) consist of carefully sequenced passages, both fiction and nonfiction, that progress in difficulty. For the second-grade version, all but the last of the 10 passages consist of four text segments (short paragraphs), with each segment accompanied by a panel of three pictures. The children's task is to choose the picture in each panel that illustrates the segment or that answers a question about the segment. For the third-grade version, the text segments are followed by multiple-choice questions. The children are supposed to select the choice that best answers the question based on the passage. For analyses, the total number of questions answered correctly was used as a raw score.

Results

To address the first research aim, which sought to characterize the literacy activities and achievements of primary-grade children who elect to participate in summer reading club, descriptive statistics were examined for all children in the project ($N = 90$). Children's reading achievement was evaluated using the standard scores for the reading measures (i.e., TOWRE, Gates-MacGinitie) to examine how these children's reading achievement compared to a national sample of normed data. We also explored correlations among children's reading activities and achievement. Table 1 provides an overview of the descriptive data used to address this

Table 1. Descriptive Statistics for Study Measures

	N	*M*	SD	Min	Max
Activities					
Library use	77	2.75	1.41	0	5
Read aloud with family member	76	2.16	1.13	0	4
Look at books alone	77	3.40	.77	2	4
Request to read with family member	77	2.13	1.26	0	4
Achievement					
TOWRE Sight Words, pretest	90	62.18	13.11	13	90
TOWRE Phonemic Decoding, pretest	90	32.02	12.00	8	59
Reading Comprehension, pretest	89	31.49	7.82	10	46

Note.—Library use was measured on a 0–5 scale; read aloud with a family member was measured on a 0–4 scale; look at books alone was measured on a 0–4 scale; request to read with family member was measured on a 0–4 scale; TOWRE = Test of Word Reading Efficiency; reading comprehension was measured using the Gates-MacGinitie Reading Comprehension Test.

aim. For activities, results indicated that children (*a*) used the library approximately three times per month, (*b*) read with a family member about one to two times a week, (*c*) looked at books about once a day, and (*d*) requested to look at books with a family member about once or twice a week.

For achievement, children received a mean score at the start of the summer on the TOWRE Sight Words and Phonemic Decoding, respectively, of 62.18 (SD = 13.11) and 32.02 (SD = 12.00). The children received a mean score at the start of summer on the Gates-MacGinitie Reading Comprehension test of 31.49 (SD = 7.82). The scaled scores for the TOWRE Sight Words and Phonemic Decoding subtests are grouped into achievement ranges: a scaled score of 131 or higher is *Very Superior*, whereas 121–130 is *Superior*, 111–120 is *Above Average*, 90–110 is *Average*, 80–89 is *Below Average*, 70–79 is *Poor*, and 69 and below is *Very Poor*. In general the reading achievement of the current sample was *Average* for sight-word reading ability ($n = 89$, $M = 101.66$, SD = 14.72) and *Average* for phonemic decoding ability ($n = 89$, $M = 101.79$, SD = 14.86). The National Stanine Scores for the Gates-MacGinitie Reading Comprehension test are divided into 9 equal units with a mean of 5 (SD = 2; MacGinitie et al. 1989). At the start of the summer, the mean Stanine Score for this sample was 5.01 (SD = 1.69), indicating that children's reading comprehension skills were also average, in general. See figures 1–3 for the histograms of the decoding and reading comprehension measures. The histograms provide a visual depiction of the distribution of children's scores for decoding and reading comprehension, which showed a slight skew to the above-average end of the normal curve for the two decoding subtests and a normal curve for reading comprehension.

Correlational analyses were conducted, as shown in table 2, to explore the relations among children's reading achievement and activities at the start of summer. As can be seen from these data, going to the library was positively related to looking at books ($r = .40$, $p = .01$),

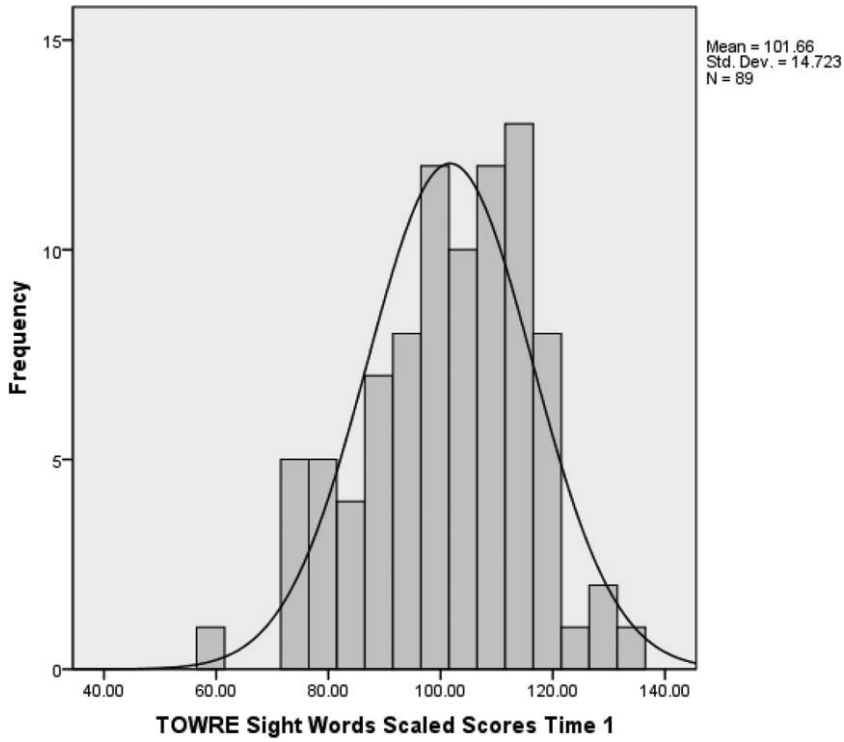

Figure 1. Scaled scores by grade for the TOWRE sight words pretest. (A color version of this figure is available online.)

suggesting that children who frequent the library tend to look at books relatively often on their own. Reading aloud with a family member was positively related to requesting to read or look at books with a family member ($r = .64$, $p < .01$) and frequency of reading with parents ($r = .49$, $p < .01$), whereas it was negatively related to TOWRE Sight Words and TOWRE Phonemic Decoding ($r = -.25$, $p = .03$; $r = -.27$, $p = .02$, respectively). Therefore, reading aloud with a family member is associated with lower decoding skills. Looking at books was positively related to TOWRE Phonemic Decoding ($r = .23$, $p = .05$), such that reading books alone was related to better decoding skills. Requests to read and look at books with a family member were negatively related to TOWRE Sight Words, TOWRE Phonemic Decoding, and Gates-MacGinitie Reading Comprehension ($r = -.29$, $p = .01$; $r = -.34$, $p = .00$; $r = -.26$, $p = .03$, respectively), indicating that children who request to read or look at books with a family member tend to have relatively lower decoding and reading comprehension skills. For achievement, all of the variables were related to all of the other achievement variables.

To address the second research aim, which concerned whether and to what extent participation in SRC impacted primary-grade children's literacy activities and achievements, one-way analysis of variance (ANOVA) and multivariate analysis of variance (MANOVA) analyses

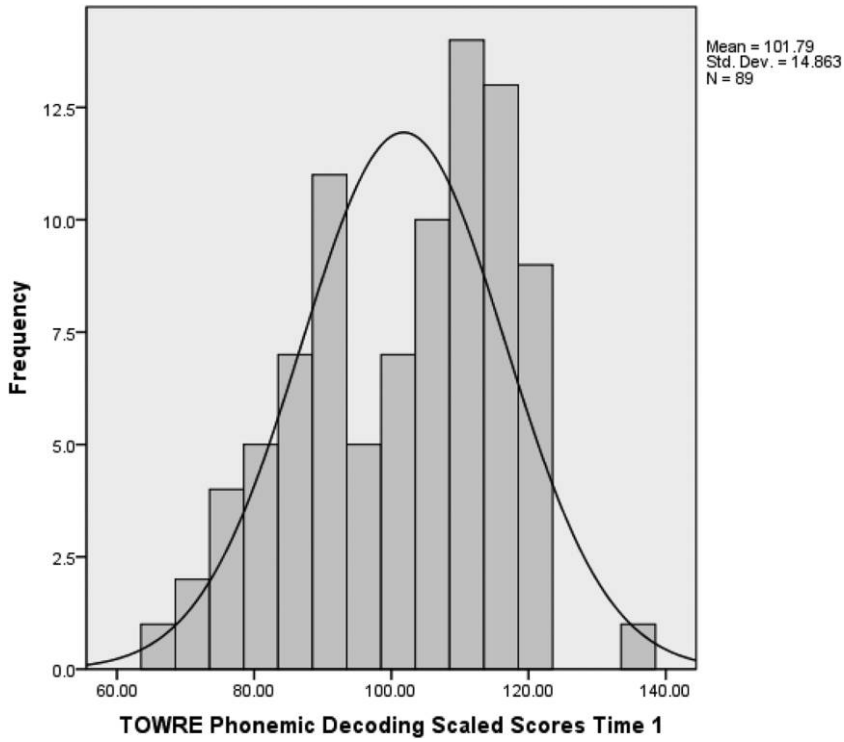

Figure 2. Scaled scores by grade for the TOWRE phonemic decoding pretest. (A color version of this figure is available online.)

were conducted. For these analyses, the sample size was reduced to 76 due to attrition (14 children left the study after the initial pretest). Prior to conducting the main analyses, pretest scores for children in the Marathon and Sprint conditions were compared via *t*-tests and chi-square analyses in order to examine equivalence for key variables at the start of the summer, prior to program implementation. After examining for equivalence, one-way ANOVAs were to measure the impact of SRC on primary-grade children's literacy activities, and a MANOVA was used to measure the impact of SRC on literacy achievements.

The descriptive results for literacy activities and achievements for both the Marathon and Sprint conditions are reported in table 3. Pretest equivalencies for child's grade; child's gender; mother's education; family total income; and pretest scores on the TOWRE Sight Words, TOWRE Phonemic Decoding, and Gates-Macginitie Reading Comprehension test were also examined. Results indicated that there were not significant differences for child's grade, mother's education, total family income, and pretest scores on the TOWRE Sight Words, TOWRE Phonemic Decoding, and Gates-Macginitie Reading Comprehension test. However, there were significant differences for the children's gender ($\chi^2 = 6.20$, $p = .01$) between the Sprint and Marathon conditions; therefore, gender was used as a covariate in the mixed ANOVAs.

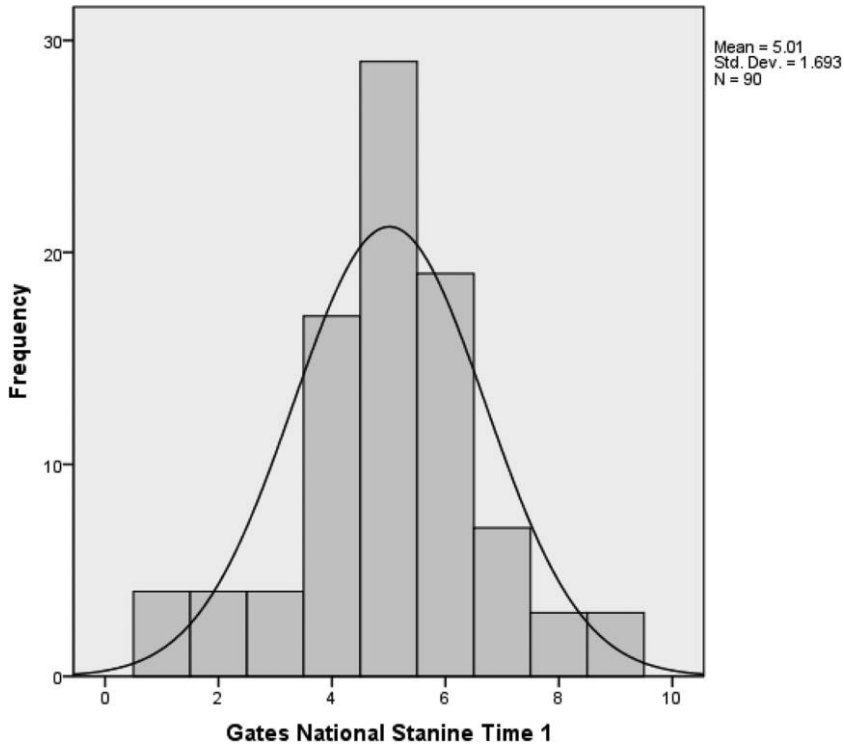

Figure 3. National stanine scores for the Gates-MacGinitie Reading Comprehension test pretest. (A color version of this figure is available online.)

Results of the ANOVA with respect to children's literacy activities indicated that participation in SRC did not significantly affect literacy activities, specific to reading for fun ($F = .01$, $p = .95$), reading at bedtime ($F = 2.07$, $p = .16$), reading with parents ($F = .54$, $p = .47$), reading aloud to someone ($F = .64$, $p = .43$), or going to the library ($F = 2.48$, $p = .12$). These results suggest that children in the Marathon condition did not engage in a higher level of literacy activities than children in the Sprint condition.

Results of the two-group MANOVA with three dependent variables (TOWRE Sight Words, TOWRE Phonemic Decoding, Gates-MacGinitie Reading Comprehension test) showed no significant differences between the two conditions on this set of dependent variables: *Wilk's* $\lambda = .94$, $F(3, 61) = 1.23$, $p = .31$. This suggests that children in the Marathon did not outperform the children in the Sprint condition on the three measures of reading achievement following completion of the Marathon condition (during which time the Sprint participants were not enrolled in the SRC). However, there was a significant result for the variable of time: *Wilk's* $\lambda = .84$, $F(3, 61) = 3.80$, $p = .01$. Univariate comparisons of each of the dependent variables showed that children exhibited gains on the Gates-MacGinitie Reading Comprehension test: $F(1, 61) = 11.56$, $p = .001$ during the summer months, although there were no

Table 2. Correlations between Study Variables

	2.	3.	4.	5.	6.	7.
1. Library use	.15	.40**	.08	.07	.02	.11
2. Read aloud with family member	—	.16	.64**	−.25*	−.27*	−.19
3. Look at books alone		—	.16	.14	.22*	.09
4. Request to read with family member			—	−.29**	−.34**	−.26*
5. TOWRE Sight Words, pretest				—	.84**	.66**
6. TOWRE Phonemic Decoding, pretest					—	.61**
7. Reading Comprehension, pretest						—

Note.—TOWRE = Test of Word Reading Efficiency; reading comprehension was measured using the Gates-MacGinitie Reading Comprehension Test.

significant differences for the other two variables, TOWRE Sight Words and TOWRE Phonemic Decoding: $F(1, 61) = .20$, $p = .69$; $F(1, 61) = .00$, $p = 1.0$.

In sum, children who participated in SRC did not increase their literacy activities and achievements significantly more than children who did not participate in SRC, as shown by comparing children in the Marathon condition to those in the Sprint condition. However, the children increased their reading comprehension skills over the summer months and showed no decline in decoding abilities. These findings indicated that primary-grade children who intend to participate in SRC (who are motivated readers) do not experience summer slide. This will be discussed further in the following sections.

Discussion and Conclusions

This study examined the literacy activities and achievements of primary-grade children participating in SRC. Although SRCs have the potential to positively influence children's summer reading activities and achievements, there is little research on the effectiveness of these programs. This study has four major findings, which will be discussed in turn, including: (*a*) the children seemed to participate in many literacy activities, and their literacy achievement was about average for decoding and comprehension; (*b*) there are several significant correlations between literacy activities and achievements; (*c*) participation in SRC does not seem to impact children's reading activities or achievement; and (*d*) primary-grade children who intend to participate in the CML SRC do not seem to experience summer slide.

Concerning the first research aim examining the literacy activities and achievements of primary-grade children attending SRC, results indicated that children seemed to participate in many literacy activities, and their literacy achievement (decoding and comprehension skills) was average. The children in this study participated in many literacy activities including reading on their own, reading with adults, reading aloud, and going to the library. Each of these activities was occurring weekly, with some occurring almost daily. Notably, for the literacy

Table 3. Descriptive Information for Literacy Activities and Achievements

	Marathon		Sprint	
	M	SD	*M*	SD
Activities				
Library use	2.82	1.39	2.78	1.43
Read aloud with a family member	2.24	1.16	2.13	1.16
Look at books alone	3.42	.72	3.41	.84
Request to read with family member	2.13	1.26	2.09	1.40
Read for fun*	10.54	5.76	10.69	12.40
Read at bedtime*	8.79	5.39	6.79	5.60
Read with parent*	4.97	5.19	6.00	6.05
Read aloud to someone*	4.03	4.38	4.93	4.68
Go to the library*	2.14	1.94	3.82	6.03
Achievement				
TOWRE Sight Words, pretest	63.73	10.35	62.51	15.53
TOWRE Sight Words, post-test	63.05	11.07	63.51	14.25
TOWRE Phonemic Decoding, pretest	33.61	11.23	33.26	12.09
TOWRE Phonemic Decoding, posttest	33.68	14.19	32.71	13.11
Reading Comprehension, pretest	33.10	6.14	32.06	8.22
Reading Comprehension, posttest	34.62	6.25	34.57	8.18

Note.—Library use was measured on a 0–5 scale; read aloud with a family member was measured on a 0–4 scale; look at books alone was measured on a 0–4 scale; request to read with family member was measured on a 0–4 scale; TOWRE = Test of Word Reading Efficiency; reading comprehension was measured using the Gates-MacGinitie Reading Comprehension Test.

* Items were open ended and recorded during a midsummer phone call.

activities reported in the phone calls, the large ranges and standard deviations indicate a large amount of variability among the participants. Therefore, even though on average the children were participating in many literacy activities, several children were participating in either fewer or many more literacy activities. The amount of time children are spending engaged in literacy activities (e.g., reading alone or with adults) is an important finding given the research on the importance of independent reading (Heyns 1978; Whitehurst and Lonigan 1998; van Kleeck 2003; Allington et al. 2010).

With respect to literacy achievement, results indicated that primary-grade children who intend to participate in SRC are average decoders and comprehenders. This finding is surprising given that the overwhelming majority of children in the Justice et al. (2013) study reported that they were better readers than their peers. However, examining the means does not fully explain children's abilities. Examining the histograms for all three measures gives a clearer picture of the decoding and comprehension skills of these primary-grade children because the histograms provide the distribution of children's abilities. The histograms show that for both the TOWRE Sight Words and the TOWRE Phonemic Decoding, there is a slight skew toward above average. Therefore, primary-grade children who intend to participate in SRC seem to

have average abilities in reading comprehension and slightly above-average abilities in decoding. One explanation for why measures of children's reading comprehension did not reflect their reported reading ability may be that children equate "being a good reader" and "being better at reading" with their decoding abilities and not their ability to understand what they read. Furthermore, studies have shown that people often overestimate their knowledge (e.g., Cunningham et al. 2004); thus, these children may have been overconfident in their abilities.

In a continuation of the examination of the literacy activities and achievements of primary-grade children attending SRC, correlations between the literacy activities and literacy achievements were investigated. Notably, reading aloud with a family member and requesting to read or look at books with a family member were both associated with a decrease in decoding and comprehension. This finding is surprising because sharing books with adults has been shown to be very beneficial for children's emergent literacy skills (Whitehurst and Lonigan 1998; van Kleeck 2003). However, most of the research on sharing books is on preschool-aged children, so once a child becomes an independent reader (i.e., primary-grade children), reading books with an adult may indicate that the child is struggling with reading. Moreover, children in this study (primary-grade children) who are reading or requesting to read with an adult may be the children who have poor decoding and comprehension skills; thus, they are compensating for their lower abilities by reading with a more accomplished adult. Looking at books independently was related to an increase in decoding. This finding is supported by research that has shown that daily independent reading is related to children's reading ability (Heyns 1978; Allington et al. 2010). Finally, both of the decoding measures were related to reading comprehension. Although this finding may seem intuitive, it is also supported by research on the simple view of reading (i.e., reading = comprehension x decoding; Hoover and Gough 1990).

Concerning the second research aim, we examined the impact of SRC on primary-grade children's literacy activities and achievements. Results of these analyses indicated that for this study, participation in SRC was not related to an increase in children's literacy activities or achievements. For literacy activities, this finding converges with the research that has shown that voluntary summer reading has no significant impact on literacy activities (Kim 2006; Kim and White 2008). For literacy achievement, this finding diverged from the only other study occurring in public libraries (Carter 1988). One explanation for the different findings is that the Carter study had a convenience sample. In other words, the treatment group comprised children who participated in SRC, and the control group comprised children who had never intended to participate in SRC. Further, this study's findings converged with many other studies of voluntary summer reading that found no significant differences between treatment and control groups in measures of reading achievement (Kim 2006, 2007; Kim and Guryan 2010). A few studies did find some promising results concerning voluntary summer reading (Kim and

White 2008; Allington et al. 2010). However, these studies included treatment groups that received instruction in how to improve reading skills or longer intervention length (i.e., three summers versus one summer). Furthermore, given that the children in the current study had average to above-average abilities in decoding and reading comprehension, there is little room for improvement during self-guided summer reading. Therefore, it is not surprising that the current study of one year of SRC provided by a public library did not have similar results.

One reason that SRC did not show impacts for this sample could be because these children were not likely to experience summer slide to begin with. All the participants came to the library with the intent of joining SRC. They all had about average skills and intended to participate in literacy activities throughout their summer (as signified by signing up for SRC). Moreover, the majority of the participants indicated that they enjoyed reading. Therefore, the children in the delayed-treatment condition were avid readers, and even though they were not assigned to the treatment condition, they were most likely continuing to read over the summer.

In fact, when examining the impact of SRC on the literacy achievements of primary-grade children who intended to participate in SRC, there was a significant result for the variable of time. Results showed that all children who intended to participate in SRC made significant gains in reading comprehension and had no change in decoding. One explanation for why children did not make any gains in decoding is because in the primary grades (second and third grades), most children are already fluent readers; thus, their decoding skills would not greatly improve over 8 weeks. It is promising, however, that children who intend to participate in SRC seemed to make significant gains in reading comprehension over the course of the summer. One probable reason for this finding is that a majority of children in this study were motivated and avid readers who were planning to participate in SRC regardless of which treatment group they were randomly assigned to. Furthermore, research suggests that this sample of children are not as at risk for summer slide as poor readers from high poverty areas may be (Stanovich 1986; Kim and Quinn 2013). Therefore, as the results indicate that the majority of the children did not experience summer slide—not even those in the control condition—it remains a distinct possibility, and an empirical question, whether SRCs impact activities/achievements of children likely to experience summer slide.

Given the previously mentioned finding, an important conclusion of this study is that SRCs should try to focus their participation on a sample of children who may be more at risk for summer slide. In other words, the children who tend to participate in SRC have a propensity to be motivated and skilled readers; thus, they do not seem to experience summer slide. SRC might be the most effective in alleviating summer slide if the participants were children from low-income homes or were unmotivated readers; the current sample was not characterized as either predominantly low income/low socioeconomic status or unmotivated. In a meta-analysis of the effects of summer reading on low-income children, Kim and Quinn (2013) found

that children from low-income homes experienced larger effects of summer reading interventions (e.g., participation in summer camp programs with a literacy focus) than children from middle- or high-income homes. This may be because children from low-income homes do not have as many opportunities for literacy during summer unless they are participating in a summer reading intervention. Although this meta-analysis only reviewed studies of school- or home-based summer reading programs and not programs provided by the public library, these findings provide promising results that can also apply to children from low-income homes participating in SRCs as implemented by public libraries. However, public libraries may need to change SRC programming as it is currently designed or include variation on how SRCs are implemented based on the communities they serve in order to encourage higher participation by children from low-income homes or who are unmotivated readers.

Several key limitations of this study present some important directions for future research. First, although it provides a more detailed look at the participants of SRC, it does not aid in understanding the population of children who choose not to participate in SRC. As the children who do not intend to participate in SRC may be the children who would most benefit from SRC, additional studies that target specific populations of children should be explored. Second, the generalization of the current study is unknown. Although this study was completed in a large library system that serves a diverse range of children, a multisite, large-scale study would better allow for generalization of findings. Finally, this study did not find significant results for the participation in SRC. Although it is unknown whether these results were influenced by the sample, these nonsignificant findings point to many important areas for future research. A future endeavor for research should be to target the groups of children who are not utilizing the SRC programming. Furthermore, as previous research has found some promising results with enhanced programs and a longitudinal design, it would be important to learn whether an enhanced SRC (e.g., providing children with scaffolding on their reading from a librarian) or participation in SRC over several summers hold potential as a way for children to benefit from SRCs.

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Columbus Metropolitan Library: Columbus Metropolitan Library is represented here as a corporate author. Numerous members of the Columbus Metropolitan Library system were involved in the conduct of this work, including generating research aims, establishing and implementing research methods, and examining and interpreting research outcomes.