



An Evaluation of NJSO CHAMPS Findings from the 2016-2017 Season

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Executive Summary

In this report we present the results of our evaluation of the 2016-17 season of the New Jersey Symphony Orchestra's Character, Achievement, and Music Project (CHAMPS). As in previous years, the evaluation was designed to address three guiding questions:

- Do students enrolled in CHAMPS exhibit higher levels of academic achievement than their peers who attend the same grades at University Heights Charter School (UHCS)?
- Do students in CHAMPS display improved character relative to their peers?
- Do students in CHAMPS exhibit musical growth over the course of the program year?

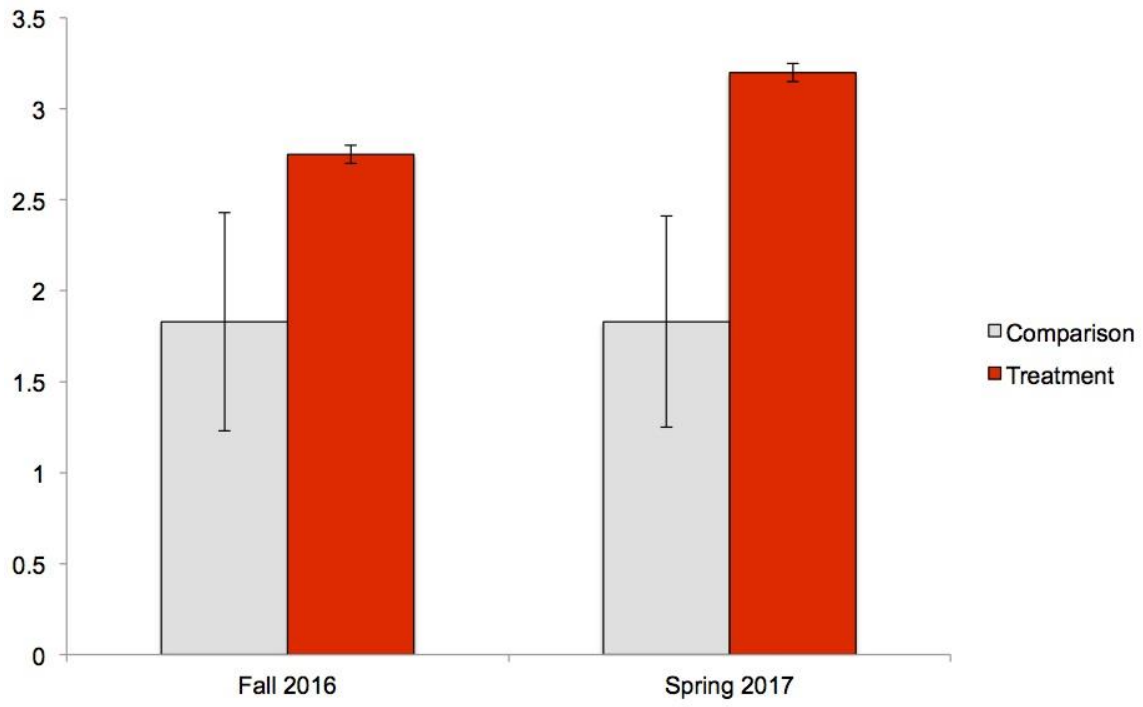
To address these questions data were collected from 27 students in grades 3 through 5 whose parents provided permission for them to participate in the evaluation. Twenty of these students were enrolled in CHAMPS. Participating students completed booklets of measures used in the National Study of Sistema-Inspired Programs as well as a supplemental set of measures designed specifically for students in CHAMPS. Students enrolled in CHAMPS also completed juried assessments of their playing.

In the remainder of this summary, we report how our analyses addressed each of the questions above.

Do students enrolled in CHAMPS exhibit higher levels of academic achievement?

On average, students enrolled in CHAMPS earned higher grades in ELA in the spring of 2017 than their peers (see Figure S1). Moreover, students in CHAMPS exhibited positive change in ELA grades from the fall of 2016 to the spring of 2017 that was over four times that exhibited by their comparison-group peers. The change exhibited by CHAMPS students corresponded, on average, to approximately half a letter grade (i.e., the difference between an A and a B).

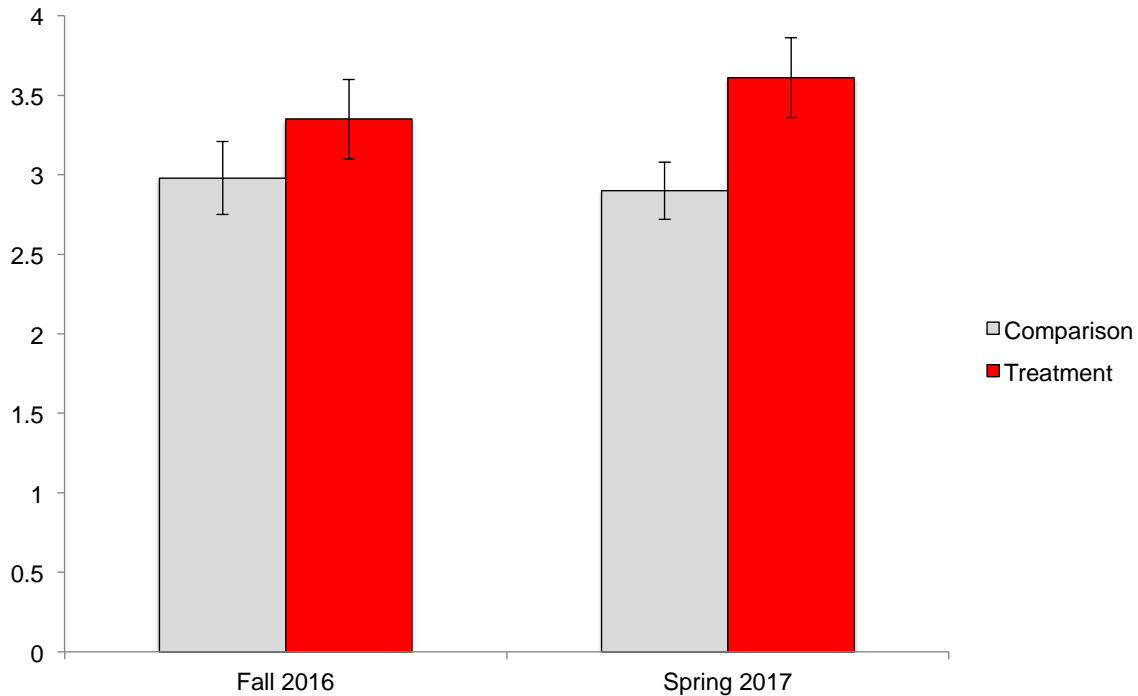
Figure S1. English Language Arts (ELA) Grades



Do students in CHAMPS display improved character?

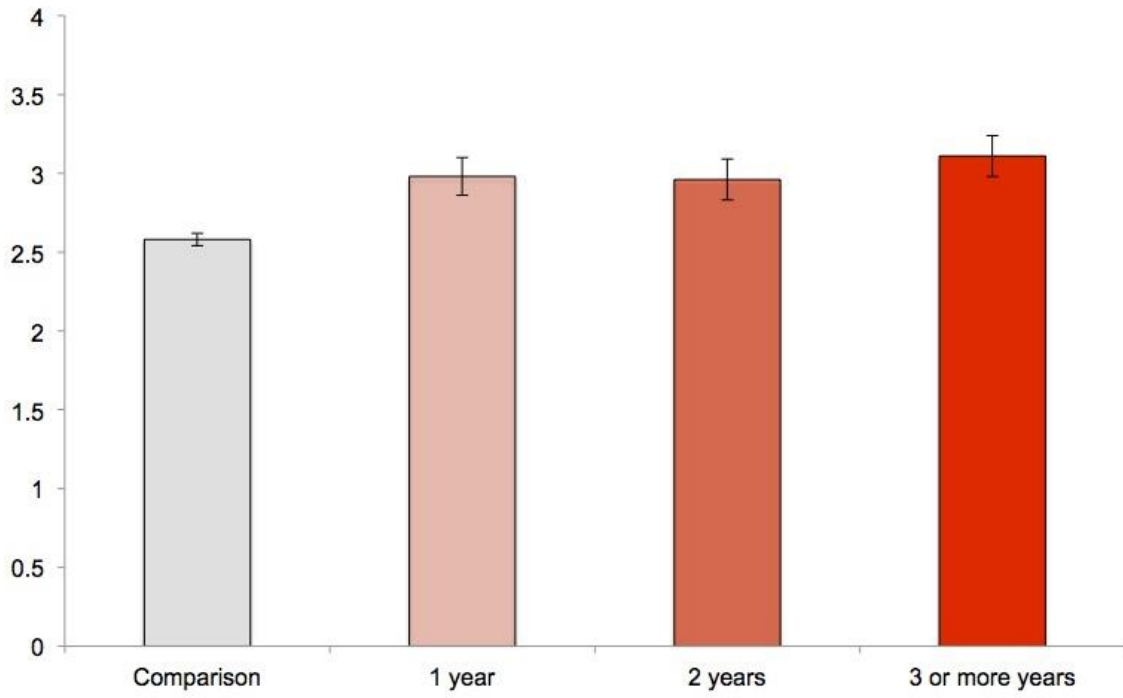
Across multiple domains, comparisons of fall 2016 (pre-) and spring 2017 (post-) scores revealed diverging trajectories between CHAMPS students and their peers. For example, cooperation scores among comparison-group students decreased from fall 2016 to spring 2017, while scores for CHAMPS students increased. By spring 2017 the difference in cooperation scores between CHAMPS students and their peers was statistically significant (see Figure S2).

Figure S2. Change in Cooperation Scores



Similar findings were observed for school engagement, self efficacy, and perseverance: while no differences were observed between CHAMPS students and their peers in the Fall of 2016, by Spring 2017 CHAMPS students exhibited higher levels across all three domains. Moreover, in multiple of areas of character – including cooperation, school engagement, and self efficacy – students enrolled in CHAMPS exhibited more positive change (or a smaller amount of negative change) during the program year than students who were not enrolled. Students enrolled in CHAMPS for 3 or more years exhibited particularly high levels in certain areas of character, including growth mindset (see Figure S3).

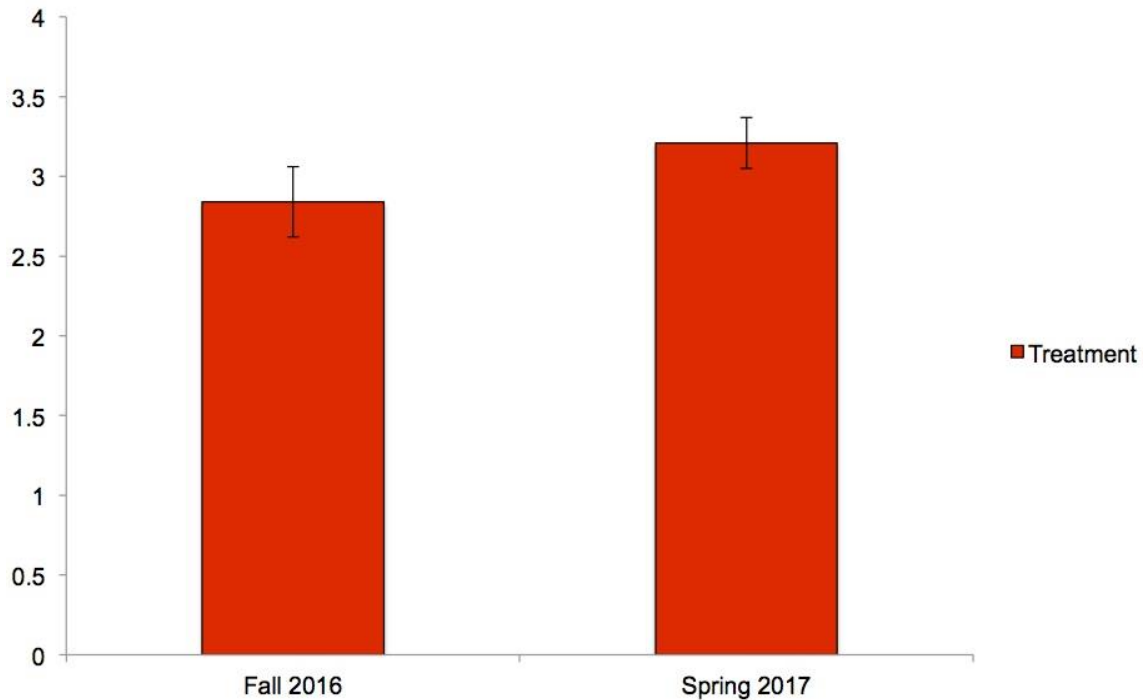
Figure S3. Growth Mindset Scores by Years Enrollment



Do students in CHAMPS exhibit musical growth over the course of the program year?

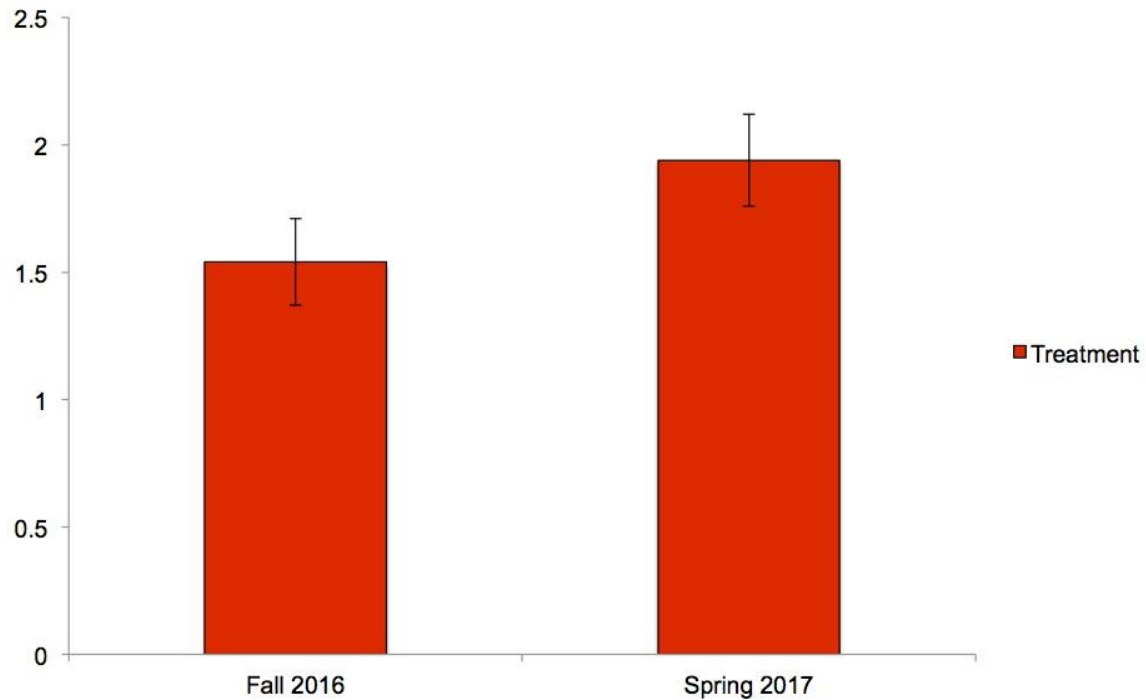
Students enrolled in CHAMPS were asked to rate themselves along the same character domains featured in the school booklet, but in the context of CHAMPS. These analyses revealed that students' scores increased in the domains of musical self-concept, program engagement, and, in particular, growth mindset (see Figure S4).

Figure S4. Change in Growth Mindset over Time among CHAMPS Students



Students' musical growth was also addressed in a more direct fashion through juried assessments of their playing in fall 2016 and spring 2017. Fourteen students completed both juries; of these, nearly two-thirds exhibited a positive change in their scores. Across all students, the average change in scores corresponded to approximately half of the difference between a student rated at a "basic" level of playing and one rated as "proficient" (see Figure S5). This change was statistically significant and corresponded to a medium to large effect size.

Figure S5. Change in Jury Scores over Time



These findings are broadly consistent with those reported in previous years of the evaluation, in which students in CHAMPS were found to:

- Earn higher grades in English Language Arts (ELA) and math than their peers.
- Exhibit higher levels of different aspects of character as rated by both their parents and themselves.
- Demonstrated significant and substantial growth as musicians.

Together, these results constitute increasingly strong evidence that CHAMPS is achieving its goals and, in so doing, bettering the lives of its participants.

Introduction

In this report we present the results of our evaluation of the 2016-17 season of the New Jersey Symphony Orchestra's Character, Achievement, and Music Project (CHAMPS). As in previous years, the evaluation was designed to address three guiding questions:

- Do students enrolled in CHAMPS exhibit higher levels of academic achievement than their peers who attend the same grades at University Heights Charter School (UHCS)?
- Do students in CHAMPS display improved character relative to their peers?
- Do students in CHAMPS exhibit musical growth over the course of the program year?

The findings from previous years of the evaluation were very promising:

- In 2013-14 we found that students enrolled in CHAMPS exhibited higher levels of different aspects of character as rated by both their parents (prosocial behaviors) and themselves (e.g., girls enrolled in CHAMPS reported higher levels of intrapersonal skills and more positive attitudes about the future).
- In 2014-15 we demonstrated that CHAMPS students experienced more rapid growth in English Language Arts (ELA) and math grades than their peers, and that students in CHAMPS reported positive increases over time for multiple aspects of character. Moreover, we found that nearly two-thirds of CHAMPS students exhibited positive increases in musical performance over the course of the season.
- In 2015-16 we found that relative to their unenrolled peers (attending the same grades at UHCS), CHAMPS students earned higher grades in ELA and math, and exhibited more rapid growth in multiple aspects of character, including cooperation, growth mindset, and perseverance. Finally, over three-quarters of students exhibited gains in musical performance.

The purpose of the current evaluation was to build upon these findings by expanding the measures of character beyond those included in the National Study of Sistema-Inspired Programs to encompass additional measures completed by students and their teachers in school.

In the remainder of this report we present the methods employed to address these questions, the results those methods yielded, and what those results mean for CHAMPS and our future evaluation work.

Methods

Participants. Students in grades 3 through 5 were invited to join CHAMPS at the beginning of the 2016-17 school year. The families of 20 students enrolled in CHAMPS provided permission for their child to participate in our evaluation, as did the families of 7 students who were not enrolled in CHAMPS. Of the students enrolled in CHAMPS who participated in the study, 13 (65%) had been enrolled for 1 year or less in the fall of 2016, 3 (15%) had been enrolled for 1-2 years, and 4 (20%) had been enrolled for 3 or more years.

The distribution of permitted students by age in the fall of 2016, gender, and race/ethnicity are reported in Table 1. As is reported in the table, there were no differences in group as a function of these factors (though note that age could be calculated only for the 26 students who provided their dates of birth).

Table 1

	Overall (N = 27)		Comparison (N = 7)		CHAMPS (N = 20)		Difference	
	M	SD	M	SD	M	SD	t (df)	p
Age (years)	10.2	1.9	9.5	1.8	10.4	1.97	-1.01 (24)	.322
Gender	N	%	N	%	N	%	X ² (df)	p
- Female	19	70.4	6	85.7	12	60.0	1.54 (1)	.363
- Male	8	29.6	1	14.3	8	40.0		
Race	N	%	N	%	N	%	X ² (df)	p
- African American	17	63.0	5	71.4	12	60.0	1.68 (3)	.642
- Latino/Hispanic	4	14.8	0	0	4	20.0		
- Asian/Pacific Islander	0	0	0	0	0	0		
- Native American	0	0	0	0	0	0		
- Caucasian/White	0	0	0	0	0	0		
- Mixed	3	11.1	1	14.3	2	10.0		
- Other	3	11.1	1	14.3	2	10.0		

Procedures. At the beginning and the end of the program year students enrolled in CHAMPS completed two booklets of measures used in the National Study of Sistema-Inspired Programs as well as a supplemental set of measures designed specifically for students in CHAMPS. With the exception of the booklet of musical measures, students in the comparison group completed these same measures according to the same schedule. At the end of the program year, the primary teaching artists of students in CHAMPS were asked to complete a measure rating each student's engagement in the program. Juries were also collected twice, but the fall assessment occurred in mid-December 2016 rather than at the beginning of the program year given that some students were new to the program.

Measures. Multiple sets of measures were collected for each student:

Academic achievement was assessed using first and final trimester grades in English Language Arts and math taken from students' report cards. These grades were assigned on a five-point scale, ranging from A to F.

Character was assessed through a booklet of measures used in the National Study, a supplement of student measures designed specifically for students in CHAMPS, and records of absences taken from students' report cards.

The National Study measure booklet asked students to rate their cooperation and empathy (Gresham & Elliott, 2008), academic behaviors (Farrington, 2012), peer relations (Marsh, 1990), academic self-concept (Marsh, 1990), growth mindset (Dweck, 2000), school engagement (Voelkl, 1996), academic self-efficacy (Farrington, 2012), and perseverance (Duckworth et al., 2007). Students in both groups were asked to rate these capacities in the context of school, while students in CHAMPS were also asked to rate them in the context of the program. Students in both groups were also asked to complete a supplementary set of measures not included in the National Study that assessed interpersonal skills (Epstein, 2004), future orientation (Longscan, 1998), and prosocial behavior (Goodman, 2006).

The total number of absences during the 2016-17 academic year were taken from students' report cards.

Musical growth was measured through a second booklet of measures used in the National Study and through jury scores. The booklet of measures asked students about the domains of character listed above, but asked students to reflect on these domains in the context of CHAMPS. Jury scores were collected in mid-December and at the end of the year. During these juries each child played two short excerpts: one that they were studying in the course of CHAMPS (excerpt 1) and another that was being used during assessments for all students in the National Study (excerpt 2). Each excerpt was independently rated by two jurors using a measure adapted from the Royal Conservatory of Music's Practical Performance Assessment. Using this measure, jurors rated students' six dimensions of performance (pitch, intonation, rhythm, tone quality, technique, and musicianship) on a four-point scale ranging from pre-basic to advanced.

The extent to which the two raters agreed on the scores assigned on each dimension for both excerpts in the fall of 2016 and spring of 2017 are reported in Table 2 below. The values in the table correspond to a statistic (the intraclass correlation) that ranges from 0 (no agreement between raters) to 1.0 (complete agreement).

Table 2

	Fall 2016		Spring 2017	
	Excerpt 1	Excerpt 2	Excerpt 1	Excerpt 2
Pitch	.83	.58	.49	.64
Intonation	.73	.32	.60	.76
Rhythm	.74	0	.64	.72
Tone	.83	.28	.68	.86
Technique	.86	.83	.59	.72
Musicianship	.70	0	.93	.96

The scores for excerpt 2 administered at the fall 2016 jury could not be used, given the low degree of inter-rater reliability. Consistent with the approach taken in the National Study of El Sistema-Inspired Programs, composite scores were calculated in the fall and spring as the average of the cross-rater scores for pitch, rhythm, and tone. However, given the low degree of inter-rater reliability for excerpt 2, these scores were calculated only for excerpt 1.

Program engagement was measured using a 14-item questionnaire completed by CHAMPS students' primary teaching artist. Teachers' responses on these questions were very internally consistent ($\alpha = .97$), and therefore a mean engagement score was calculated for each student as the mean of responses across the 14 items.

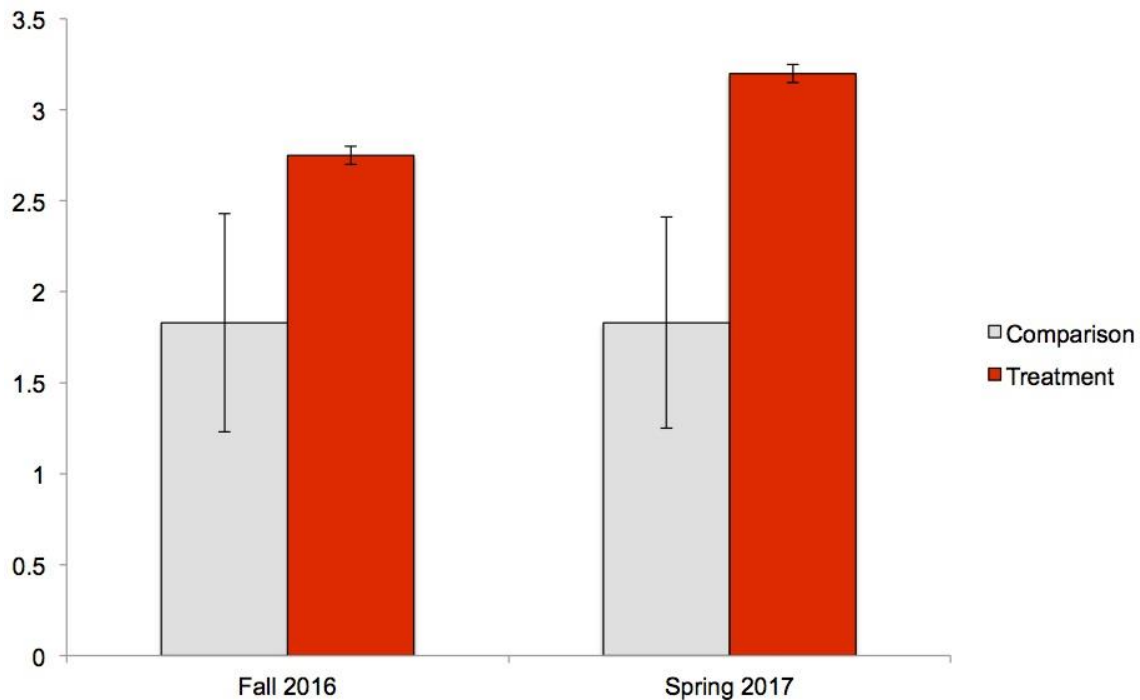
Results

Do students enrolled in CHAMPS exhibit higher levels of academic achievement?

Academic grades were available for 26 students, corresponding to 96.0% of the sample. Report cards were not available for one student in the comparison group.

On average, students enrolled in CHAMPS earned higher grades in ELA in the spring of 2017 than their peers (see Figure 1). Moreover, students in CHAMPS exhibited positive change in ELA grades from the fall of 2016 to the spring of 2017 ($M = 0.45$, $SD = 0.88$) that was over four times that exhibited by their comparison-group peers ($M = 0$, $SD = 0.63$). The change exhibited by CHAMPS students corresponded, on average, to approximately half a letter grade (i.e., the difference between an A and a B).

Figure 1. English Language Arts (ELA) Grades



Our analysis also indicated that students enrolled in the program for a longer period of time exhibited higher grades. Students enrolled in the program for 3 or more years had spring 2017 ELA grades that were, on average, one and a half grades higher (or the difference between a B- and an A) than students who were not enrolled ($M = 1.55$, $SE = .46$). A similar difference was observed for math grades ($M = 1.16$, $SE = .49$; see Figures 2a & 2b).

Figure 2a. English Language Arts Grades by Dosage

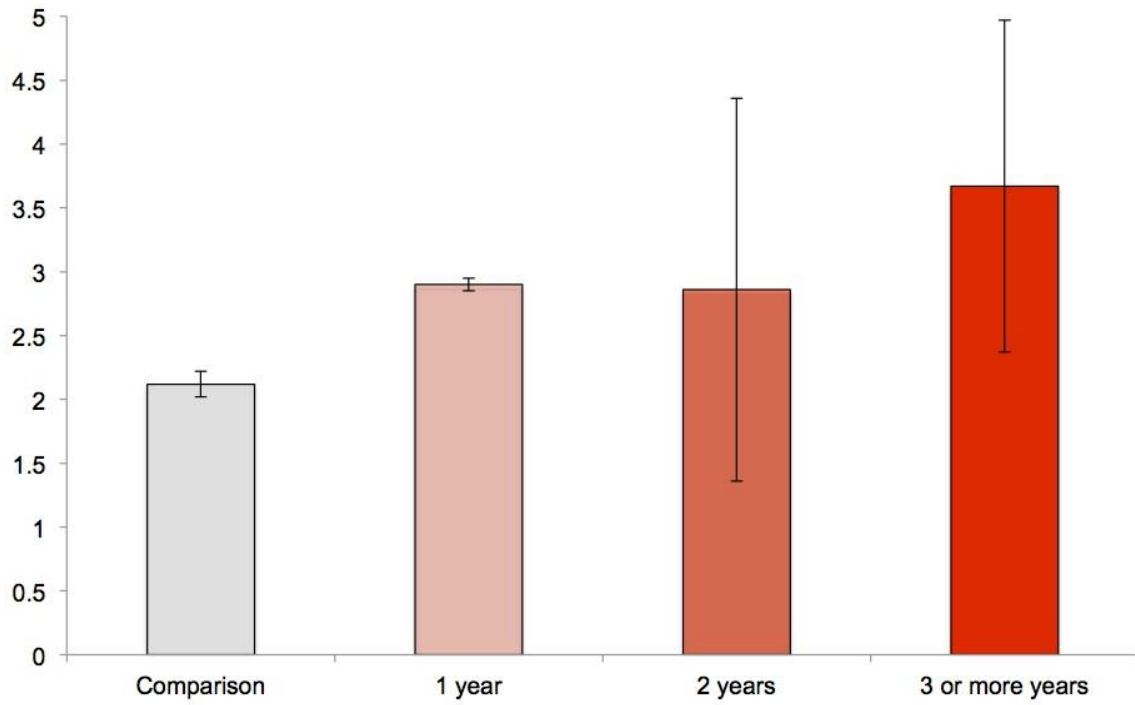
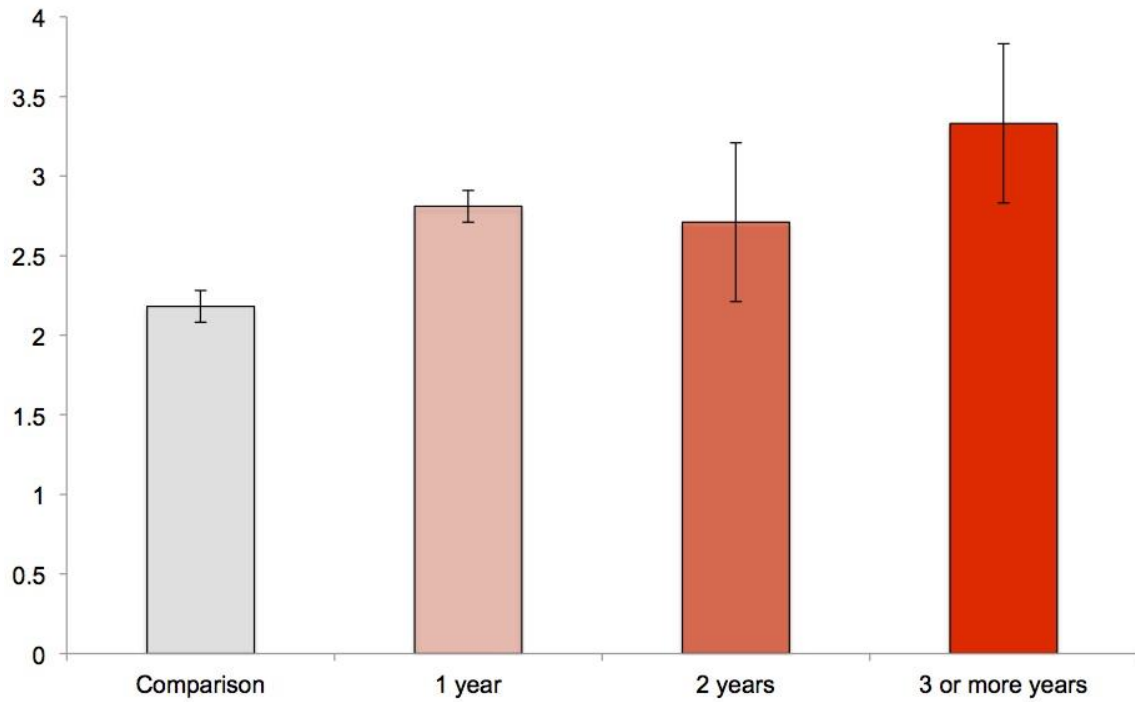


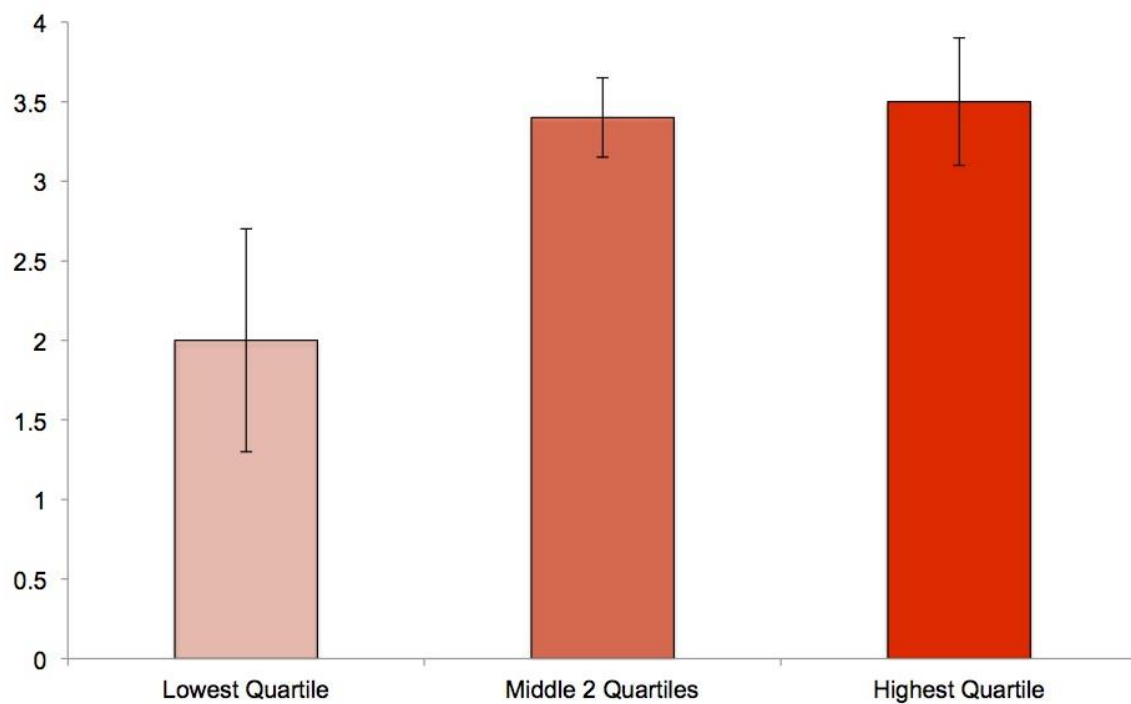
Figure 2b. Math Grades by Dosage



Associations were also observed between students' level of engagement in the program, as rated by their primary teaching artists, and their academic achievement. A positive relationship was observed between student engagement and year-end math grades ($r(19) = .31, p = .205$), and, more importantly, between engagement and the degree of positive change in students' math grades from the 1st to 3rd trimester ($r(26) = .35, p = .078$).

Figure 3 presents year-end math grades as a function of students' teacher-rated engagement in the program, with students divided into three groups according to their engagement scores: the lowest quartile of engagement scores, the two middle quartiles, and the top quartile.

Figure 3. Math Grades by Engagement Scores



Do students in CHAMPS display improved character?

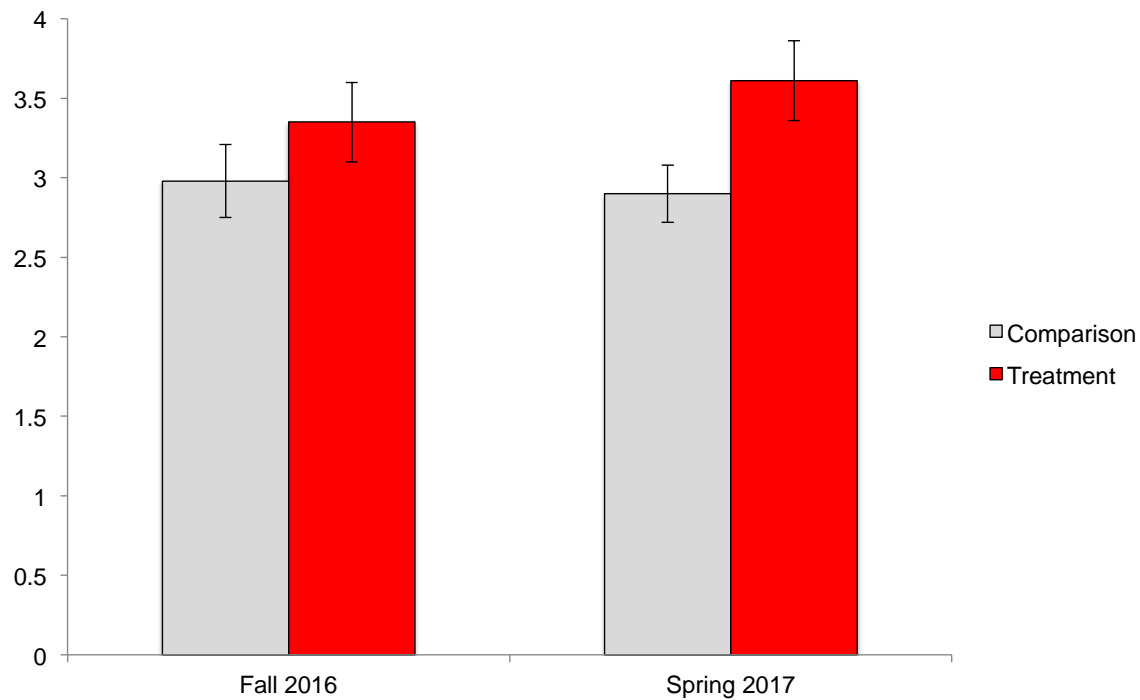
All 27 permitted students completed school booklets in both the fall and spring. The school booklet measures assessed students' cooperation, empathy, peer relations, academic self-concept, growth mindset, school engagement, academic self-efficacy, and perseverance in the context of their school. Table 3 below presents the descriptive statistics for measures of each of these domains in the fall and spring.

Table 3

Domain	Time	N	M	SD	Range		Skew	
					Min.	Max	G ₁	SE
Cooperation	Fall '16	27 (100%)	3.25	0.49	2.29	4.00	-0.23	0.45
	Spring '17	26 (96.3%)	3.42	0.49	2.29	4.00	-0.91	0.46
Empathy	Fall '16	27 (100%)	3.38	0.56	1.83	4.00	-0.84	0.45
	Spring '17	25 (92.6%)	3.15	0.71	1.83	4.00	-0.50	0.46
Peer Relations	Fall '16	27 (100%)	3.00	0.79	1.32	4.00	-0.54	0.45
	Spring '17	24 (88.9%)	3.00	0.73	1.64	4.00	-0.55	0.47
Academic Self-Concept	Fall '16	27 (98.3%)	3.21	0.58	1.91	4.00	-0.66	0.45
	Spring '17	24 (88.9%)	3.35	0.44	2.60	4.00	-0.24	0.47
Growth Mindset	Fall '16	25 (92.6%)	2.91	0.49	2.02	3.70	0.12	0.46
	Spring '17	25 (92.6%)	2.90	0.59	1.92	3.90	0.24	0.46
School Engagement	Fall '16	26 (96.3%)	3.30	0.61	2.11	4.00	-0.93	0.47
	Spring '17	24 (88.9%)	3.42	0.61	2.12	4.00	-0.93	0.47
Self-Efficacy	Fall '16	27 (100%)	3.40	0.38	2.54	4.00	-1.06	0.32
	Spring '17	25 (92.6%)	3.36	0.35	2.32	3.86	-1.99	0.46
Perseverance	Fall '16	26 (96.3%)	2.95	0.57	1.80	4.00	-0.12	0.46
	Spring '17	24 (88.9%)	2.99	0.51	2.01	4.00	0.27	0.47

Across multiple domains, between-group comparisons of fall 2016 (pre-) and spring 2017 (post-) scores revealed diverging trajectories between CHAMPS students and their peers. For example, cooperation scores among comparison-group students decreased from fall 2016 to spring 2017, while scores for CHAMPS students increased, such that by spring 2017 the difference in cooperation scores was statistically significant ($t(24) = -4.23, p < .001$; see Figure 4).

Figure 4. Change in Cooperation Scores



As summarized in Table 4, similar significant findings were observed for school engagement ($t(22) = -2.67, p = .014$), self efficacy ($t(23) = -2.69, p = .013$), and perseverance ($t(22) = -2.84, p = .010$): while no differences were observed between CHAMPS students and their peers in the Fall of 2016, by Spring 2017 CHAMPS students exhibited higher levels across all three domains.

Table 4

Domain	Time	Comparison		CHAMPS		Difference	
		<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (df)	<i>p</i>
School Engagement	Fall '16	3.22	0.45	3.31	0.61	-0.62 (24)	.543
	Spring '17	2.91	0.70	3.63	0.48	-2.67 (22)	.014
Self Efficacy	Fall '16	3.42	0.40	3.41	0.38	0.33 (25)	.743
	Spring '17	3.12	0.56	3.52	0.19	-2.69 (23)	.013
Perseverance	Fall '16	2.73	0.54	3.04	0.57	-1.37 (24)	.179
	Spring '17	2.61	0.37	3.11	0.46	-2.84 (22)	.010

Consistent with this finding was the fact that across many domains students enrolled in CHAMPS exhibited more positive change (or a smaller amount of negative change) during the program year than students who were not enrolled. As is displayed in Table 5, CHAMPS

students exhibited gains in their cooperation, school engagement, and self efficacy scores over the course of the academic year, while their peers exhibited a loss over this time period.

Table 5

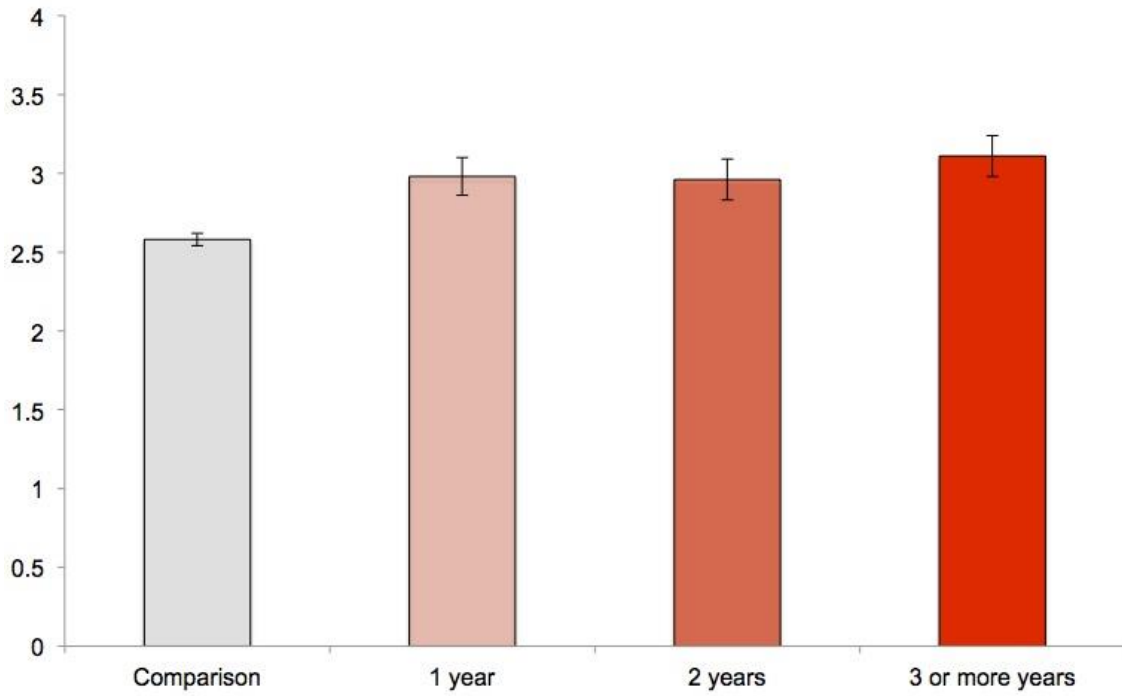
Domain	Comparison				CHAMPS			
	<i>M</i> change	<i>SE</i> change	<i>t</i> (df)	<i>p</i>	<i>M</i> change	<i>SE</i> change	<i>t</i> (df)	<i>p</i>
Cooperation	-0.08	0.28	-0.27 (6)	.795	0.25	0.11	0.28 (23)	.781
School Engagement	-0.17	0.22	-0.78 (6)	.469	0.23	0.15	1.51 (16)	.151
Self Efficacy	-0.39	0.12	-0.99 (5)	.364	0.07	0.11	0.65 (18)	.523

A consistent pattern of variability in spring 2017 scores was observed as a function of the number of years students had been enrolled in CHAMPS. Students enrolled in CHAMPS for any number of years exhibited higher scores than students who were not enrolled in the program. However, the differences were most pronounced for students in the program for less than 1 year or 3 or more years. Mean scores by dosage are reported in Table 6.

Table 6

Domain	Comparison		CHAMPS 1 year		CHAMPS 2 years		CHAMPS 3 or more years		Difference	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>F</i> (df)	<i>p</i>
Cooperation	3.00	0.54	3.41	0.65	3.14	0.76	3.41	0.55	0.90 (3, 28)	.453
Empathy	2.80	0.43	3.13	0.95	2.96	1.02	3.20	0.76	0.36 (3, 28)	.784
Growth Mindset	2.58	0.20	2.98	0.64	2.96	0.65	3.11	0.67	1.15 (3, 28)	.343
Self Efficacy	3.15	0.51	3.21	0.58	3.10	0.75	3.45	0.11	.416 (3, 28)	.743

Figure 5. Growth Mindset Scores by Years Enrollment



As noted above, both students and their in-class teachers were asked to complete measures of additional dimensions of students' character: interpersonal skills, future orientation, and personal strengths. Table 7 summarizes these measures for all permitted students.

Table 7

Child Measures								
Domain	Time	<i>N</i>	<i>M</i>	<i>SD</i>	Range		Skew	
					Min.	Max	<i>G</i> ₁	<i>SE</i>
Interpersonal Skills	Fall '16	25 (92.6%)	3.19	0.46	2.13	4.00	-0.33	0.46
	Spring '17	21 (77.8%)	3.27	0.52	1.93	4.00	-1.17	0.50
Future Orientation	Fall '16	26 (96.2%)	3.64	0.36	2.83	4.00	-0.59	0.46
	Spring '17	25 (96.2%)	3.59	0.52	1.86	4.00	-1.96	0.49
Personal Strengths	Fall '16	26 (96.2%)	3.13	0.48	2.05	3.80	-0.70	0.46
	Spring '17	20 (74.1%)	3.15	0.53	2.25	3.85	-0.33	0.52
Teacher Measures								
Domain	Time	<i>N</i>	<i>M</i>	<i>SD</i>	Range		Skew	
					Min.	Max	<i>G</i> ₁	<i>SE</i>
Cooperation	Fall '16	27 (100%)	3.35	0.65	1.94	4.00	-0.48	0.45
	Spring '17	26 (96.3%)	3.22	0.51	2.00	4.00	0.27	0.46
Empathy	Fall '16	27 (100%)	3.34	0.62	2.00	4.00	-0.39	0.45
	Spring '17	26 (96.3%)	3.22	0.52	2.00	4.00	0.37	0.46
Interpersonal Skills	Fall '16	27 (100%)	3.35	0.62	2.00	4.00	-0.44	0.45
	Spring '17	26 (96.3%)	3.22	0.54	1.75	4.00	-0.20	0.46

Results for these measures were broadly similar to those for the measures of character used in the national study. First, while students in both groups reported similar scores for interpersonal skills and future orientation in the fall of 2016, by the spring CHAMPS students reported significantly higher scores for both of these measures (see Figure 6). Second, while students enrolled in CHAMPS for any number of years exhibited higher levels on these measures of character than their peers, in most cases increasing years of enrollment in CHAMPS were associated with still higher scores (see Figure 7). Finally, students rated as more highly engaged in CHAMPS exhibited higher levels of character than students rated as less engaged.

Figure 6. Interpersonal Skills by Group

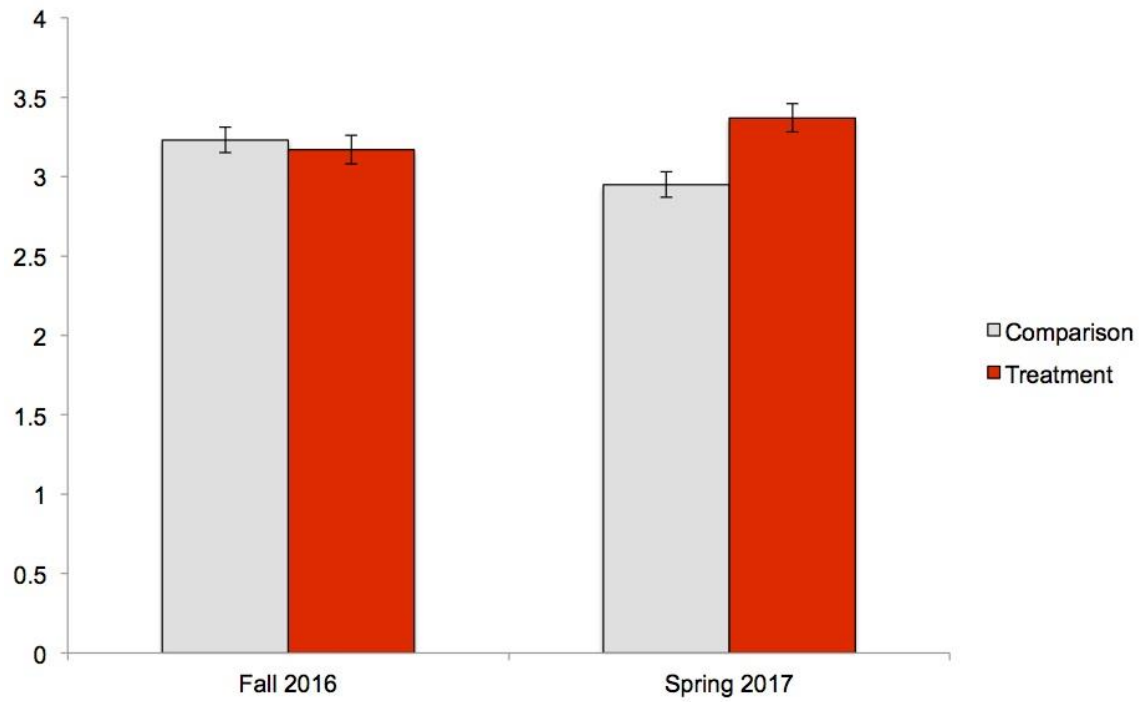
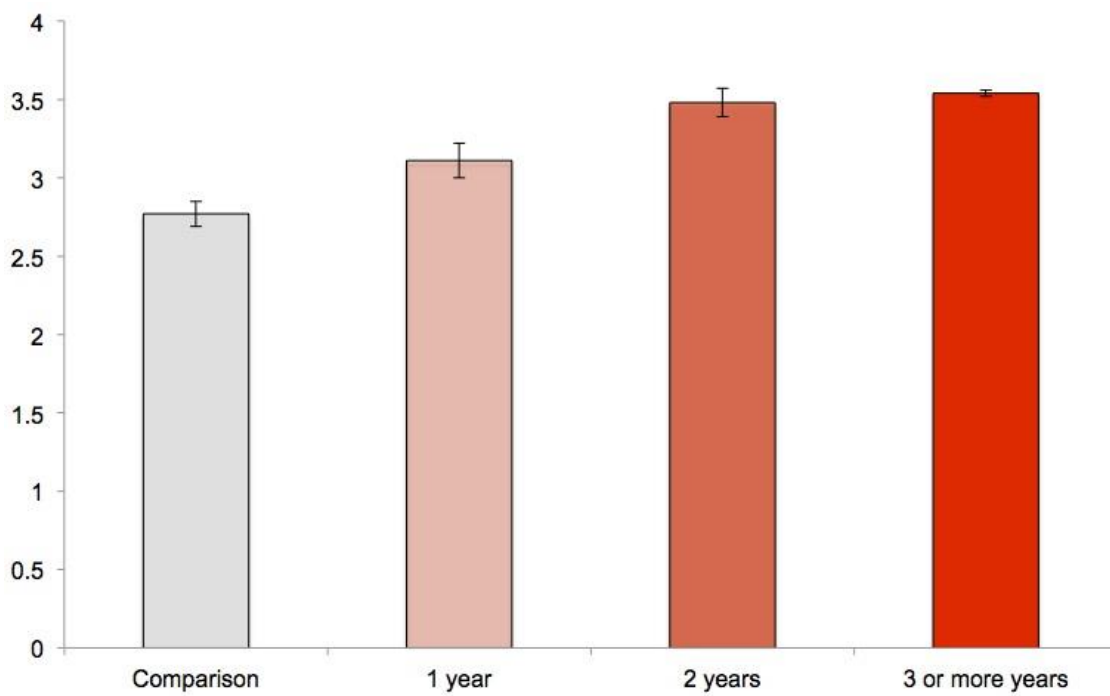


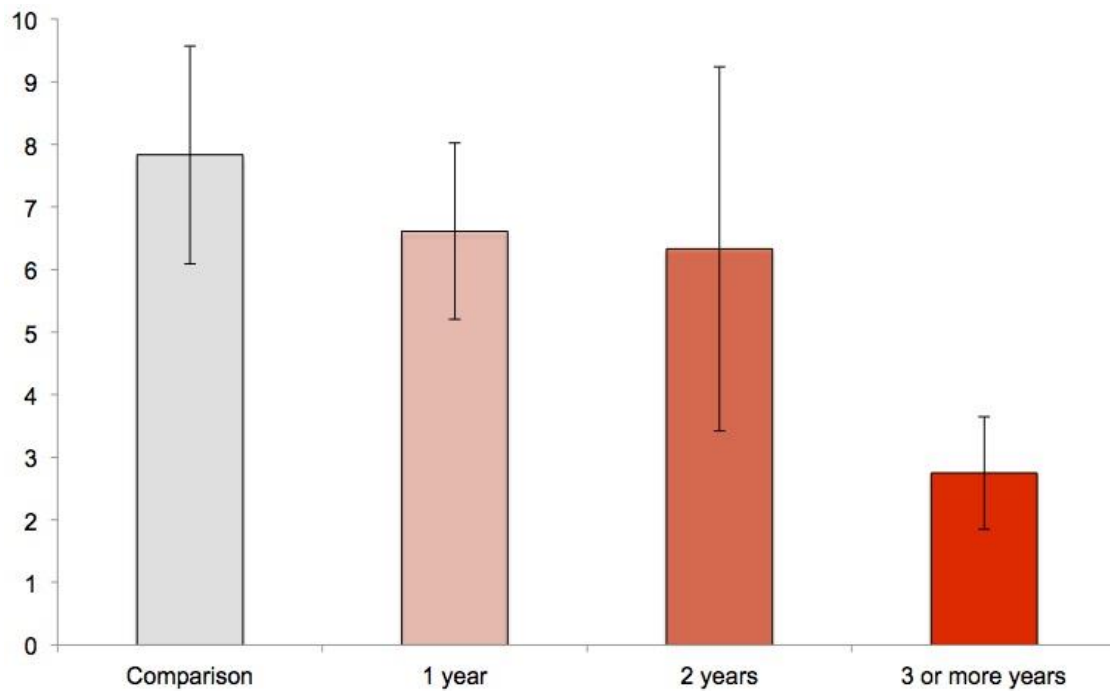
Figure 7. Personal Strengths by Dosage



Unfortunately, the results of our analyses of measures completed by teachers could not be interpreted. Most teachers provided the same response to all items for a given student (and, in some cases, for all students). While this ensured that measures were completed quickly, it also rendered the measures invalid indicators of students' character.

Our final measure of character was students' absences from school. Students in CHAMPS ($M = 5.80, SD = 5.47$) missed, on average, approximately two fewer days of school than their comparison-group peers ($M = 7.83, SD = 9.05$). However, much of this difference was attributable to lower rates of absence among students who had been enrolled in CHAMPS for 3 or more years (see Figure 8).

Figure 8. Absences by Dosage



Do students in CHAMPS exhibit musical growth over the course of the program year?

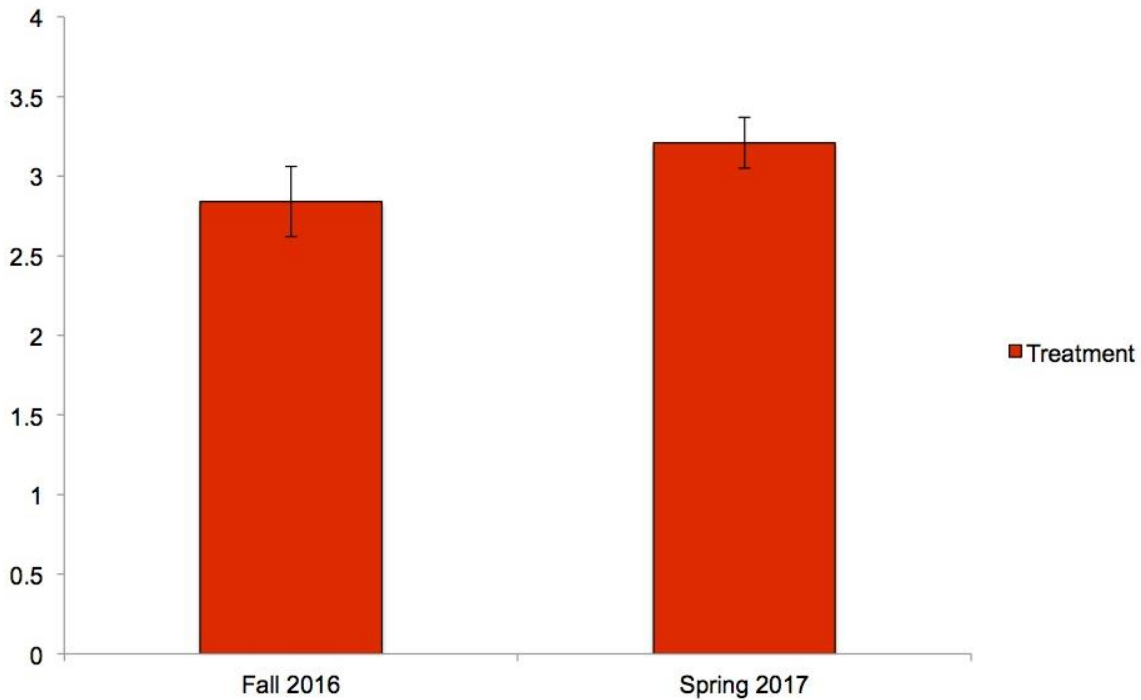
One way to assess students’ musical growth is to examine how aspects of their character may change in the context of the program. To this end, students enrolled in CHAMPS were asked to rate themselves along the same domains featured in the school booklet, but in the context of CHAMPS. Pairs of music booklet measures were collected in the fall of 2016 and spring of 2017 from 13 (38%) students who were enrolled in CHAMPS. Given that there was no comparison group, all analyses focused on change within students over time.

These analyses revealed that students’ scores increased in the domains of growth mindset, musical self-concept, and program engagement (see Table 8). In the case of growth mindset, the degree of change was very nearly significant ($t(6) = -2.37, p = .055$; see Figure 9).

Table 8

Domain	Fall 2016		Spring 2017		Difference	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>t</i> (df)	<i>p</i>
Growth Mindset	2.84	0.79	3.21	0.16	-2.37 (6)	.055
Musical Self Concept	3.41	0.21	3.58	0.15	-1.45 (6)	.197
Program Engagement	3.30	0.27	3.54	0.21	-1.67 (6)	.145

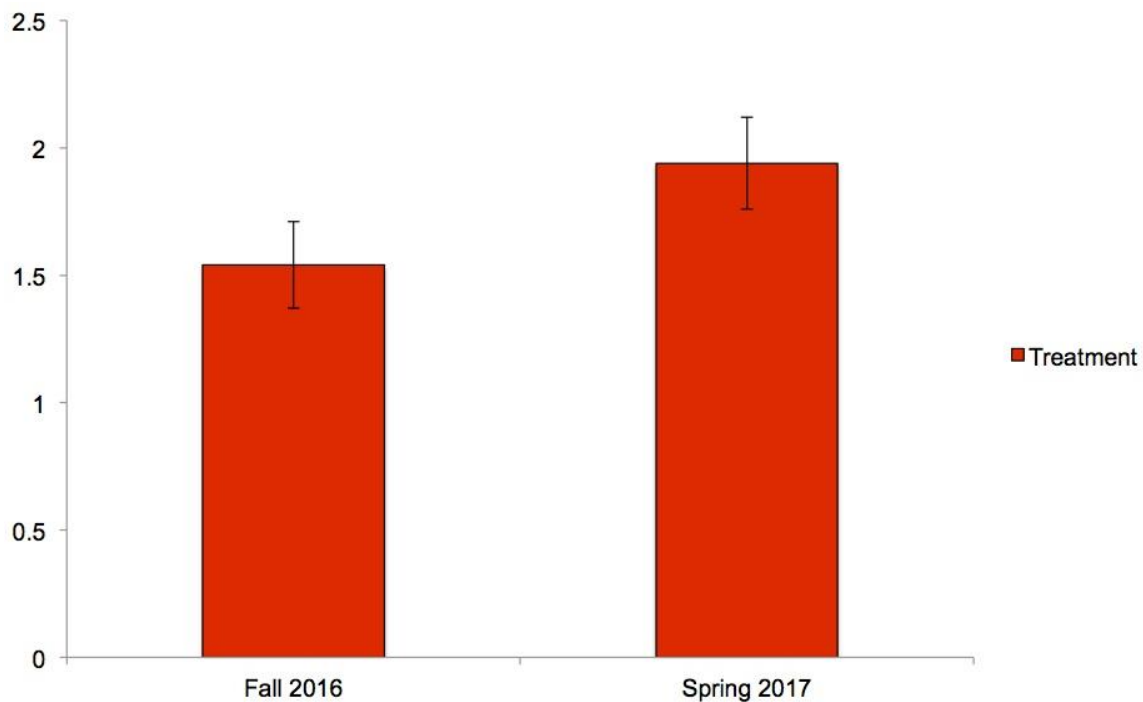
Figure 9. Change in Growth Mindset over Time among CHAMPS Students



A positive relation was also observed between engagement and change in music booklet scores from the fall of 2016 to the spring of 2017 for academic behaviors, peer relations, musical self concept, and musical self efficacy. While the magnitude of these relations varied ($r(11) = [.02, .28]$), those for academic behaviors ($r(11) = .24$) and musical self efficacy ($r(11) = .27$) were substantial.

Students' musical growth was also addressed in a more direct fashion through juried assessments of their playing in fall 2016 and spring 2017. Fourteen students completed both juries; of these, nine (64.3%) exhibited a positive change in their scores for the first excerpt (for reasons noted above, scores for the second excerpt were not analyzed). Across all students, the average change in scores corresponded to approximately half a point ($M = 0.40$, $SD = .53$), or half of the difference between a student rated at a "basic" level of playing and one rated as "proficient" (see Figure 10). This change was statistically significant ($t(13) = 2.86$, $p = .013$), and corresponded to a medium to large effect size ($d = .65$).

Figure 10. Change in Jury Scores over Time



As would be expected, students who were enrolled in the program for 3 or more years exhibited higher year-end jury scores than their peers who had been enrolled for 1 or 2 years. However, students' engagement in the program was also a predictor of musical growth ($r(14) = .43$, $p = .160$).

Discussion

As noted in the introduction, our report was designed to answer three questions. Here we discuss what our results revealed about the answers to each of these questions.

Do students enrolled in CHAMPS exhibit higher levels of academic achievement?

Students in CHAMPS exhibited higher average grades in English language arts (ELA) and math than their peers who were not enrolled in the program. This finding is consistent with the results reported for the 2015-16 academic year, as is the fact that students in CHAMPS exhibited a much more rapid increase in their ELA grades over the course of the academic year. The “average” student who was not enrolled in CHAMPS began and ended the 2016-17 academic year with a C grade in ELA. The average CHAMPS student began the year with a B- and ended with a B+/A-.

As was the case in 2015-16, students who were particularly engaged in CHAMPS exhibited especially high levels of academic achievement, whether engagement was defined in terms of ‘dosage’ (the number of years students were in the program), or by teaching-artist ratings of student engagement. When defined as the number of years in the program, students who were enrolled in CHAMPS for 3 or more years exhibited year-end grades in ELA and math that were, on average, a full letter grade higher than those for their unenrolled peers.

Do students in CHAMPS display improved character?

Character was measured in two ways. First, all permitted students completed a booklet of measures used in the National Study of El Sistema-Inspired programs. Across multiple domains of character, students enrolled in CHAMPS exhibited a distinctly different pattern of change over time than their peers, such that by the end of the 2016-17 academic year CHAMPS students displayed significantly higher levels of cooperation, school engagement, academic self efficacy, and perseverance. As was the case in 2015-16, while students in CHAMPS for any number of years exhibited higher levels of character than their unenrolled peers, students enrolled in the program for 3 or more years displayed markedly higher levels of character.

Second, students completed a supplementary set of measures designed to assess three additional aspects of character: interpersonal skills, future orientation, and personal strengths. A complementary set of measures were administered to students’ in-school teachers, but for reasons noted above these data were of dubious quality and were therefore excluded from our analyses. However, the results for the additional student measures were broadly consistent with those used in the National Study: students in CHAMPS exhibited increases in interpersonal skills, such that by the end of the academic year their scores were significantly higher than those of their unenrolled peers.

As was the case in 2015-16, students enrolled in CHAMPS missed, on average, two fewer days of schools than their unenrolled peers. However, unlike in 2015-16, this overall difference in absences was disproportionately attributable to the difference in absences

between students enrolled in CHAMPS for 3 or more years and those who were not enrolled in the program.

Do students in CHAMPS exhibit musical growth over the course of the program year?

Musical growth was defined in two ways: first, as growth in aspects of character within the context of the CHAMPS program, and second, as growth in students' musical ability. In both cases, the focus of our analyses necessarily shifted when we examined character in the context of the CHAMPS program, as these analyses could only be performed with students who were in the program.

These analyses indicated that students' levels of musical growth mindset, musical self-concept (self-concept in the context of the program), and engagement in CHAMPS increased over the course of the year. Moreover, a positive relation was observed between students' engagement in the program (as rated by their primary teaching artist) and all aspects of character that were assessed. Particularly robust relations were observed between engagement and academic behaviors and musical self efficacy.

As was the case in 2015-16, the majority (nearly two-thirds) of students enrolled in CHAMPS exhibited positive change in their overall jury scores, and as in 2015-16, the size of the difference corresponded to half a rating level (e.g., half the difference between a rating of "basic" and "proficient"). The degree of growth was not only statistically significant, but medium-to-large in the parlance of effect sizes.

Implications and Future Directions

Evidence from our past evaluations strongly suggests that students enrolled in CHAMPS for multiple years benefit the most from the program. It is therefore in students' best interest to remain in the program as long as possible, and it is in the best interest of CHAMPS to document the gains made by these students over multiple years. However, for a combination of reasons related to retention and parental permissions, students do not typically provide data for consecutive years.

As CHAMPS begins its work at its new site, we should discuss how best to retain students from year to year, and how to incentivize families' participation in the evaluation. In particular, we need to increase the number of comparison group students participating in the evaluation. If it is not possible to obtain permissions from a sizable number of students, we should explore whether evaluating data from extant records, without the intent of sharing it more broadly (which requires parental permission), would be most worthwhile during the first year of implementation at the new site.

We should also discuss how to ensure that the data being collected are of uniformly high quality. While this has not been an issue in previous years of the evaluation, this year problems were observed in two sets of data: first, responses on measures completed by students' in-school teachers were neither careful nor thoughtful. Second – and for the first time in the course of our work – jurors did not display a high degree of agreement when rating students on one of the excerpts.

Conclusion

As noted in our previous report, we cannot rule out the possibility that whose families elect for them to participate in CHAMPS are somehow different than their peers, and that these differences account to at least some extent for the relationship between participation and more positive outcomes. However, across multiple seasons our results indicate not only that CHAMPS students exhibit higher levels of academic achievement and character than their peers, but that higher levels of these outcomes are systematically related to higher degrees of program engagement, measured both in terms of years of enrollment or teacher ratings. These results constitute increasingly strong evidence that CHAMPS is achieving its goals and, in so doing, bettering the lives of its participants.

Works Cited

- Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences*. Mahwah, NJ: Erlbaum.
- Duckworth, A. L., Peterson, C., Matthews, M. D., & Kelly, D. R. (2007). Grit: Perseverance and passion for long-term goals. *Journal of Personality and Social Psychology, 92*, 1087-1101.
- Epstein, M. H. (2004). *BERS-2: Behavioral and Emotional Rating Scale*. Austin, TX: Pro-Ed.
- Goodman, R. (2006). *The Strengths and Difficulties Questionnaire*. Available online at: www.sdqinfo.com.
- Gresham, F., & Elliott, S. N. (2008). *Social Skills Improvement System (SSIS)*. San Antonio, TX: Pearson Assessments.
- Longscan. (1998). *Future Events Questionnaire*. Chapel Hill, NC: The Longitudinal Studies of Child Abuse and Neglect.