

Who Gets the Better Educators in Afterschool? An Analysis of Teaching and Learning Interactions and Student Economic Status

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Abstract

The purpose of this study was to identify whether the quality of afterschool educators varies across economic groups of students. This article describes a statewide study of the relationship of ratings on CLASS—a validated measure for teaching and learning interactions—and student economic status. In essence, what is the distribution of high-quality afterschool educators among an afterschool student population in Nebraska comprised of 3,791 elementary students? An analysis of variance showed that elementary students who were eligible for free meals experienced out of school time instruction from staff members who were rated of significantly lower quality in Emotional Support (ES) and Instructional Support (IS) on the CLASS.

Key Words: afterschool programs, staff, educators, teachers, teaching, learning, student socioeconomic status, emotional, instructional support, Nebraska, 21st Century Community Learning Centers, poverty, income, quality

Introduction

Multiple studies have examined the relationship between socioeconomic status (SES) and academic achievement (Jensen, 2009). Children living in poverty experience multiple environmental risk factors that can and often do adversely affect their academic skills (Lacour & Tissington, 2011). However, when

economically disadvantaged students regularly attend high-quality afterschool programs, they experience significant gains in achievement, work habits, and reductions in behavior problems (Vandell, 2013; Vandell, Reisner, & Pierce, 2007). Meta-analyses conducted by Lauer and colleagues (2006) found small but significant positive effects of afterschool or summer school participation on reading and math achievement. Durlak and Weissberg (2007) found three areas of significant improvement for participants in afterschool programs: feelings and attitudes, behavioral adjustment, and school performance.

This leads to the question: What is “high quality”? Metz, Goldsmith, and Arbretton (2008) proposed six dimensions of quality—focused, intentional programming; continuous program improvement; exposure; supportive relationships; family engagement; and cultural competence. Of these six dimensions, Metz and colleagues asserted that two dimensions in particular—focused, intentional programming and continuous program improvement—were key in the formation of the others. Intentional programming is found in multiple reviews of quality in afterschool programs (Durlak & Weissberg, 2007; Little, Wimer, & Weiss, 2008). In an examination of the characteristics of quality afterschool programs, Durlak and Weissberg (2007) reported that they are SAFE—sequenced, active, focused, and explicit. Converting that to effective teaching, then, one would say that effective afterschool educators implement activities that are sequenced, active, focused, and explicit. Indeed, research has consistently shown that one of the strongest assets of high-quality afterschool programs are high-quality staff (McElvain, Judith, & Diedrich, 2005). For example, Little and colleagues (2008) found that high-quality programs were those that had appropriate supervision, structure, and well-prepared staff (Little et al., 2008). Similarly, Pittman, Garza, Yohalem, and Artman (2008) found that supportive relationships and safety are primary to quality.

In a multilevel analysis of the relationship between teacher quality and student achievement, Heck (2007) found that collective teacher quality was associated with differences in student outcomes such that students in schools with higher professional standards for teachers (i.e., certification, content knowledge, and performance criteria) had higher achievement levels in reading and math, compared to students in schools with lower professional standards. Notably, collective teacher quality made an even bigger difference in student achievement in school settings where targeted subgroups (i.e., low SES, underrepresented racial/ethnic backgrounds, ELL participants) were more prevalent, underscoring the importance of higher quality teaching for at-risk students. Further support for these findings comes from Woodland (2008), who found that the area of adult–child relationships was first among nine core elements of effective afterschool programs for Black youth. In sum, research shows that

having higher quality teachers is associated with increased achievement in reading and math, as well as a reduction in the achievement gap between lower SES minorities and their White, higher SES counterparts.

Despite the plethora of research showing the positive effects of high-quality afterschool programs on children and families, research indicates that children in low-income families continue to face limited access to high-quality afterschool programs (Hippis & Ormsby, 2005, as cited in Norris-Holmes, 2008). For example, Peske and Haycock (2006) found that disadvantaged children were more likely to have less effective teachers. Specifically, the researchers found that low-income students were significantly more likely to have novice teachers and/or teachers with less education in their content area. In a case study of 37 federally funded afterschool programs in a low-income urban district, Norris-Holmes (2008) found that only 30% of the afterschool instructors were identified as highly qualified teachers. Approximately 25% of the teachers were highly qualified in reading, 20.5% were highly qualified in math, and only 18% were highly qualified in both reading and math.

Further, few states have effectively demonstrated that they have policies in place to prevent inequitable distribution of inexperienced teachers with students in poverty. Insufficient resources and high teacher turnover—conditions that are particularly prevalent in districts serving high concentrations of low-SES students—make it difficult for these districts to hire and retain highly qualified teachers (Goldhaber, 2002). Students of lower SES are almost twice as likely to have teachers with less than three years of teaching experience, compared to their higher SES counterparts (National Center for Education Statistics, 2002, as cited in Heck, 2007). Put simply, children from poverty backgrounds experience less than an equal share of high-quality teachers.

This study set out to evaluate whether effective educators were distributed equally among students in poverty in Nebraska's 21st Century Community Learning Center (CCLC) program. The U.S. Department of Education's 21st CCLC program is authorized under Title IV, Part B of the Elementary and Secondary Education Act, amended by the No Child Left Behind Act of 2001. This program provides federal funding to community learning centers to provide academic, artistic, and cultural enrichment for students, particularly those at risk (such as students in poverty), in order to meet standards in core academic areas such as reading, mathematics, and science. Funding grew immensely since its inception—from \$40 million in 1998 to \$1.09 billion in FY 2013. Funding is distributed to states, who administer funding to schools and community partners through competitive grants (Afterschool Alliance, 2014).

Method

Study Design

This retrospective study was designed to determine if the quality of educators in afterschool programs was equitably distributed across economic groups. To address the distribution question, a measure of afterschool educator quality and a demographic variable to use as an indicator of economic status had to be identified. Nebraska implements a comprehensive evaluation plan each year, and there were two possible data sources for quality and one for economic status.

Program Model

The Nebraska 21st CCLC program model requires that school-based and school-aligned afterschool and summer school programs focus on three goals: (1) student academic achievement, (2) student social/behavioral support, and (3) family and community engagement. Programs operate a minimum of 12 hours per week after school and varying hours of programming in the summer.

Measures

The first potential quality data source was a locally developed program self-assessment rating tool (Nebraska Quality Out of School Time Program Self-Assessment Rating Tool, St. Clair, 2013). Because this tool was a self-assessment rating completed by members of the school-based afterschool program leadership team and because the tool was newly implemented, this data source was rejected as a valid and reliable means for calculating afterschool educator quality.

The second potential quality data source was the Classroom Assessment and Scoring System or CLASS for kindergarten through third (and sometimes fifth) grade levels (Pianta, La Paro, & Hamre, 2008). The K–3 CLASS tool rates teaching/learning interactions and includes three domains: Emotional Support, Organization, and Instructional Support. Nebraska's 21st CCLC grant program broadly utilized the CLASS in 68 kindergarten through third (and sometimes fifth) grade out of school time programs.

The second data source for quality—CLASS—was selected. The CLASS is a valid means of rating aspects of a teaching/learning environment, such as a classroom or afterschool learning group, that are of importance to impacting student achievement (Pianta et al., 2008). Further, CLASS is significantly and positively correlated with an internationally recognized and utilized environment quality measure, the Environment Rating Scales (ECERS-R; Pianta et al., 2008). CLASS also demonstrates predictive validity related to students' academic and social development (Howes et al., 2008).

As previously stated, the CLASS tool is divided into three domains—Emotional Support, Classroom Organization, and Instructional Support. These domains are further divided into 10 dimensions, each of which represents elements of classroom quality that have been found to be influential in children’s learning. The domain of Emotional Support, which focuses on teachers’ abilities to support students’ social and emotional functioning in the classroom, consists of Positive Climate, Negative Climate, Teacher Sensitivity, and Regard for Student Perspectives. Classroom Organization—which consists of Behavior Management, Productivity, and Instructional Learning Formats—assesses a wide range of classroom processes related to the organization and management of students’ behavior, time, and attention in the classroom. Lastly, the domain of Instructional Support is comprised of Concept Development, Quality of Feedback, and Language Modeling and looks at teachers’ ability to implement their curriculum in a way that effectively supports cognitive and language development. Through CLASS, three ratings were gathered for each elementary 21st CCLC program—Emotional Support, Organization (of the learning environment or classroom organization), and Instructional Support. Ratings are established on a 1 to 7 scale with 6–7 representing high quality, 3–5 representing mid quality, and 1–2 representing low quality. Ratings across these three domains are not combined into an aggregate or singular quality rating.

To measure student economic status, the only available variable was student level free or reduced price meal status (FRPL). Students eligible for free or reduced price meals would be considered to be in poverty, whereas students not eligible would be considered to not be in a low-SES household. About 75% of Nebraska’s 21st CCLC regular attenders were eligible for FRPL in the 2013–14 program year (St. Clair, 2014). In later analyses, students will be analyzed by being a part of one of three groups: free, reduced, or not free/reduced. One potential limitation to this data source includes the possibility that families may not have completed the necessary paperwork to qualify for FRPL but may still fall within a poverty category.

Participants

There were 3,791 elementary students included in the study (53% male, 47% female). Many students were White or Caucasian (38%), followed by Hispanic/Latino (33%), Black or African American (19%), multiple races/ethnicities (5%), Native American (4%), or Asian/Pacific Islander (1%). Approximately 20% of the students were English language learners. Almost one-quarter of the students (23%) were verified for special education services. The most common categories of special education verification were specific learning disability (9% of the total sample) and speech language impairment

(8%), followed by behavioral disorder or other health impairment (both 2%), and developmental delay and mental impairment (1% each). Given that the 21st CCLC program is designed to serve students most at risk for school failure, it makes sense that nearly a quarter of the students would be verified with a disability of some type.

The K–3 (which can also be used K–5) CLASS was completed on after-school educators from 68 elementary programs within 19 districts. Within these, two were urban districts, and the other districts were rural. Students from urban schools represented 57% of the student population. Elementary programs ranged from one educator working with four students to one educator with 15 students. Across the 68 elementary programs, at least 340 educators were included in the study using digital recordings coded for CLASS. Educators ranged from having a high school diploma or GED to having Master's degrees. Experience ranged from none to 25 years.

Procedure

Students' economic status (as measured by FRPL eligibility) was collected directly from student information management systems across Nebraska through locally administered Microsoft Access databases. These databases are used in the data collection system for evaluating Nebraska's 21st CCLC program.

Each program submitted digital recordings of teaching and learning interactions representative of their program. Typically, programs submitted four 15-minute increments of teaching and learning interactions. Only reliable CLASS raters were used. CLASS reliability is established through individuals completing a two-day training with trainers authorized by Teachstone, followed by online reliability tests which measure ratings within one score 80% or more of the time with no consistently "off" areas. Further, within the evaluation team, raters complete another reliability with an anchor (usually a CLASS trainer on the team) to within one score 90% or more of the time.

Results

Results from an analysis of variance of CLASS ratings by students' FRPL status in school showed that elementary students who were eligible for free price meals experienced out of school time instruction from staff members who were rated as significantly lower in quality in Emotional Support (ES) and Instructional Support (IS) on the CLASS at the $p < .05$ [$F(2, 3788) = 9.42, p < .001$ for Emotional Support and $F(2, 3687) = 5.22, p < .01$ for Instructional Support (see Table 1). Post hoc comparisons using the Tukey HSD test indicated that the mean ratings in Emotional Support for students eligible for free

price meals ($M = 5.58, SD = 0.66$) and reduced price meals ($M = 5.55, SD = 0.71$) were significantly lower than the mean rating in Emotional Support for students not eligible for free or reduced price meals ($M = 5.69, SD = 0.68$). Post hoc comparisons using the Tukey HSD test indicated that the mean rating in Instructional Support for students eligible for free price meals ($M = 1.93, SD = 0.51$) was significantly lower than the mean rating in Instructional Support for students not eligible for free or reduced price meals ($M = 2.01, SD = 0.70$). No significant differences were found between students eligible for reduced price meals and the other two groups in Organization (O). Taken together, these results suggest that students with the greatest risk for student academic achievement failure based on their economic background experienced significantly less emotional support and instructional support in their out of school time programs compared to their higher socioeconomic counterparts.

Table 1. One-Way Analysis of Variance of CLASS Ratings by Students' Meal Status in School

		Sum of Squares	<i>df</i>	Mean Square	F	Sig.
ES	Between Groups	8.407	2	4.203	9.418	.000
	Within Groups	1690.740	3788	.446		
	Total	1699.147	3790			
O	Between Groups	1.717	2	.858	1.277	.279
	Within Groups	2546.560	3788	.672		
	Total	2548.277	3790			
IS	Between Groups	3.251	2	1.625	5.223	.005
	Within Groups	1147.335	3687	.311		
	Total	1150.586	3689			

Note: ES=Emotional Support, O=Organization, IS=Instructional Support

Discussion and Implications

Elementary students who were eligible for free price meals experienced out of school time instruction from staff members who were rated of significantly

lower quality in Emotional Support (ES) and Instructional Support (IS) on the CLASS, though not significantly different in Organization (O, organization of the learning environment or classroom organization). This result is concerning, as relationships with teachers are linked to student engagement and achievement (Klem & Connell, 2004). Moreover, strong, positive teacher and student relationships are even more important for economically disadvantaged students (Roorda, Koomen, Spilt, & Oort, 2011). All students, but particularly economically disadvantaged students, need to be taught using higher level instructional activities with student-centered, experiential learning methods (Estes, 2004). Further, a system of education in the United States that prompts greater development of critical thinking skills in students is necessary to close the gap between U.S. students and those in Finland, Korea, Japan, Canada, Netherlands, Belgium, New Zealand, and Germany (Ripley, 2013).

These findings highlight the need for a closer examination of staff selection policies across Nebraska's afterschool programs, as well as an increased focus on ways to improve the quality of afterschool instructors, particularly for those teachers serving at-risk populations. One way would be to provide professional development (PD) to all Nebraska afterschool educators with additional targeted focus on staff serving greater percentages of children and families in poverty. Research has consistently demonstrated the importance of PD for improving outcomes of early childhood programs; effective PD is associated with increases in teacher knowledge, student learning, and program quality (Christ & Wang, 2013; Powell, Diamond, & Cockburn, 2013).

Another path toward improvement might be to provide coaching to novice educators and/or educators with lower CLASS ratings. Coaching is a form of PD that takes place directly in the classroom or learning environment and involves helping teachers acquire, improve, or refine specific, evidence-based intervention practices or teaching behaviors, as well as offering ongoing support and individualized feedback (Hsieh, Hemmeter, McCollum, & Ostrosky, 2009; Wasik & Hindman, 2011). Based on the Vygotskian concept of scaffolding, coaches work one-on-one with teachers to enhance their knowledge and understanding through a process of instruction, guided practice, and reflection (Wasik & Hindman, 2011). Coaching is frequently offered as part of a multicomponent PD program that includes introductory workshops, an ongoing course, or web resources that offer information on evidence-based practices related to the content of the PD (Powell et al., 2013).

Emerging research stipulates combining coaching with other forms of PD to effectively support teachers and improve outcomes for children. For example, Wasik and Hindman (2011) implemented the Exceptional Coaching for Early Language and Literacy (ExCELL) program in an effort to improve the

vocabulary and preliteracy skills of at-risk preschoolers. ExCELL was a PD program for teachers emphasizing strategies to build language and literacy skills with their students. After one academic year, it was found that teachers in the intervention group had created higher quality classroom environments as measured by the Early Language and Literacy Classroom Observation and CLASS and by videotapes of teachers' classroom book readings. Specifically, evidence from the CLASS measure indicated that intervention teachers modeled language more, provided important feedback to children on their language, and were more effective in fostering concept development in children (Wasik & Hindman, 2011). Their study also showed that children in the intervention group performed significantly better than comparison-group peers on measures of receptive vocabulary and phonological sensitivity. Thus, another avenue for future research would be to examine the relationship of educator quality and student achievement. Specifically, is there an association between higher CLASS ratings and state assessment results in reading, mathematics, science, and writing?

As the achievement gap between at-risk students and their more economically advantaged counterparts widens, the need for high-quality programs that facilitate learning and enhance students' academic skills is key. While afterschool programs such as 21st CCLC are a promising approach to promoting student outcomes, this research demonstrates that differences exist in the quality of these programs, with low-income students receiving significantly lower quality afterschool instruction than their higher income counterparts. Thus, the students who have been shown to benefit most from quality afterschool programs may be the ones least likely to receive it. While recognition of this disparity is a crucial first step, there is a strong need for more research regarding strategies for ensuring that all students, regardless of their socioeconomic status, have access to high-quality afterschool programs.

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