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STRENGTHENING SOCIAL AND
EMOTIONAL HEALTH

RECAP Special Report: 2014 UPK Summer Program Outcome Summary

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Table of Contents

Acknowledgements	1
Sample and Procedure Description	2
Child Observation Record (COR)	2
COR Outcome Analyses	4
Conclusion	12

Acknowledgements

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Sample and Procedure Description

This report summarizes results from assessments of 48 children who were pre-kindergarteners during the 2013-2014 school year and who participated in a 30-day summer program, offered by either the Rochester Childfirst Network, the Friendship Children's Center, or the Harley School during July and August of 2014. The sample included 26 girls (54%) and 22 boys (46%). Of the 39 children for whom ethnicity was recorded, 27 were black (69%), 9 were Hispanic (23%), and 3 were white (8%). Children's ages as of June 30, 2014 ranged from 4.6 to 5.6 years, with a median of 5.0 years. Attendance for the children included in this report's analyses ranged from 16 to 30 days, with a median of 23 days out of 30.

Classroom Observation Record information (see below) was collected at three points: fall 2013, spring 2014, and summer 2014, near the end of the summer program. Only children with complete COR data from all three times were included in the analyses for this report.

Child Observation Record (COR)

The COR was created and released in 1992 by the HighScope Educational Research Foundation, a nonprofit organization dedicated to the development and evaluation of materials that teach and assess young children. It is a teacher-completed instrument developmentally appropriate for young children. Its 32 items measure academic (language, literacy, mathematics, and science), social, and motor competencies. Each item is scored on a 5-point, developmentally sequenced, scale where each point represents a level of children's growth along a developmental continuum.

Teachers completed the COR in the fall and spring of pre-k and near the end of the summer program. By administering the COR at these times, the growth of the individual student can be assessed.

Teachers complete the COR for their students using the COMET system, which tabulates and processes the data and produces child summary reports almost instantly. These reports show the average raw and percentile scores in four skill areas. The individual items within their respective skill areas are:

- ❖ **Initiative & Social:**
 - Making choices and plans
 - Solving problems with materials
 - Initiating play
 - Taking care of personal needs
 - Relating to adults
 - Relating to other children
 - Resolving interpersonal conflict
 - Understanding and expressing feelings

- ❖ ***Language & Literacy:*** Showing awareness of sounds in words
Using letter names and sounds
Reading
Writing
Counting
- ❖ ***Movement & Music:*** Moving in various ways
Moving with objects
Feeling and expressing steady beat
Moving to music
Singing
- ❖ ***Math & Science:*** Comparing properties
Identifying position and direction
Identifying sequence change and causality
Identifying materials and properties
Identifying natural and living things

An overall score combining all the items is calculated as well.

COR Outcome Analyses

Repeated-measures analyses of variance (RANOVAs) were conducted to assess changes over time in COR scores. The analyses were conducted initially using all three times of testing, then only using spring and summer scores to determine the contribution of the summer program alone. The median dates of COR completion were November 5, 2013, May 18, 2014, and August 10, 2014. Results, based upon ratings of 48 children, are presented in the table and figures below.

Table 1. Descriptive statistics and RANOVA results for COR scores.

		Mean	SD	Fall, Spring, Summer		Spring, Summer	
				F	p	F	p
Initiative & Social	Fall, 2013	2.70	0.80				
	Spring, 2014	3.52	1.05				
	Summer, 2014	3.80	0.86	103.44	< .001	14.29	< .001
Language & Literacy	Fall, 2013	2.40	0.91				
	Spring, 2014	3.26	0.98				
	Summer, 2014	3.56	0.82	81.61	< .001	14.3	< .001
Movement & Music	Fall, 2013	2.72	0.81				
	Spring, 2014	3.58	0.96				
	Summer, 2014	3.96	0.81	64.53	< .001	17.81	< .001
Mathematics & Science	Fall, 2013	2.13	0.97				
	Spring, 2014	3.17	1.14				
	Summer, 2014	3.55	0.95	90.99	< .001	21.86	< .001
Overall	Fall, 2013	2.49	0.81				
	Spring, 2014	3.38	0.98				
	Summer, 2014	3.70	0.84	105.5	< .001	20.64	< .001

Figure 1. COR Initiative & Social results at three times of testing.

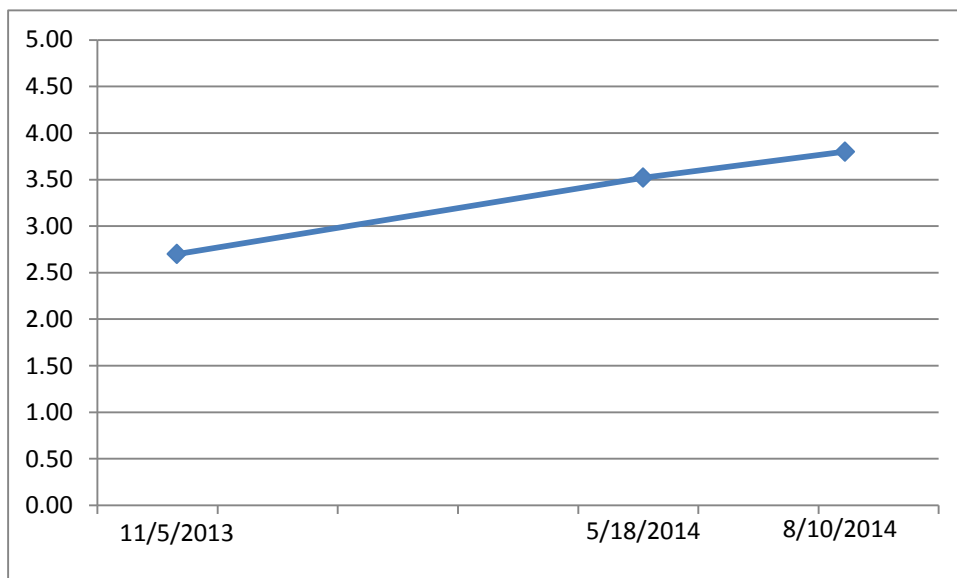


Figure 2. COR Language & Literacy results at three times of testing.

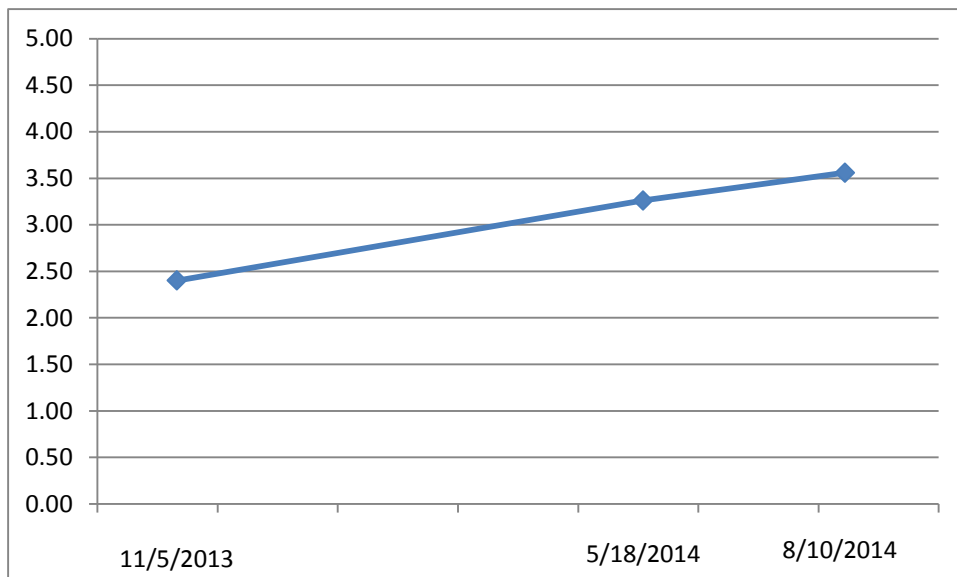


Figure 3. COR Movement & Music results at three times of testing.

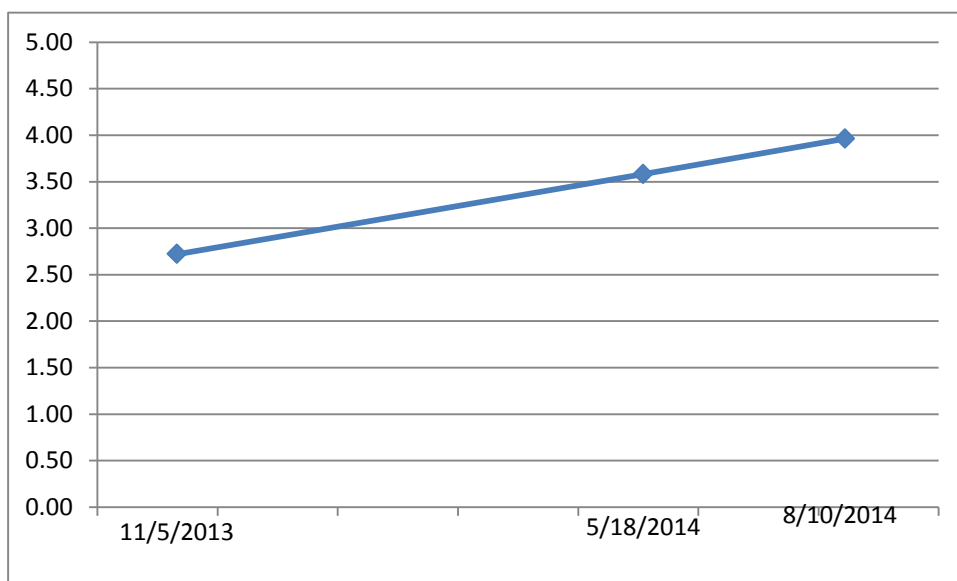


Figure 4. COR Mathematics & Science results at three times of testing.

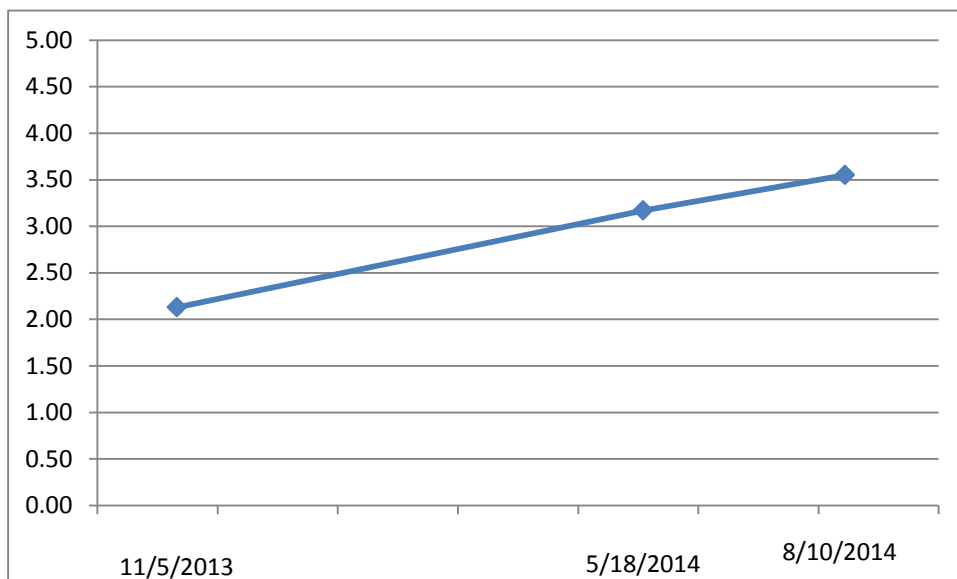
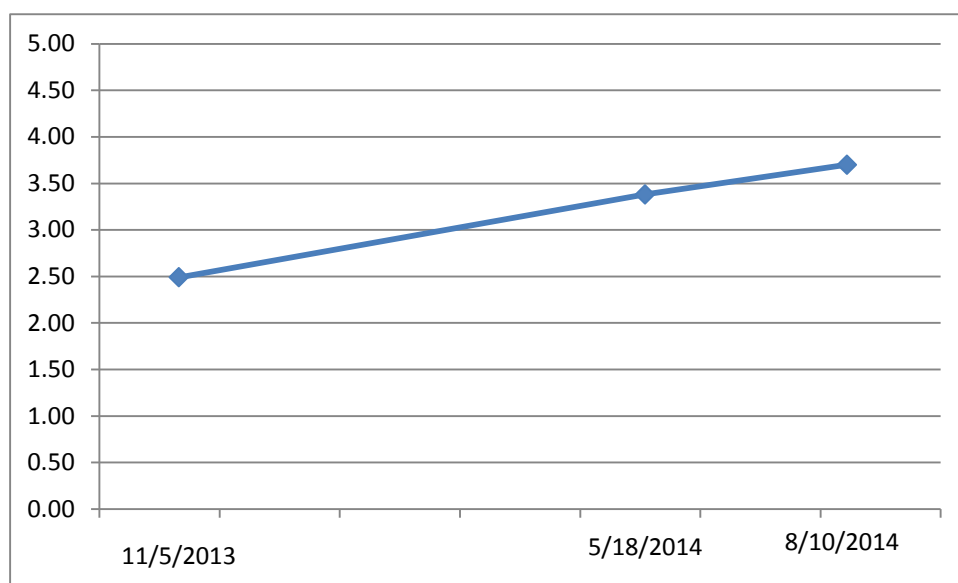


Figure 5. COR Overall score results at three times of testing.



Each of the COR subscale and overall scores showed statistically significant increases over the three times of testing. Students' rate of growth on the COR from fall to spring was statistically significant as was their rate of growth over the period associated with the summer programs. Interestingly, the rate of growth appears to be constant when represented as a function of time.

Summer program attendance was variable. In order to examine results using relatively frequent attendees, the analyses were repeated using only children who attended at least 24 days, that is, at least 80% of the time. Of the original 48, 25 children (52%) met this criterion. Results for this group are shown in Table 2, and Figures 6-10, below.

Table 2. Descriptive statistics and RANOVA results for COR scores from children with at least 80% attendance.

				Fall, Spring, Summer		Spring, Summer	
		Mean	SD	F	p	F	p
Initiative & Social	Fall, 2013	2.70	0.64				
	Spring, 2014	3.52	0.85				
	Summer, 2014	3.78	0.65	76.12	< .001	11.70	.002
Language & Literacy	Fall, 2013	2.29	0.72				
	Spring, 2014	3.13	0.72				
	Summer, 2014	3.54	0.60	49.44	< .001	28.94	< .001
Movement & Music	Fall, 2013	2.64	0.75				
	Spring, 2014	3.64	0.92				
	Summer, 2014	4.03	0.57	55.26	< .001	14.36	.001
Mathematics & Science	Fall, 2013	1.97	0.79				
	Spring, 2014	2.96	0.95				
	Summer, 2014	3.47	0.71	52.3	< .001	27.90	< .001
Overall	Fall, 2013	2.40	0.66				
	Spring, 2014	3.31	0.78				
	Summer, 2014	3.70	0.56	82.57	< .001	35.43	< .001

Figure 6. COR Initiative & Social results at three times of testing for 80% attendance group.

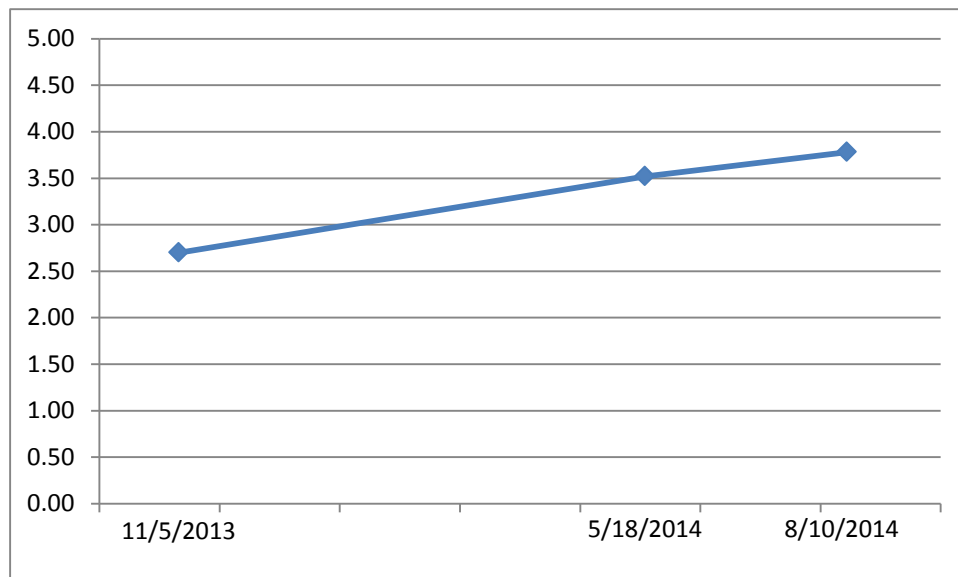


Figure 7. COR Language & Literacy results at three times of testing for 80% attendance group.

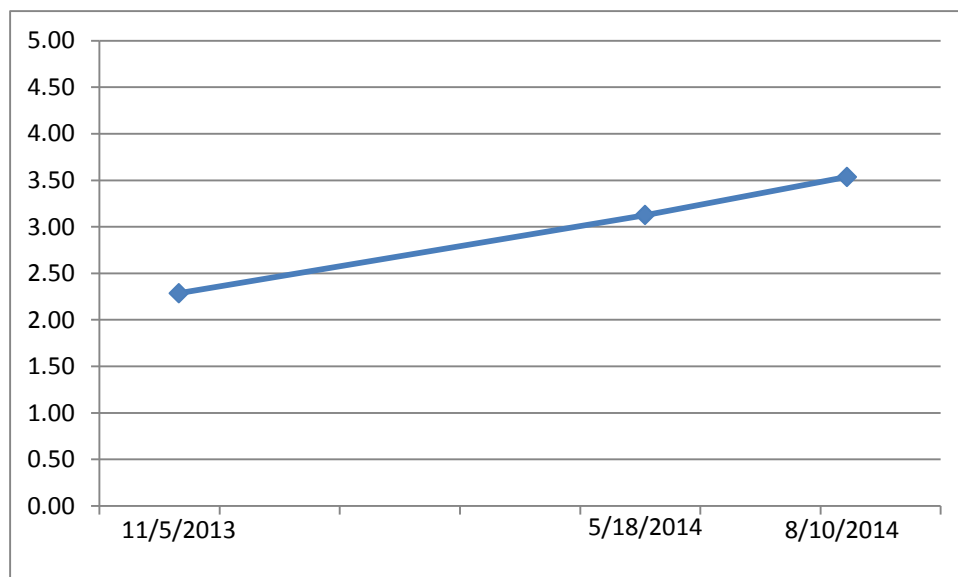


Figure 8. COR Movement & Music results at three times of testing for 80% attendance group.

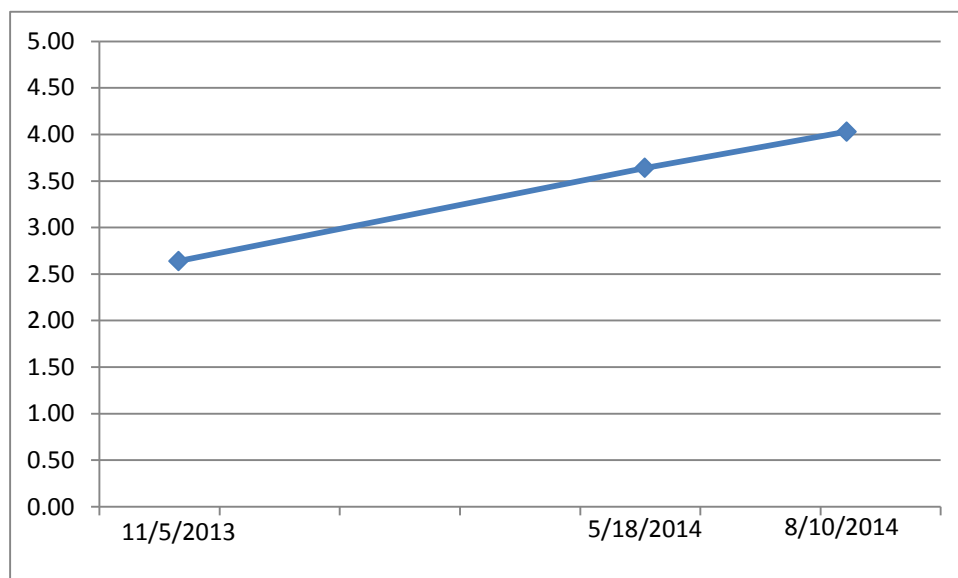


Figure 9. COR Mathematics & Science results at three times of testing for 80% attendance group.

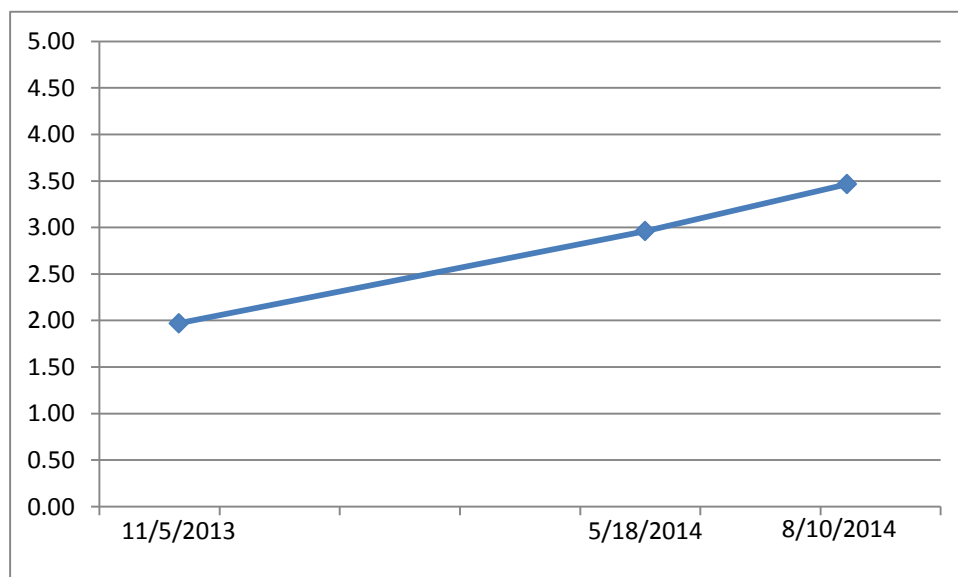
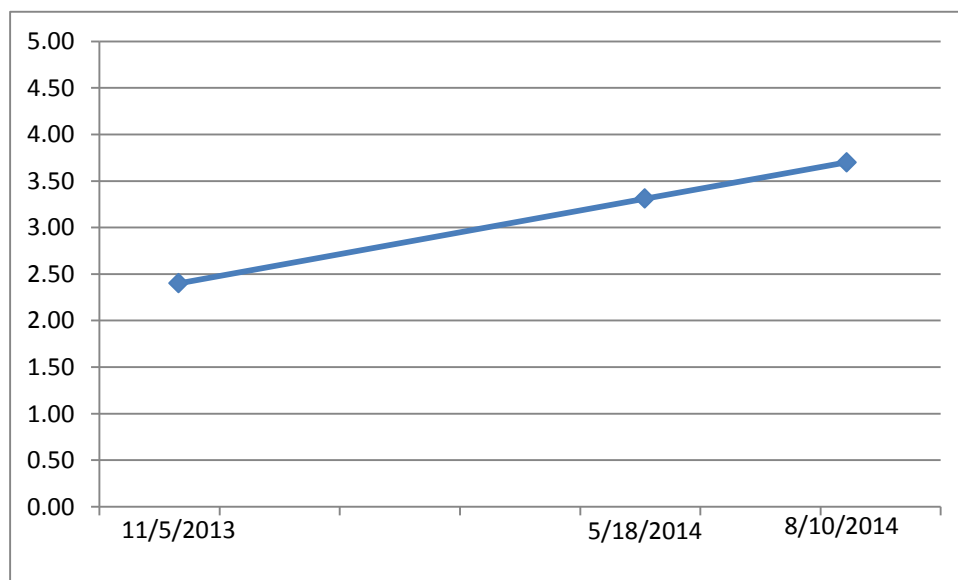


Figure 10. COR Overall results at three times of testing for 80% attendance group.



The results for the 80% and greater attendance group did not appreciably differ from those for the full sample. To further investigate the relationship between summer program attendance and COR outcomes, correlations between attendance and COR scores were calculated. These appear in Table 3.

Table 3. Correlations between days of summer program attendance and COR.

	Initiative & Social	Language & Literacy	Movement & Music	Mathematics & Science	Overall
Days attended	-.04	.00	.06	-.03	.00

No systematic relationship between summer program attendance and COR results was found.

Conclusion

The results of this evaluation suggest that these summer programs, following a quality pre-k experience, result in enhanced academic, motor, and social skills, when compared to the benefits provided by the pre-k program alone. The HighScope Educational Research Foundation has indicated that children scoring within the 4.0 – 5.0 range for the COR may be considered ready for kindergarten. The mean overall score for this group at the end of the pre-k session was 3.38. The summer program raised this to 3.70 – still not within the preferred range for every participant, but significantly nearer than with pre-k alone.

The optimal duration of the summer program requires more investigation, as the number of days of program attendance, within the range of 16-30 days, was unrelated to COR outcomes for this group.

We have no data to determine the extent of erosion between the end of the summer program and the beginning of kindergarten. It is reasonable to expect that there was some, but that it was less than it would have been without the summer activities, since less time elapsed until the beginning of kindergarten classes for those children receiving the summer program.

These results are based upon a relatively small sample, which was not randomly selected from the population of pre-k participants. It is possible that the sample, and therefore the results presented, are not representative of the overall Rochester pre-kindergarten population, although the main findings are very strong.