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Opportunity gaps in out-of-school learning: How structural and process features of programs relate to race and socioeconomic status

Anne R. McNamara, Thomas Akiva , and Lori Delale-O'Connor

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ABSTRACT



Out-of-school learning programs can be a context for positive development and learning for children and youth. However, research points to potential racial and socioeconomic disparities, or opportunity gaps, in this context. In this study, we use survey and video data from 106 staff across 30 out-of-school programs to examine how three features, staff, activities, and adult-child interactions, differ based on the racial and socioeconomic makeup of programs. We find that staff at programs serving children from low-income families on average have less experience and education. Also, programs serving children from African American and low-income families tend to offer more academic-focused activities. Finally, we found no differences in adult-child interaction quality across programs in the sample. Our findings suggest that a racial and socioeconomic opportunity gap may exist in the out-of-school context. This has implications for educational equity and the positive development of children that participate in this context.

Research supports the assertion that out-of-school learning¹ (OSL) programs can be a positive developmental and learning context for children and youth (Lerner et al., 2011; Vandell, Larson, Mahoney, & Watts, 2015). OSL programs offer a range of experiences, including relationship-building with adults and peers, homework support, and exposure to enriching activities (Halpern, 2003; Roth & Brooks-Gunn, 2016; Vandell et al., 2015). OSL programs may also offer a safe place or “sanctuary” for young people—an important and sometimes overlooked component (Akiva, Carey, Cross, Delale O'Connor, & Brown, 2017; Halpern, 2003). Participation in OSL programs is associated with positive outcomes, such as increased social emotional skills and, in some cases, improved school performance (Durlak, Weissberg, & Pachan, 2010; Lauer et al., 2006; Vandell et al., 2015). This is especially true when particular OSL program features are present, including experienced staff, skill-building activities, and positive adult-child interactions (Durlak, Weissberg, et al., 2010; Fredricks & Simpkins, 2012; Lerner et al., 2011; Smith, Akiva, McGovern & Peck, 2014; Yohalem & Wilson-Ahlstromstrom, 2010).

Despite the positive outcomes associated with rich OSL experiences, prior research suggests that potential

racial and socioeconomic disparities exist in both experiences and outcomes. For instance, some studies have shown that children from families with low socioeconomic status (SES) participate in fewer enrichment activities outside of school than those from higher-income families (Dearing et al., 2009; Duncan & Murnane, 2011); other studies have shown that race is associated with the type of program children attend (Akiva, Schunn, & Louw, 2017; Simpkins, O'Donnell, Delgado, & Becnel, 2011). OSL programs features may also differ depending on the race and/or family income of participants. For example, programs that serve children from low-income or African American families may focus more on academic remediation than open-ended enrichment activities compared to programs serving their higher-income or White counterparts (Vandell et al., 2015).

Evidence of disparities in OSL points to the existence of *opportunity gaps* in this context; that is, young people are inequitably exposed to experiences and resources based on race and socio-economic status (Ladson-Billings, 2006; Milner, 2012). Researchers examine these gaps—in particular the absence of or disparities in resources and experiences—to explain differential child outcomes in the school setting (e.g.,

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¹We use the term “out-of-school learning” rather than the more common, “out-of-school time,” to capture programs’ goals of positive learning and development.

Bridwell-Mitchell, 2017; Darling-Hammond, 2015; Welner & Carter, 2013). However, a minimal amount of research has examined whether and how such gaps exist within the OSL context. Race- and SES-based opportunity gaps in OSL programs have serious implications for the experiences and outcomes of young people that participate in this developmental context.

An OSL program that exposes participants to new experiences and provides appropriate developmental supports can serve as a unique and important developmental context. However, research that addresses how OSL program experiences differ based on participants' race and SES is limited. In this study, we examined differences in OSL program features based on the racial and socioeconomic makeup of participants. Specifically, we investigated program features that the literature points to as critical for positive OSL experiences: staff background, activities offered, and quality of staff-child interactions. To frame this study, we begin with an overview of how the social ecology of an OSL program relates to its program features. We then describe our methods and findings. Results point to some key differences in program features based on the sociodemographic makeup of the OSL programs we studied. We conclude with insight into how these differences may contribute to OSL opportunity gaps, in particular for students of color and those living below the poverty line.

Defining OSL programs

OSL programs are supervised and structured programs that occur outside of the formal school day (e.g., after school, summer) and that serve groups of children or youth (Vandell et al., 2015). These programs offer a broad range of activities and are funded by a variety of local and national organizations (e.g., schools, community-based nonprofits). In the present study, we do not include school-based extracurricular activities (e.g., sports or clubs) in our conception of OSL. These are different from OSL programs, because they occur at school for enrolled students and as such have different motivational affordances. In addition, fairly large and distinct literature bases have developed around the OSL context and extracurricular activities (Vandell et al., 2015). We also do not include individual lessons (e.g., musical instruments, sports) in our OSL definition, because they are skills-focused, often one-on-one, and usually privately funded.

Theoretical framing

To frame this study, we have adapted a developmental ecological model posed by Durlak, Mahoney, Bohnert, and Parente (2010; see Figure 1). This model provides a guide for considering how the environment and characteristics of OSL programs may affect youth development over time. In this study, we investigated two components of the Durlak, Mahoney, et al. (2010)

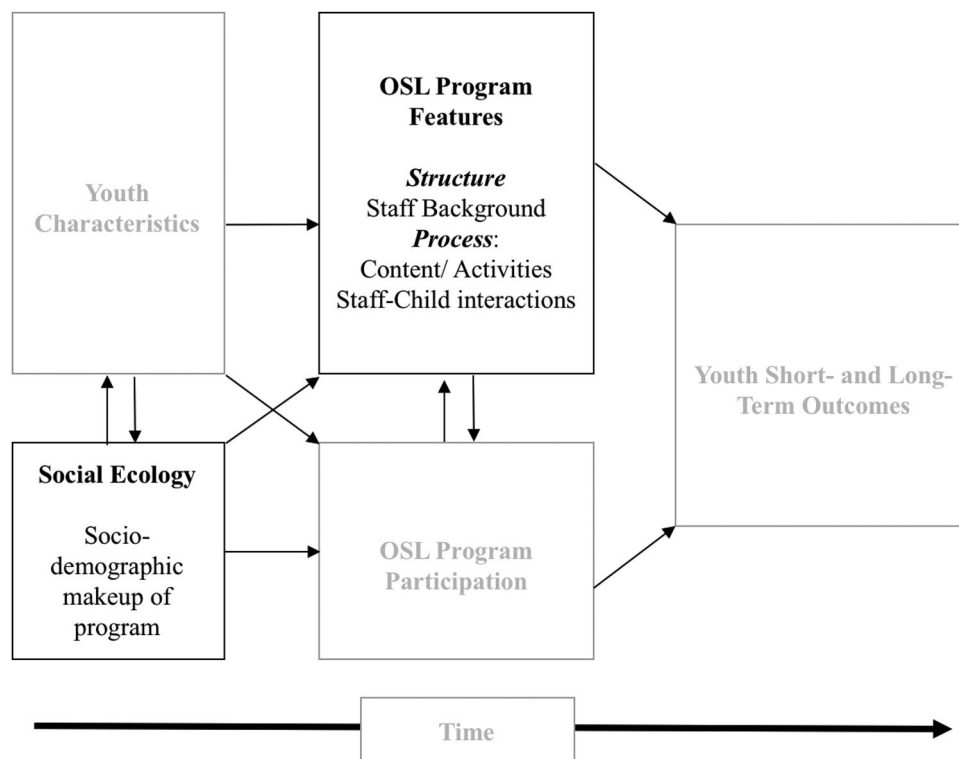


Figure 1. A developmental ecological model adapted from Durlak, Mahoney, et al. (2010).

model in particular: the social ecology and program features.

Durlak, Mahoney, et al. (2010) described a program's social ecology as influential to participation in and the culture of an OSL program. The social ecology is composed of several groups—including peers, families, schools, or the local community—that may affect youths' program experiences. For example, interactions among youth are associated with differences in program climate (Cross, Gottfredson, Wilson, & Rorie, 2001); and, micro- and macro-level factors may influence the relationships and activities that occur in an OST program (Williams & Deutsch, 2016). In this article, we focused in particular on the racial and socioeconomic makeup of participating children to understand potential differences in the OSL environment that attendees experience. These two factors may be “invisible aspects” of a program's social ecology (Williams & Deutsch, 2016, p. 207). They may also underlie opportunity gaps in other educational settings (e.g., Milner, 2012). In this study, we investigated whether similar patterns exist in the OSL context to fill a research gap about the opportunities OSL programs provide for children from low-income and African American families.

The second component we drew from Durlak, Mahoney, et al. (2010) is program features divided into two general dimensions: *structure* and *process*. They defined structural features as the organizational characteristics of a program. Organizational decisions, such as hiring practices, determine these characteristics, and they may impact a child's experience in the program. Process features are the proximal experiences of a child within the program. These day-to-day experiences directly impact what children do at their program and with whom they interact. Across the literature, as noted in the Durlak, Mahoney, et al. (2010) model, three general categories of features are cited as important for supporting positive development: the staff, the activities, and interactions between adults and children (e.g., Lerner, 2004; Pierce, Hamm, & Vandell, 1999, Roth & Brooks-Gunn, 2003; Vandell et al., 2015). In the next section, we describe research related to the social ecologies of OSL programs and how this may influence children's experiences of program features.

Social ecology of OSL programs

To understand a program's social ecology, we focused on the sociodemographic makeup of a program using socioeconomic status and race. For myriad

contemporary, historical and ideological reasons, these race and socioeconomic status are often conflated in the United States (Chaudhuri, Easterbrooks, & Davis, 2009; Duncan, Magnuson, & Votruba-Drzal, 2015; Orfield, Frankenberg, Ee, & Kuscera, 2014). Such conflation leads to a misunderstanding of both the unique contributors of family income and race to inequality, as well as potential ways to mitigate these inequalities. In turn, we examine SES and race separately. By examining SES uniquely, we looked for differences in the types of programs children from high- or low-income backgrounds were able to attend. By distinguishing race from SES, we sought to expose structural inequities above and beyond families' ability to pay for OSL programs.

Research points to the ways that sociodemographic characteristics are related to trends in OSL participation. Children from low-income families are more likely to attend publically-funded OSL programs as compared to their higher-income peers who participate more in fee-based organized activities, such as music or sports lessons (Dearing et al., 2009; Lareau, 2011; Vandell et al., 2015). Similarly, though more White children participate in OSL programs overall, African American children are twice as likely to attend (Afterschool Alliance, 2014). The rate of participation in OSL programs is also highest in urban settings where the population is more likely to be African American and/or low-income and where the number of program offerings is greater (Afterschool Alliance, 2014; U.S. Department of Education, 2012).

Sociodemographic characteristics may also relate to the types of programs children attend, thus influencing a program's social ecology. For example, Akiva, Schunn, et al. (2017) found that the sociodemographic factors of race and family income played a role in whether children attended a neighborhood science and art program or an art museum summer camp. Interestingly, race/ethnicity was a stronger driver of OSL program participation than family income (Akiva, Schunn, et al., 2017). This may be because children often attend programs in close geographic proximity to home, live in communities with neighbors of similar race or income levels, and are likely connected to similar information networks (Akiva, Schunn, et al., 2017).

The social ecologies of programs may also be influenced by racial and socioeconomic segregation. Though we do not have nation-wide data about the prevalence of segregation in OSL programs, other education research indicates it is likely. Patterns in the

school context show that, on average, a White child will attend a school that is nearly three-quarters White while an African American child will attend a school that is about three-quarters non-White (Orfield et al., 2014; U.S. Department of Education, 2012). Similarly, children from low-income families are over six times more likely to attend schools that serve majority children from low-income families (Reed, 2015). Though some OSL programs serve a diverse mix of children, it is likely that OSL programs mirror schools and serve a majority of children from the same sociodemographic and racial background. More research is needed to understand how segregation by race and family income may affect children's experience of OSL program features.

Features of OSL programs

In this section, we examine OSL program features, as outlined by Durlak, Mahoney, et al. (2010), and connect them to trends in OSL programs' social ecologies. We focus on the structural feature of staff background and the process features of activities offered and adult-child interactions. We use OSL research, when possible, to explicate connections, and we draw from school-based research to supplement our argument. OSL and schools are distinct contexts; therefore, research findings in one setting can only inform the other.

Structural Features. Structural features are organizational characteristics of a program that have an effect on a child's experience. One key structural feature is *staff background*, which includes staff experience (e.g., the amount of time a staff has worked with children) and education (e.g., degree attainment). In particular, school-based research indicates that educators are more effective after one year in the field and, in some cases, with at least a bachelor's degree (Clotfelter, Ladd, & Vigdor, 2005; Darling-Hammond, 2015; Rivkin, Hanushek, & Kain, 2005; Early et al., 2006). This pattern also exists in OSL settings where research has shown that more experienced and educated staff tend to have more expertise on the job (United Way of Massachusetts Bay, 2005). In a qualitative study of 26 OSL leaders, Larson and Walker (2010) found that expert staff tended to approach dilemmas of practice from multiple angles and keep youths' wellbeing at the center of decisions more than novice staff. In another study of 78 OSL programs, researchers found that more experienced and educated staff exhibited higher levels of commitment (United Way of Massachusetts Bay, 2005). This commitment

was associated with higher child engagement, rates of homework completion, and more positive social relationships (United Way of Massachusetts Bay, 2005). Although a direct causal link has not been established, research suggests an association between positive child outcomes and educator experience and education level in the OSL context.

Limited research examines the connection between the sociodemographic makeup of an OSL program and staff background. However, school-based research has shown that urban schools serving children from low-income or minoritized backgrounds tend to employ teachers with fewer years of experience and less formal education (Banks et al., 2007; Clotfelter et al., 2005; Goldhaber, Lavery, & Theobald, 2015; Lankford, Loeb, & Wyckoffckoff, 2002; Milner, 2012). This may be related to the racial and economic segregation of schools as well as within school inequities in academic tracking (e.g., low-income and minority students are more likely to be placed into remedial tracks and assigned to inexperienced teachers; Milner, 2015). More research is needed to examine if these trends are replicated in the OSL setting; if so, it may illuminate structural inequalities such that children from African American and low-income families do not have equal access to experienced and educated staff.

Process Features. As described by Durlak, Mahoney, et al. (2010), process features are the proximal experiences of a child within an OSL program including types of activities and adult-child interactions. First, OSL programs offer different *types of activities* depending on program goals and youth served. Many programs offer enrichment activities, such as open-ended projects, arts exploration, and active learning experiences sometimes focused on a particular content area. Enrichment activities allow participants to experience new content or learn in an engaging, exploratory context (Halpern, 2003). For example, a group of children might spend a few months practicing and performing a musical in their OSL program. Through this experience, they might gain confidence in themselves, learn how to work with others, or discover a new interest (Hansen, Larson, & Dworkin, 2003). Enrichment activities in OSL programs are linked to positive outcomes for children; this includes increased cognitive engagement, social emotional learning, higher grades, and the development of work habits (Akiva, Cortina, Eccles, & Smith, 2013; Durlak, Weissberg, et al., 2010; Pierce, Bolt, & Vandell, 2010). Outcomes may relate to the type of enrichment activity. For example, participation in sports and arts is associated with the development

of initiative (Larson, Hansen & Moneta, 2006). Outcomes are also associated with the facilitation of enrichment activities, such as whether active learning is incorporated (Akiva et al., 2013). Additionally, having content that young people find interesting is associated with increased motivation to attend programs, especially as youth get older (Akiva & Horner, 2016). In many cases, enrichment activities may be the impetus for children to attend OSL programs, allowing them to benefit from participation.

In recent years, nation-wide policy shifts have placed increasing pressure on many OSL programs to offer more academic remediation activities due to (Vandell et al., 2015). Academic remediation activities include tutoring or formal school-like lessons that reflect or repeat the structures of school. If implemented effectively, these types of activities can be useful for children and may reinforce learning from the school day. However, afterschool programs are not designed to be school, and staff may have different expertise than teachers (Halpern, 2006). One potential benefit of OSL is that children can explore new content or experience different types of learning activities not typically found in school (Vandell et al., 2015). Children who attend programs similar in structure and purpose to school may miss out on opportunities for enrichment-focused experiences and the associated benefits. This is especially true for children from families that cannot afford to pay for extra enrichment opportunities outside the school setting (Dearing et al., 2009; Duncan et al., 2015).

A focus on academic remediation may be more prevalent in programs serving African American children and children whose come from families with low-socioeconomic status (Lauer et al., 2006; Vandell et al., 2015). One hypothesis is that African American children and children from low-income families more often attend publicly-funded OSL programs, such as twenty-first Century Learning Centers, compared to their White or higher-income peers (Parsad & Lewis, 2009; Vandell et al., 2015). Publicly-funded programs are more likely to be school-like in structure and focus more on achievement outcomes compared to fee-based programs, which tend to offer a more enrichment and recreation activities (Parsad & Lewis, 2009). This may be due, in part, to the funding structure of publically-funded programs, which can be tied to participants' standardized test scores (U.S. Department of Education, 2015).

The focus on academic remediation among programs serving children from African American or low-income families may also be related to structural

and institutional inequalities. Specifically, African American children and children from low-income families tend to be placed into remedial education tracks in school more frequently than their counterparts. This placement results from both structural and practical disparities, including disparate educational resource allocation, subjective over-identification of behavioral issues among African American children, and over- and misidentification of the need for special education services (e.g., Milner, 2015). These disparities may carry over from in-school to OSL environments and further exacerbate inequalities between African American and White children and children from low- and high-income families (Banks et al., 2007). Building on the work of Parsad and Lewis (2009) and others, more research is needed to understand differences in program activities based on socio-demographic makeup. Identifying these differences may illuminate opportunity gaps experienced by children from African American or low-income families.

A second process feature of OSL programs is positive *adult-child interactions*. Interactions are often noted as a process feature at the heart of learning and development across educational settings (Akiva, Li, Martin, Galletta, & McNamara, 2017; Baldwin & Wilder, 2014; Bayer, Grossman, & DuBois, 1975; Li & Julian, 2012; Pierce et al., 2010; Vandell, Shumow, & Posner, 2004; Yohalem, Wilson-Ahlstrom, Fischer, & Shinn, 2009). Research has shown that interactions can have large impacts on child outcomes, such as social emotional development and academic engagement (Bayer et al., 1975; Fredricks & Simpkins, 2012; Jones & Deutsch, 2011; Larson, 2000; Pierce et al., 2010; Simpkins et al., 2011).

Research suggests that in some cases, educators may interact with children differently based on socio-demographic characteristics. Related to race, the minority stress model suggests that African American children may experience discrimination in educational settings (Russell & Van Campen, 2011). Though there is a minimal amount of research on this topic in OSL settings; studies of teacher-student relationships indicate that teachers may have lower and more deficit-oriented expectations for African American children; this can lead educators to consciously and/or subconsciously treat children differently based on race (Tenenbaum & Ruck, 2007). Disciplinary action may also occur at different frequencies and severity for children of different races (Skiba et al., 1932). Three decades of research have shown that non-White students are suspended at least two times more than White students (Skiba et al., 1932; Wallace, Goodkind,

Wallace, & Bachman, 2008), with particular disproportionality for disciplinary action against African American students (U.S. Department of Education Office of Civil Rights, 2014). In addition, teachers tend to refer students of color to the office for infractions that are more subjective (being loud), while White students are referred to the office for infractions are more objective (being tardy to class) (Milner, 2015; Skiba & Williams, 2014). Finally, unconscious biases lead to more disproportionately negative outcomes for Black children (Tenenbaum & Ruck, 2007). This may be because many educators are not explicitly taught to develop culturally relevant and responsive instructional materials and practices (Gay, 2010; Ladson-Billings, 2009). Students living below the poverty line, students of color, and their families are often characterized as “lacking” or “deficient.” This carries into both educators’ one-on-one engagement and the training methods for professionals who interact with them.

The economic background of a child might also affect interactions between staff and children. For example, in one retrospective study of 68 afterschool programs, Saint Clair and Stone (2016) found that students eligible for free- and reduced-price lunch experienced lower quality emotional and instructional support as measured by the Classroom Assessment Scoring System (Pianta, La Paro, & Hamre, 2008). One body of research indicates that educators who teach low-income students more often structure classrooms to maintain compliance of repetitive tasks or focus on right versus wrong answers rather than the process of learning (Pianta, Belsky, Houts, Morrison, & Child, 2007). Thus, we might expect to see similar patterns in OSL settings with the same student population. Another reason adult-child interactions may differ based on economic backgrounds of children may be related to the variety of stressors that research indicates children from lower-SES backgrounds may face at home (e.g., noise, pollution, neighborhood safety; Letourneau, Duffett-Leger, Levac, Watson, & Young-Morris, 2011); such stressors may impact both the children and the program setting. Research further indicates that children from low-income families are also more likely to experience trauma (Letourneau et al., 2011). These are structural issues, not individual deficits, that may affect children in their OSL program (Duncan et al., 2015; Fauth, Roth, & Brooks-Gunn, 2007; Felner et al., 1995). School research has shown that a child’s externalization or internalization of behavior associated with income-related challenges can influence closeness of adult-child relationships

(Murray & Murray, 2004). If the majority of children programs serve are from low-income families, it may be difficult for staff to provide adequate support, especially if they have not been trained to support children with limited economic resources and potentially greater physical and emotional stressors (Boyas, Wind, & Ruiz, 2013; Fauth et al., 2007; Kremer, Maynard, Polanin, Vaughn, & Sarteschi, 2014; Letourneau et al., 2011; Lizano & Mor Barak, 2012). Staff-child interactions are cited as a critical process feature of OSL programs; therefore, examining differences based on both the racial and socioeconomic makeup of OSL programs could inform our understanding of structural inequalities perpetuated in the OSL context.

Current study

In this study, we examined how OSL program features differ for children based on the sociodemographic makeup of the program they attend. First, we investigated potential differences in structural program features and asked: *Are differences in staff background associated with the race or family income of children served?* Based on previous research, we hypothesized that staff with less education and experience work at programs serving a majority of children from African American or lower-SES families. Second, we examined how process features may differ across programs. Specifically, we asked: *Do the activities offered differ based on race or family income of children served?* We hypothesized that programs serving a majority of children from African American or lower-SES families will offer more academic activities as evidenced by trends in the literature. Finally, we asked: *Do adult-child interactions differ based on race or family income of children served?* We hypothesized that staff-child interactions will differ based on the sociodemographic makeup of a program; this hypothesis is based on previous research that adult-child interactions differ between educators and children in low- compared to high- income settings and between educators and children that are African American compared to White.

Methods

Sample

Sites. Data from this study come from the baseline wave of a randomized control trial of a strengths-based professional development for OSL staff. During the spring of 2015, programs in a mid-sized mid-Atlantic city applied to participate and receive free professional development. Recruitment occurred

through a local afterschool intermediary network (15 programs) and through personal contacts of the research team (15 programs). Out of the programs that applied, a total of 25 afterschool and five summer programs were selected. Selection was based solely on logistical fit with the professional development offered; in other words, every site that could participate in the training program was invited to participate.

The context of the city in which this study is situated is an important aspect of understanding the potential study outcomes along racial and economic lines. First, the city's population is primarily composed of two racial groups. African American and White residents make up 92% of the city's total population, with 26% of residents identifying as African American and 66% as White (U.S. Census Bureau, 2015). There are few Asian or Latinx residents. Within this context, neighborhoods and public schools are highly segregated by race according to national census segregation indices (CensusScope, 2010). Additionally, about 22% of children (and 39% of African American children) under age 18 live under the poverty level, which are statistics that are higher than the national average (U.S. Census Bureau, 2016). Particularly relevant for this study, 28% of children and youth in the area are enrolled in OSL programs; nearly double the national average (America After 3 pm, 2014). These factors make this a valuable place to examine differences in OSL programs based on children's race and family income.

Although the program sample was not randomly selected, sites were representative of afterschool programs typical in the region and the country (Afterschool Alliance, 2014). These include YMCA (five programs), private or cultural organizations (four programs), religious organizations (four programs), programs offered at a public school (11 programs), and other programs such as nonprofit community centers (six programs). As indicated in Table 1, the only major differences between this sample compared to a nationally representative sample are the number of Boys and Girls Clubs and nonprofit organizations (Afterschool Alliance, 2014). Although Boys and Girls clubs make up 18% of OSL program nationally, they are not represented in this sample; in contrast other nonprofit organizations comprise 3% of national OSL programs, they make up 20% of our sample.

Participating programs served children aged prekindergarten through high school; however, this sample is limited to staff working with children in prekindergarten through 8th grade due to the fit with the professional development through which they were

Table 1. OSL organization types included in a national sample compared to the current sample.

Organization Type	National Sample %	Current Sample %	Current Sample <i>N</i>
YMCA	15	17	5
Private/ Cultural Organization	11	13	4
Religious Organization	10	13	4
Public School	43	37	11
Boys and Girls Club	18	0	0
Other (e.g., Nonprofit Community Centers)	3	20	6
Total	100	100	30

Note. OSL = out-of-school learning.

recruited. The number of youth served by each program varied drastically, ranging from 8 to 85. Many programs in this study served majority African American children (70% programs) and majority children at or below the poverty line (70% of programs). Although we distinguish race from SES in our analyses, there is some overlap between groups of children programs served related to these demographic characteristics. For example, 86% of programs that served majority African American children also served majority of children from low-income families. Also, 67% of programs that served majority White students also served majority of children from middle- or high-income families.

Staff. The sample included 106 staff from 30 afterschool and summer programs, with an average of 4 staff per program. The majority of participating staff worked part-time (less than 30 h per week); none of the sample were volunteers. As indicated in Tables 2 and 3, staff participants were predominately White and female, ranging in age from 18 to 65. Staff in the sample reported limited experience working with children. About one-third of staff worked at the specific program for less than one year and 40% reported having worked at other youth programs for less than one year. A majority of the participants indicated some or no college. This sample is similar to trends in race and gender among OSL staff nation-wide (Yohalem, Pittman, & Moore, 2006).

Procedures

During the summer and fall of 2015 a member of the research team visited each site to collect observational data. Observations lasted about one hour and included video collection and a short environmental scan. Staff completed a survey, including demographic questions, within one week of video collection. Staff took the survey online or by hard copy (based on staff preference) and each received \$15 for their completed survey.

Table 2. Descriptive and inferential statistics of the sample based on racial makeup of OSL Program ($N = 106$ staff).

	Majority AA Programs (21 programs) %/ M (SD)	Majority Non-AA Programs (9 programs) %/ M (SD)	t-value
Staff Demographics			
White	72%	63%	-0.90
Female	79%	63%	1.47
Age	31.22 (-10.84)	32.24 (-15.84)	0.36
Full-Time	32%	42%	-0.62
Structural Features			
Staff Background			
<1 year experience program	36%	27%	-0.87
<1 year experience other	44%	27%	-1.53
College educated	31%	38%	0.67
Process Features			
Academic			
Activities Offered			
Director-reported	58%	27%	-2.78**
Observed	44%	16%	-2.46**
Staff-Child Interactions			
	3.39 (-0.52)	3.46 (-0.41)	0.54

Note. OSL = out-of-school learning; AA = African American.
* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ are indicators of significance level on an independent samples t -test.

Table 3. Descriptive and inferential statistics of the current sample based on SES makeup of OSL Program ($N = 106$ staff).

	Majority Low-SES Programs (21 programs) %/M (SD)	Majority Mid-High SES Programs (9 programs) %/M (SD)	t-value
Staff Demographics			
White Staff	66%	94%	2.30*
Female	74%	90%	-1.09
Age	31.12 (-11.68)	33.24 (-14.67)	0.65
Full-Time	31%	53%	-2.02
Structural Features			
Staff Background			
<1 year experience program	41%	0%	-3.62***
<1 year experience other program	46%	11%	-2.95**
College educated	28%	58%	2.60*
Process Features			
Academics			
Activities Offered			
Director-reported	55%	26%	-2.31*
Observed	40%	33%	-0.37
Staff-Child Interactions			
	3.37 (-0.52)	3.57 (-0.35)	1.61

Note. OSL = out-of-school learning; AA = African American.* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$ are indicators of significance level on an independent samples t -test.

Measures

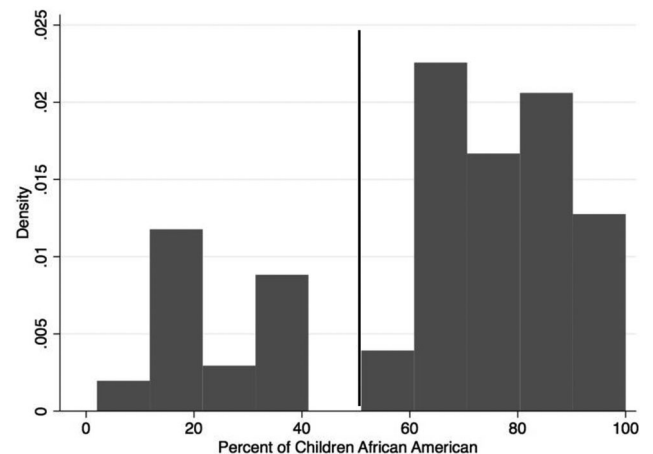
Sociodemographic makeup of programs. *Racial makeup of a program* is an observed measure recorded by research assistants during the site visit. In this study, we did not collect self-reported racial

demographics of each child participant because we did not wish to disrupt the programs in session. Although self-reported measures of race are preferable, measures of observed race have been used by the U.S. Department of Justice and are deemed appropriate when self-report measures of race are impractical (Blank, Dabady, & Citro, 2004). One potential benefit of using observed race as a measure is that it may be a reasonable proxy for how others treat individuals based on implicit and explicit discrimination related to race (Harris, 2004).

Sociodemographic makeup is divided into two categories: Majority African American and majority White. We chose these two groups based on the spread of data, which suggested a dichotomous split (see Figure 2). The majority White group included 90% White children and 10% other races (e.g., Asian, Hispanic). As previously indicated, this aligns with the population of the particular region in which this study was conducted (U.S. Census Bureau, 2015).

Socioeconomic status of children served is an estimated proportion of children in the program that are living near or below the poverty line, living in middle-income families, or living in above middle-income families. This was provided by program directors and staff. SES makeup is split into two groups: Near or below the poverty line and middle- and above-middle- income (see Figure 3). We chose this grouping based on the spread of data, which indicated a dichotomous split. Also, prior literature indicates that children from middle- and high-income families participate in out-of-school learning activities at similar rates (Dearing et al., 2009).

Structure. To measure *staff background*, we included two variables to investigate staff experience working with children, both reported by staff on surveys. We used a dichotomous variable indicating less than one

**Figure 2.** Histogram of percentage of African American children in sample programs.

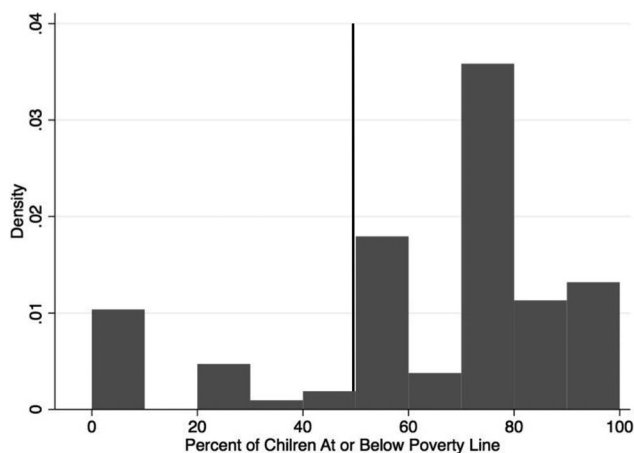


Figure 3. Histogram of percentage of low-socioeconomic status children in sample programs.

year of experience at the *current OSL program* and a dichotomous indicator of less than one year of experience at any *other OSL program*. These variables were chosen based on previous research indicating that educators with more than one year of experience may be more effective (Clotfelter et al., 2005).

Education is a dichotomous variable indicating whether or not staff attained a college degree as reported by staff on surveys. We chose a dichotomous variable for education because there were no differences across more specific education levels (e.g., Associate degree, Master's degree) in either sociodemographic group. Also, research on child care settings has shown that the attainment of a bachelor's degree may be important for predicting the effects of an educator's effectiveness (Early et al., 2006).

Process. We included two measures of activities offered. First, *Director-reported academic activities* is a dichotomous variable indicating a program's focus on academic activities as reported by the program director (even if they also reported other program goals). A score of zero indicates a director did not mention an academic focus (instead, directors reported exclusively other program goals such as enrichment activities or mentoring).

Second, *observed academic activities* is an indicator of the academic activities that occurred in each video clip of staff as reported by coders. The score is an index of the two clips (scored by two coders each) ranging from 0 (no coders noted academic activities) to 4 (all coders noted academic activities).

To measure *adult-child interactions*, we rated staff-child interactions using the Simple Interactions Tool, developed by Li (2014), which assesses interactions across four items: connection, reciprocity, opportunity to grow, and inclusion (see Appendix A).

Each item is rated on a 5-point scale. Prior analysis of the SIT indicates that the tool has good internal consistency (Cronbach's $\alpha = 0.80$) and a composite of the four items can be used for analysis (Akiva, Li, et al., 2017).² At data collection visits, research assistants collected two 5-minute video clips of staff interacting with children. This amount of time was chosen based on pilot work indicating that 5 minutes adequately captured enough information to rate the Simple Interactions items (Akiva, Li, et al., 2017). The two clips were taken at least five minutes apart.

Results

Before the main analyses, we conducted a missing data analysis including the outcome variable and key predictor variables. The outcome variable had no missing data and there was >6% missing data for the primary independent variables. Based on Rubin (1987) guidelines, we determined imputation was not necessary to proceed.

We also examined the nested structure of the data. Although staff are nested in programs, the intraclass correlation (ICC) was nearly zero meaning that we found no between-program differences in staff outcomes based on this nesting (Raudenbush & Bryk, 2002). In other words, variation was not related to the program at which staff worked; thus, using a multi-level model to account for clustering of staff by sites would not strengthen the analyses.

As we describe our results, we focus on both statistical significance and also practical significance. This is because our sample size was relatively small ($N = 106$ staff); therefore, it is possible that we lack power to detect effects that may actually exist.

Are differences in staff background associated with the race or family income of children served?

To address the first research question, we first drew from staff-reported demographics. Staff characteristics are summarized at the program level and are presented in Table 2 (comparing programs by racial makeup) and Table 3 (comparing programs by

²Two coders rated each video clip. We assessed interrater reliability using a one-way mixed, consistency, average-measures intraclass correlation (ICC; McGraw & Wong, 1996). An ICC of 0.80 indicates a high level of consistency across raters (Cicchetti, 1994). To ensure reliability, raters were trained for 4 h. During training, raters discussed scoring and then independently coded 10 videos. After the training session, coders rated 10 additional videos. Raters that met an acceptable interrater reliability score, (ICC = 0.80), began coding. After coding was complete, a member of the research team conducted a 20% reliability check and confirmed that reliability remained at an acceptable level.

socioeconomic makeup). In programs serving a majority African American children, staff tended to be younger, and fewer staff were full-time compared to programs serving majority White children. Similarly, in programs serving a majority of children from low-SES families, staff were younger and fewer staff were full-time compared programs serving children from higher-SES families.³

Next, we ran a series of independent-samples *t*-tests to compare experience and education of staff based on sociodemographic makeup of the program. In Table 2, we present the percentage of staff with less than one year of experience at their OSL program and at other OSL programs and percentage of staff with a college degree. When comparing education and experience, we found no statistically significant differences between programs that serve a majority African American children and programs that serve majority White children. Although not statistically significant, the trend in the data suggests that staff at programs serving majority African American children may have less experience and education. To investigate this further, we conducted logistic regressions to calculate the likelihood of program demographics based on staff background. We found that staff at programs serving majority White children were 1.5 times more likely to have worked at that program more than one year ($OR = 1.54$, 95% $CI = 0.58, 4.11$); and, staff at programs serving majority White children were about twice as likely to have more than one year experience working with children at another program ($OR = 2.11$, 95% $CI = 0.80, 5.58$).

At programs that serve a majority children from low-socioeconomic backgrounds, staff were significantly more likely to have worked less than one year at the current program, $t(104) = -3.63$, $p < 0.001$, or at another youth program, $t(104) = -2.95$, $p < 0.01$, and staff had significantly lower levels of education, $t(104) = 2.60$, $p < 0.05$ (see Table 3). This finding supported our hypothesis that staff background is associated with family income of children served. We investigated further with logistic regression and found that all staff at programs serving majority high-SES children had more than one year of experience at that program; and, staff at programs serving majority children from higher SES backgrounds were about seven times more likely to have more than one year

of experience working with children at another program ($OR = 7.23$, 95% $CI = 1.57, 33.23$).

Do the activities offered differ based on race or family income of children served?

Second, we used independent samples *t*-tests to compare mean percentage of director-reported activities and observed activities based on sociodemographic makeup of children. In Table 2, we present the percentage of staff that work in programs offering academic activities and percentage of staff captured in videos focused on academic activities. We found that directors of programs serving a majority African American children were significantly more likely to report academics as the program's main focus, $t(104) = -2.78$, $p < 0.01$. Using logistic regression, we determined that directors of programs serving majority African American children were about 3 1/2 times more likely report offering academic activities ($OR = 3.67$, 95% $CI = 1.39, 9.72$) than programs that did not serve a majority African American population. Also, academic activities were significantly more likely to be captured in videos taken at programs serving a majority African American children, $t(88) = -2.46$, $p < 0.01$. Similarly, we found that at programs serving a majority children from low-SES backgrounds, significantly more directors reported a focus on academic programming, $t(104) = -2.31$, $p < 0.05$.

We found no statistically significant difference in videos capturing academic interactions based on SES; however, the pattern suggests that a higher percentage of video clips captured academic interactions at programs serving children from lower income families. Using a follow-up odds ratio test, we discovered that directors of programs serving majority children from lower SES backgrounds were about 3 1/2 times more likely report offering academic activities ($OR = 3.45$, 95% $CI = 1.14, 10.41$). These results largely support our original hypothesis that differences in activities offered would align with the sociodemographic makeup of OSL programs.

Do adult-child interactions differ based on race or family income of children served?

We conducted a final set of *t*-tests to investigate differences in interaction quality based on sociodemographic makeup of children served. Results from these analyses show that interaction quality does not differ based on sociodemographic makeup of programs (see Tables 2 and 3). These results counter our original

³We conducted *t*-tests to compare age and full-time status of staff at programs serving majority African American and majority children from low-SES families. Neither characteristic was statistically significantly different.

hypothesis that there would be differences in interaction quality associated with sociodemographic makeup of children served.⁴

Discussion

Results of this study show that there may be some differences in both structural and process features of OSL programs based on the sociodemographic makeup of children served. We found that staff at programs serving a majority children from low-SES families, and possibly majority African American children, may have less previous experience and education than at programs serving higher-income and White children. We found that programs serving majority African American children and programs serving a majority of children from low-SES backgrounds focused more on academic activities. Finally, we asked if sociodemographic makeup of an OSL program predicted quality of staff-child interactions. Results show that there was no association between sociodemographic makeup of a program and interaction quality.

Based on the findings of this study about *structural* features, staff background may be associated with the sociodemographic characteristics of a program. Specifically, staff with less experience working with children and less education (e.g., less than a Bachelor's degree) tended to work at programs serving a majority of children from low-income families. We found a similar trend in programs serving majority African American children, though this was not statistically significant. Research has shown that educational settings serving African American children are often under-resourced, especially in urban settings (Orfield et al., 2014). Perhaps differences in staff background relate to the amount of resources programs have to offer high wages that attract more educated or experienced staff. In a future study, this could be examined by investigating differences in wages earned and staff recruitment efforts at programs based on sociodemographic makeup. Future research is also needed to investigate if and how differences in staff background may impact children's experiences in OSL programs.

Related to OSL program *process* features, an important finding of this study is that the types of activities programs offered may differ based on sociodemographic makeup. Programs that served majority

African American and children from low-SES backgrounds focused significantly more on academics than programs that served their majority White and higher-SES peers. We acknowledge that the measure used in this study does not capture the quality of academic activities. It is possible that the academic activities offered are engaging, and the academic focus is beneficial for children in these programs. However, this finding does align with a trend related to academic remediation (Halpern, 2006). That is, OSL programs have become more school-like in recent years as a result of policies that preference achievement on standardized tests as a primary measure of student success (Vandell et al., 2015). On an administrative level, this shift may increase the number of OSL programs that report academics as their primary focus in order to seek funding or increase participation (Baldrige, 2014). Also—as indicated previously—this shift toward academic remediation is more likely to impact the OSL programming that African American compared to White children and children from low- compared to high-income families experience.

More concerning is that the shift from goals focusing on positive child development to goals focusing on academic remediation has also begun to push enrichment out of the OSL context, a trend especially salient in public programs that tend to serve children from African American or low-income backgrounds (Vandell et al., 2015). One goal of OSL is to provide children with enriching experiences that afford opportunities to explore, to have fun, *and* to learn; this can have positive effects for development (Roth & Brooks-Gunn, 2016). If there is an increased focus on academic remediation and uneven access to enrichment activities, African American children and children from low-income families might be missing out on enrichment opportunities. Furthermore, this may shift the attention of program staff away from culturally relevant pedagogy, which research shows is vital to program effectiveness (Williams & Deutsch, 2016). Differences in activities offered could have implications for the outcomes of children that attend particular OSL programs, potentially widening the opportunity gap between children based on race and income (Dearing et al., 2009; Milner, 2012; Vandell et al., 2015).

It is encouraging that we found no differences in the quality of staff-child interactions based on sociodemographic makeup of OSL programs. Adult-child interactions are one of the most important indicators of OSL program quality (Yohalem & Wilson-Ahlstrom, 2010; Smith et al., 2012; Vandell et al.,

⁴As a follow up analysis, we also investigated interactions using proportion of African American children and children at or below the poverty level as continuous variables and found the same results as previously reported.

2015) and can have consequences for the short- and long-term development of children. This null-finding suggests that children may be developing strong relationships in OSL programs regardless of the race and economic makeup of the program. Building from this finding, it would be valuable to investigate differences in interaction quality based on the match or mismatch between adult and child race in a larger sample.

Finally, we acknowledge that various factors shape OSL program attendance, which in turn may affect the differences we found in this study. Certainly, economic resources play a role in program selection. However, there may be other influences. For example, Akiva, Schunn, et al. (2017) found that race was a stronger driver of program participation than family income. Similar to studies of schooling selection, OSL program selection could be related to geographic proximity of families to programs and other program components including transportation, families' information networks (e.g., formal and word-of-mouth sources), the process of applying to OSL opportunities, and their prior experience with the programs and/or the organizations that run them. In addition, families seek different program foci to meet their perception of their children's needs; low-income families and African American families may seek (or feel influenced by educators to seek) programs that offer remediation to augment educational experiences or make up for academic supports their children are not receiving in schools.

Limitations

The current study has numerous strengths and fills a gap in the field of OSL. However, there are limitations to this work. First, we relied on research assistants' observations of child race as a broad indicator of the overall racial makeup of a program. This is useful because it captures how individuals may be stereotyped or treated differently by others based solely on observation (Harris, 2004). However, it is preferable to use self-reported race measures because observers may make incorrect assumptions about those being observed. In this study, a majority of our research assistants were college-aged White females, which could have biased observations in a particular way (Harris, 2004). Second, the dichotomous split of this variable does not provide substantive information about races other than African American and White (e.g., Latinx, Asian). Third, our sample size was relatively small and may have limited our ability to detect effects that actually exist. This may also be a reason

we could not fully examine the nested structure of the data. Next steps include conducting causal research related to opportunity gaps, replicating this study with a larger and more diverse sample, distinguishing after-school and summer programming, and including a measure of the quality of and engagement in program activities.

Conclusion

OSL programs have the potential to provide a context for positive development. One promising finding of this study is that across OSL programs, children may experience similar quality interactions with staff, regardless of their race or families' income. This is a positive finding because adult-child interactions are one of the most important OSL program features and they are a strong predictor of positive development resulting from OSL participation.

However, results from this study also showed that there may be inequities related to types of activities offered based on the race and family income of children who comprise programs' populations. Namely, there may be an opportunity gap in exposure to enrichment activities between programs serving African American children and children from low-income families compared to programs serving children from White and higher-income families. On the one hand, children may benefit from academic activities, especially if they are engaging and provide appropriate challenge. On the other hand, the push toward academic remediation may also mean that children attending certain programs are missing out on opportunities to engage in enrichment activities, which are often structured to be exploratory and may allow children to discover their interests and have dived deep into content without the pressure of achievement on a test.

More research is needed to further understand how a potential opportunity gap in exposure to enrichment activities may be affecting African American children and children from families living below the poverty line. How can we shape policy to restructure the outcomes on which OSL programs are assessed and the goals to which funding streams for OSL programs are tied (e.g., positive child development vs. standardized test scores)? A next step is to consider the research, practice, and policy implications of this opportunity gap such that we can work toward educational equity and the positive development of children from all backgrounds.

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Appendix A: Simple interactions tool

SIMPLE INTERACTIONS TOOL

An Instrument for Observing Adult-Child Interactions Across Developmental Settings

CONNECTION: Interacting with mutually positive or appropriate emotions		
<p><input type="checkbox"/> negative/hostile</p> <p><input type="checkbox"/> distant/detached</p>	<p><input type="checkbox"/> mismatched</p>	<p><input type="checkbox"/> mutually present, in tune</p>
RECIPROCITY: Balancing roles of engagement during joint activity		
<p><input type="checkbox"/> one-sided control, with resistance or disengagement</p>	<p><input type="checkbox"/> one-sided control, with compliance</p>	<p><input type="checkbox"/> two-way "serve and return"</p>
INCLUSION: Inviting and involving children who are the least likely or least able to engage		
<p><input type="checkbox"/> child excluded</p>	<p><input type="checkbox"/> child attended to separately</p>	<p><input type="checkbox"/> child invited and included</p>
OPPORTUNITY TO GROW: Presenting incremental Challenge and matching with appropriate Support		
<p><input type="checkbox"/> unrealistic or undemanding expectations</p>	<p><input type="checkbox"/> incremental challenge with scaffolding</p>	<p><input type="checkbox"/> scaffolding and fading</p>

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