



Photo courtesy of *Kalamazoo Kids in Tune*

## **Headline Findings from the U.S. National El Sistema Study October 17, 2016**

**A joint project of  
Longy School of Music of Bard College and WolfBrown**

**Funded by  
the Buck Family Foundation and the Andrew W. Mellon Foundation**

### **Participating Sites:**

*Conservatory Lab Charter School, Boston, MA*  
*Incredible Children's Art Network, Santa Barbara, CA*  
*Kalamazoo Kids in Tune, Kalamazoo, MI*  
*Kidznotes, Durham, NC*  
*New Jersey Symphony Orchestra CHAMPS, Newark, NJ*  
*OrchKids, Baltimore, MD*  
*People's Music School Youth Orchestras, Chicago, IL*  
*Play on Philly!, Philadelphia, PA*  
*Reno Philharmonic Association Kids, Reno, NV*  
*San Diego Youth Symphony Opus Project, San Diego, CA*



Photo courtesy of *San Diego Youth Symphony Opus Project*

**Research Fellows:** Jennifer Johnson, Angelica Cortez  
and Elizabeth Stuk

With acknowledgement to the 2014 - 15 cohort of Longy MAT students for participating in initial measure design and piloting at selected sites.

## **INTRODUCTION**

Nearly three years ago, we met with many of you at the *Take a Stand* conference in Los Angeles to discuss the possibility of a collective study of the impacts of early orchestral learning in El Sistema-inspired programs. Though none of us could have predicted all the hard work and long hours that would be involved, we are sharing headline findings from the first-ever cross-site investigation of the ways in which orchestral learning affects young children's lives. Through our joint effort, we have:

- *Developed a set of field-tested tools:* these measures can be used in a wide range of settings to investigate the effects of early orchestral experiences on children during their early elementary school years
- *Demonstrated the collaborative spirit of El Sistema-inspired programs:* ten different sites joined together for two years of joint research
- *Identified gains in three key domains:* musical performance, socio-emotional learning, and academic achievement
- *Laid the foundation for continuing longitudinal research:* the Buck Family has continued their support for 2016-17 data collection and we are actively pursuing other sources of funding that will let us track the ongoing impact of participating in El Sistema-inspired programs.

Given that the study includes over 500 third through fifth grade children attending varied programs in ten communities, these results are a robust portrait of El Sistema's potential contributions to young children's success. In the pages below, we: (1) highlight key early findings; and (2) report on data collection and next steps in our collaboration in 2016-17 and beyond.

## **HEADLINE FINDINGS**

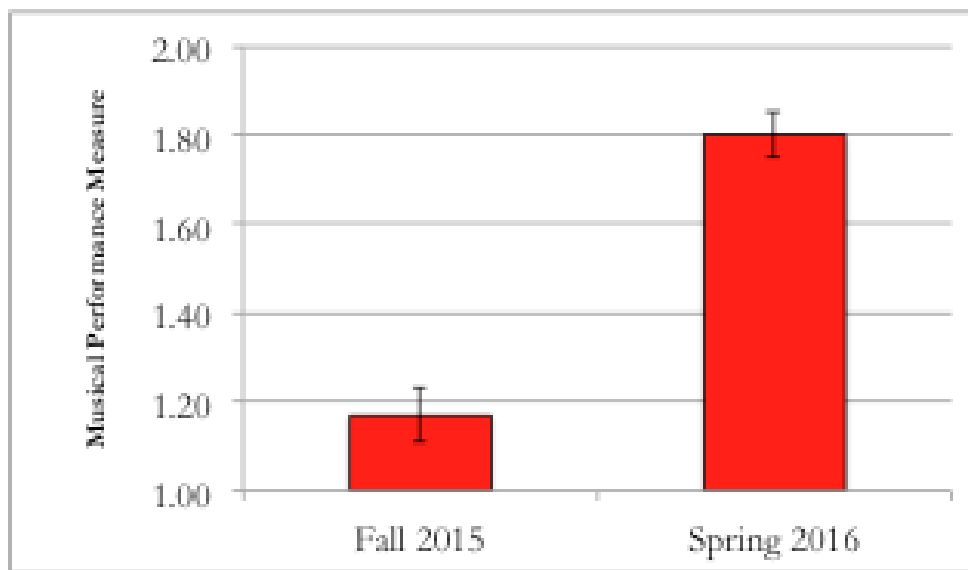
Our study examines the growth of children in El Sistema-inspired programs in three areas: musical performance, socio-emotional behaviors, and school success. In the last two domains, we compare them to their peers who are not engaged in orchestral programs. In each of these areas, there are promising results.

**Significant Musical Growth:** El-Sistema-inspired programs create musical communities where children have the chance to learn, develop and excel through playing, singing, and composing. But to move beyond anecdotes of growth, our study created a measure that could quantify an assessment of students' individual musical progress. While much of the El Sistema student experience is centered in ensemble learning, it was important to establish that individually, students were also excelling musically – in the same way we wanted to see, individually, how students were growing academically and socio-emotionally. Using a rubric adapted from the National Association for Music Education, teaching artists worked on inter-rater

reliability and scored individual children's performance on pieces drawn from within and outside of the familiar El-Sistema repertoire <sup>1</sup>. They scored the performances for pitch, intonation, rhythm, tone, technique, and musicianship, showing high levels of inter-rater reliability for the first three. This is a collective accomplishment that allows us to share the news of students' significant musical growth with external audiences who are interested in establishing credibility for El Sistema music education beyond program advocates and supporters.

Based on quantifying these results, we have strong evidence that, on average, students show significant musical growth in pitch, intonation, and rhythm. On average, the 136 students who had jury scores in fall 2015 and spring 2016, moved from a basic to a proficient level of playing. <sup>2</sup> Not only is this difference statistically significant ( $t(135) = 9.44, p < .001$ ), but it is substantial. In terms of effect sizes – a metric commonly used in research – the size of this difference is  $d = 1.02$ , commonly regarded as a large effect. This can be seen in the figure below.

Figure 1: Musical Growth from Fall 2015 to Spring 2016



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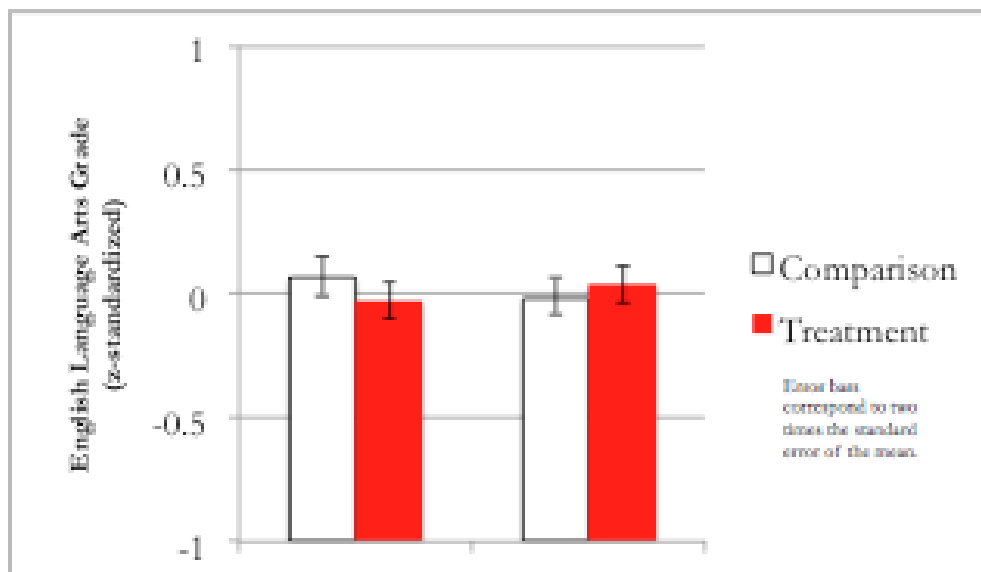
<sup>1</sup> Children played a short level-appropriate excerpt drawn from the Royal Conservatory of Music curriculum and an equivalent excerpt from a piece they were rehearsing in their current orchestra.

<sup>2</sup> The average score in the fall was slightly over one (mean or average score ( $M$ ) = 1.17, with a standard deviation ( $SD$ ) or dispersion about that score of .71). By the spring, the average score had risen to nearly two ( $M = 1.80, SD = .62$ ), corresponding to a "proficient" level of accomplishment.

## Rising Academic Achievement

Eight of our ten sites provided academic grades in English Language Arts (ELA) and math, for a total of 315 students. An analysis of these grades indicated modest but consistent differences in grades between students enrolled in El Sistema-inspired programs and their peers. At the end of the 2015-16 academic year, students enrolled in these programs earned slightly higher grades in ELA and math than their peers in the same grades and attending the same schools. This is true even though students *not* enrolled in El Sistema-inspired programs earned slightly higher ELA grades at the outset.

Figure 2: Rising ELA Grades from Fall 2015 to Spring 2016<sup>3</sup>

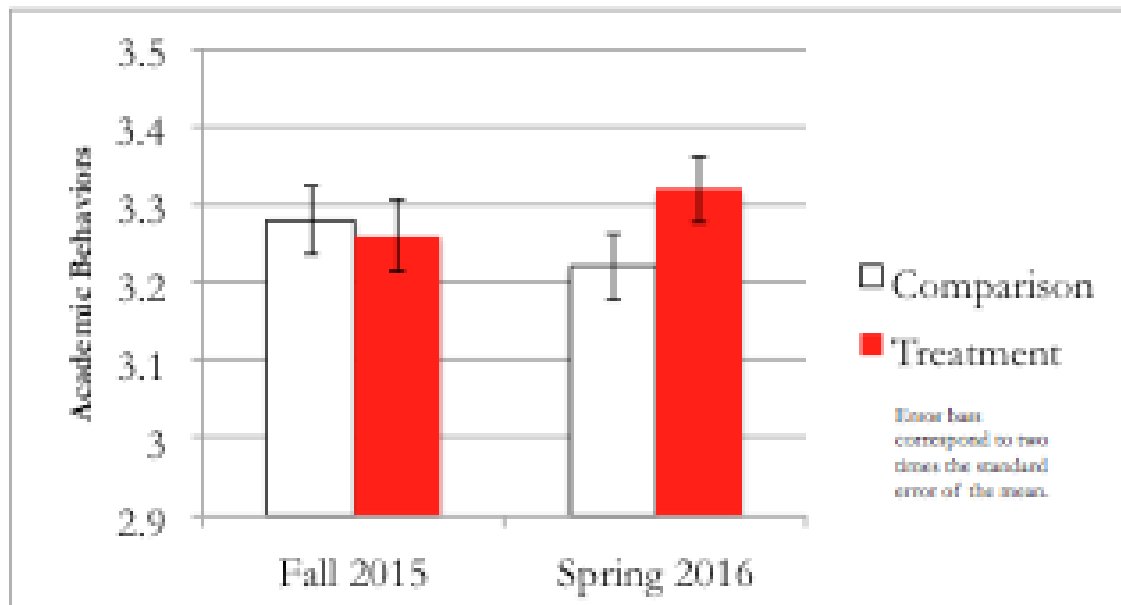


While these initial findings are not yet statistically significant, we have other data that suggests how orchestral training could fuel students' growing school success. In the fall of 2015 students enrolled in El Sistema-inspired programs were no different from their peers in their levels of *academic behaviors* (i.e., the extent to which students organize themselves for learning). Yet by spring 2016 students enrolled in El Sistema-inspired programs exhibited higher levels of academic behaviors at a rate approaching significance ( $p = .092$ ). This raises the possibility that young children could transfer what they learn in orchestras to other aspects of their lives, - such as classrooms.

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<sup>3</sup> In order for grades to be compared across sites all grades were placed on a common z-standardized scale, using each student's peers at their school as the reference group.

Figure 3: Growth in Academic Behaviors from Fall 2015 to Spring 2016



In other areas, such as school engagement, participating in El Sistema-inspired programs may also have *risk-buffering* effects. As many students grow older they show a significant decline in *school engagement* from fall to spring in a school year. While both our El Sistema students and our comparison group show this drop for 2015-16, students in the orchestral programs show less decline. Thus, it is possible that El Sistema-inspired programs buffer risk - helping young people to maintain their engagement in situations like school or orchestra, that demand effort over time. This will be an important possibility to continue to monitor.

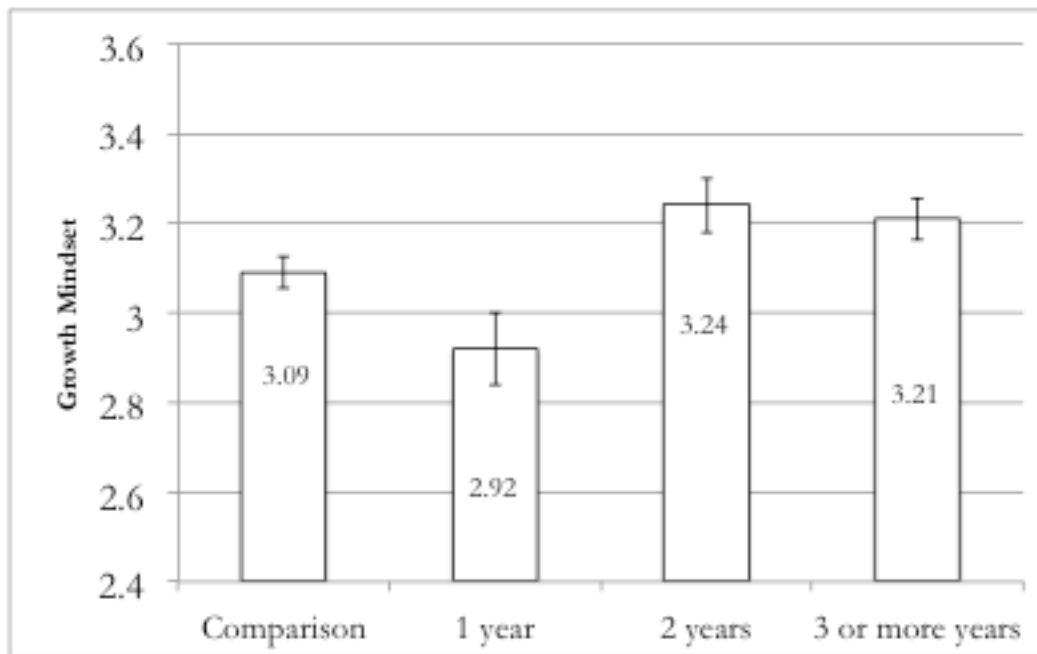
### ***Developing Socio-emotional Skills***

In both the fall and the spring, students responded to a series of self-report measures regarding their socio-emotional beliefs and behaviors. These measures included domains such as growth mindset, perseverance, empathy, cooperation, peer relations, self-concept, school engagement, and self-efficacy. Our early findings show that young people enrolled in El Sistema-inspired programs outdistance their peers in the area *growth mindset* (the belief that one's basic qualities – such as intelligence or musical ability – are due to one's actions and efforts rather than to a fixed trait or talent.). This is an important finding as there is increasing evidence that growth mindset may be a vital precursor or ingredient in both school and life success.

We have a further important finding: When students have been enrolled in an El Sistema program for two years or more they have a higher level of growth mindset

than their non-participating peers. This makes us especially interested in continuing to monitor the continuing development of growth mindset in the coming year and beyond.

Figure 4: Patterns of Growth in Growth Mindset Across Three Years of Participation



This finding about two years as a key threshold, like others in the study, could have significant implications for the way programs design their earliest years, affecting the design of curriculum along with strategies for insuring that children persist long enough to experience the full potential impact of the program.

### **ONWARDS!**

We are excited to report that the following core sites will join us for a second full year of data collection:

- *Conservatory Lab Charter School*, Boston, MA
- *Kalamazoo Kids in Tune*, Kalamazoo, MI
- *Kidznotes*, Durham, NC
- *New Jersey Symphony Orchestra CHAMPS*, Newark, NJ
- *OrchKids*, Baltimore, MD
- *People's Music School Youth Orchestras*, Chicago, IL
- *Play on Philly!*, Philadelphia, PA
- *Reno Philharmonic Association Kids*, Reno, NV
- *San Diego Youth Symphony Opus Project*, San Diego, CA (*pending*)

We will also add:

- *Orchestra of Saint Luke's* (OSL) in New York, NY
- *Yakima Music en Acción* (YAMA) Yakima, WA

We have shipped materials to each site for fall data collection. Sites will implement the same, or a tailored, set of measures. This year we will be looking at developing additional measures with interested sites for:

- Family engagement
- Student progression in the program
- Ensemble rehearsal behaviors

Building on this bold collective effort, we are presenting about our shared work at conferences across the country and beginning to write about the work. We are also seeking funding to continue the longitudinal research. For example, we have submitted a Letter of Inquiry to the Grammy Foundation to fund \$20,000 towards continuing to run this Study, in its existing format, for the 2017-18 year. We are also submitting to additional foundations for a more rigorous randomized-control design that would allow us to expand the reach of the current study to include control groups and make causal arguments about the impact of music participation.

### ***FURTHER INFORMATION COMING***

We are continuing to analyze the data collected across sites and are investigating additional findings from the cross-site sample (for example, evidence about the effects of sustained participation, children's levels of effort, and patterns of growth for boys and for girls.)

As well, at the end of the year, each of you, as a participating site will receive a summary of site-specific data that describes your program's profile of performance on our measures. As this information emerges, we will be in touch to figure out the best ways to share it with you, your teaching artists, boards, and communities.

We thank you for all that you have made possible and look forward to our continued work.