Readiness for Kindergarten 2016

A Continuation Study Conducted for the
Mayor's Commission for Children
Springfield, Missouri
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INTRODUCTION

In 2006, nine area school districts participated in the *Readiness for Kindergarten* study conducted by the Mayor's Commission for Children. In 2010, the first follow-up study was conducted with four of the original school districts from the initial study. The technical reports describing in detail the rationale, methodology and results may be viewed at the following website: www.redwagonkids.net.

Additional follow-up studies were conducted in 2014 and 2016 with three of the original area school districts: Springfield, Strafford and Fair Grove. The methodology employed in 2014 and 2016 differed from than employed in 2006 and 2010 in that surveys were electronically administered rather than administered in paper and pencil form. Also, newer versions of survey materials were employed beginning in 2014 and additional questions regarding classroom aggression, ethnicity, and race were added in 2016. A copy of the survey may be found in Appendix A. A random sample of five kindergarten students was drawn from each of the 108 classrooms of these districts. A total of 540 surveys were requested from teachers between September 23rd and October 28th, 2016.

A total of 389 surveys were completed for a response rate of 72%. However, 45 of the children for whom surveys were completed were already age six at the time the survey was administered. After those surveys were removed, the final data set contained 344 records for analysis. (Because of missing data, not all analyses reflect all 344 records.)

The survey contained 38 Devereux Early Childhood Assessment (DECA) questions to assess the children's social and emotional development. This contrasts with the prior version's 37-item DECA scale (although many of the items were identical or very similar in the old and new DECAs allowing for meaningful comparisons). In addition, some demographic and experiential data were gathered and reported. Included in these other data were DIAL-4 percentiles which reflect motor, language and concept development and which allow for limited contrasts with the DIAL-3 percentiles supporting the earlier 2006 and 2010 reports. The primary goals of the 2014 and 2016 study were to provide time-lag comparisons with the findings of the 2006 and 2010 research.

FINDINGS FROM THE CURRENT SURVEY, OCTOBER, 2016

Kindergarten readiness and its relationships with free/reduced lunch status, attendance at a public preschool program and gender:

<u>Overall, how do teachers evaluate the kindergarten readiness of their students?</u>

|	Not prepared	Prepared	Well prepared	Not Sure
N=344	85 (24.7%)	160 (46.5%)	95 (27.6%)	4 (1.2%)
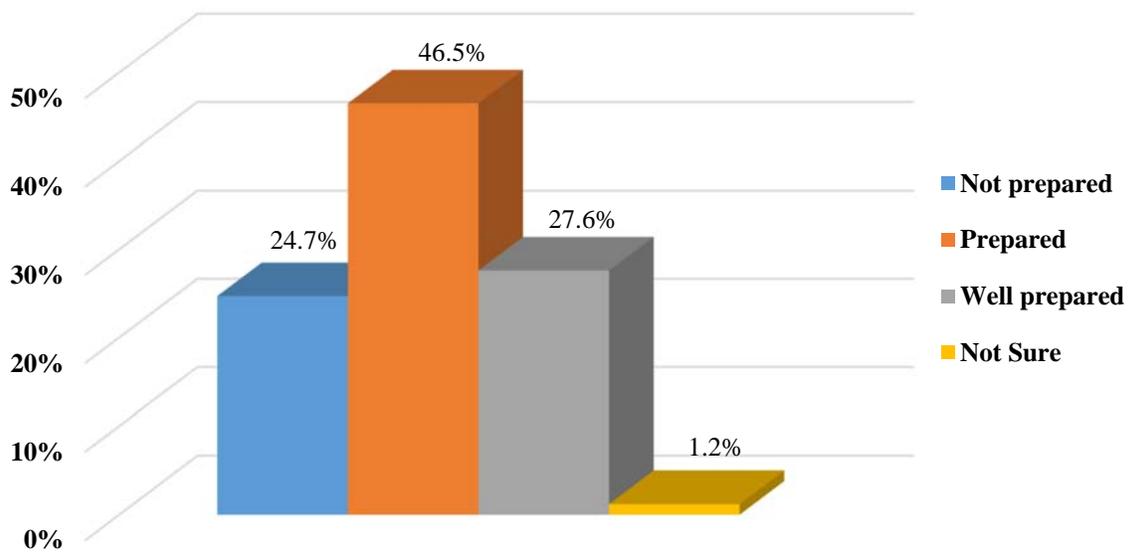
Teachers' Evaluation of Students' Readiness to Enter Kindergardern

Is there a statistically significant relationship between student SES and Kindergarten Readiness?

Yes. A higher proportion of students eligible for Free/Reduced lunch were described by their teachers as *not prepared* for kindergarten. And, a significantly higher proportion of students paying regular lunch prices were described as *well prepared* for kindergarten.

|	Not prepared	Prepared	Well prepared	Not sure
FR Lunch, N = 151 (49.2%)	48 (31.8%)	77 (51%)	24 (15.9%)	2 (1.3%)
Reg Lunch, N = 156 (50.8%)	26 (16.7%)	70 (44.9%)	58 (37.2%)	2 (1.3%)
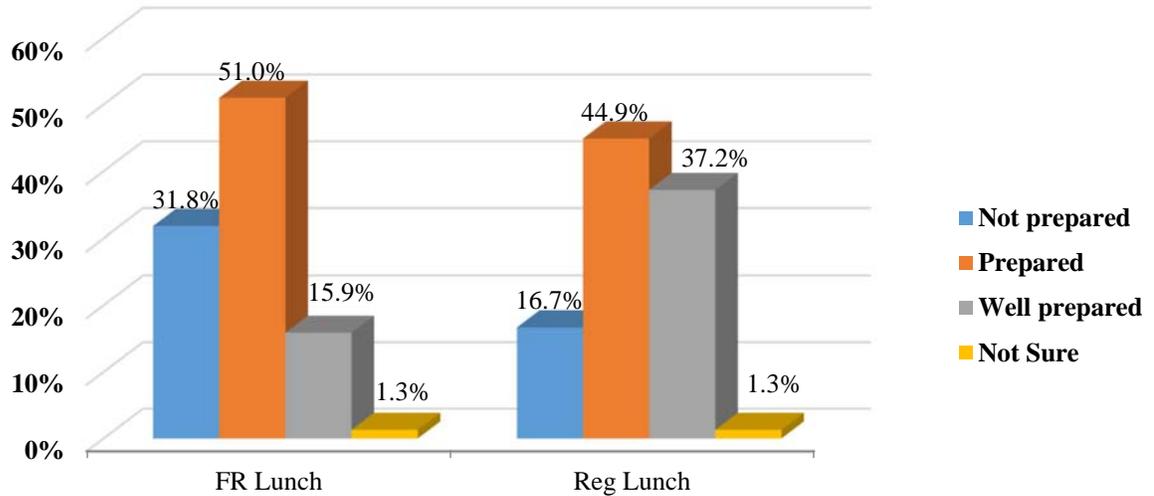
Readiness for School by Free/Reduced Lunch

Is there a statistically significant relationship between attendance at a formal preschool program and Kindergarten readiness?

Yes. Student who did not attend a formal preschool program were disproportionately *not prepared* for kindergarten. A smaller percentage of these students were identified by their teachers as *well prepared* for kindergarten as well.

	Not prepared	Prepared	Well prepared	Not sure
Did Not Attend, N = 92 (32.3%)	37 (40.2%)	41 (44.6%)	14 (15.2%)	0 (0%)
Attended, N = 193 (67.7%)	31 (16.1%)	97 (50.3%)	61 (31.6%)	4 (2.1%)
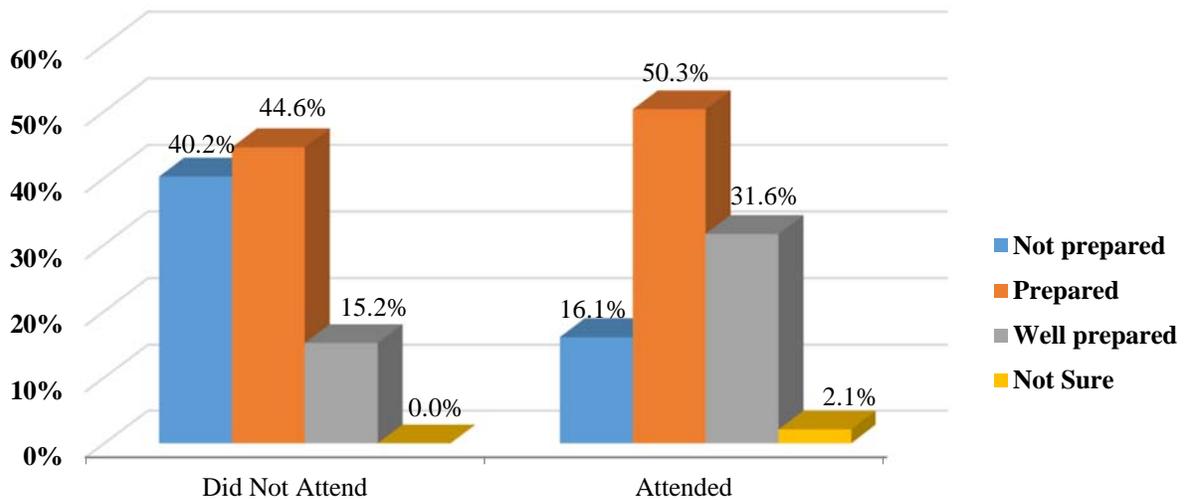
Readiness for School by Formal Preschool Program Attendence

Is there a statistically significant relationship between gender and Kindergarten readiness?

Yes. A much higher proportion of male students were identified by their teachers as not being prepared for kindergarten as compared to female students.

	Not prepared	Prepared	Well prepared	Not sure
Male, N = 177 (51.5%)	58 (32.8%)	77 (43.5%)	40 (22.6%)	2 (1.1%)
Female, N = 167 (48.5%)	27 (16.2%)	83 (49.7%)	55 (32.9%)	2 (1.1%)

Readiness for School by Gender
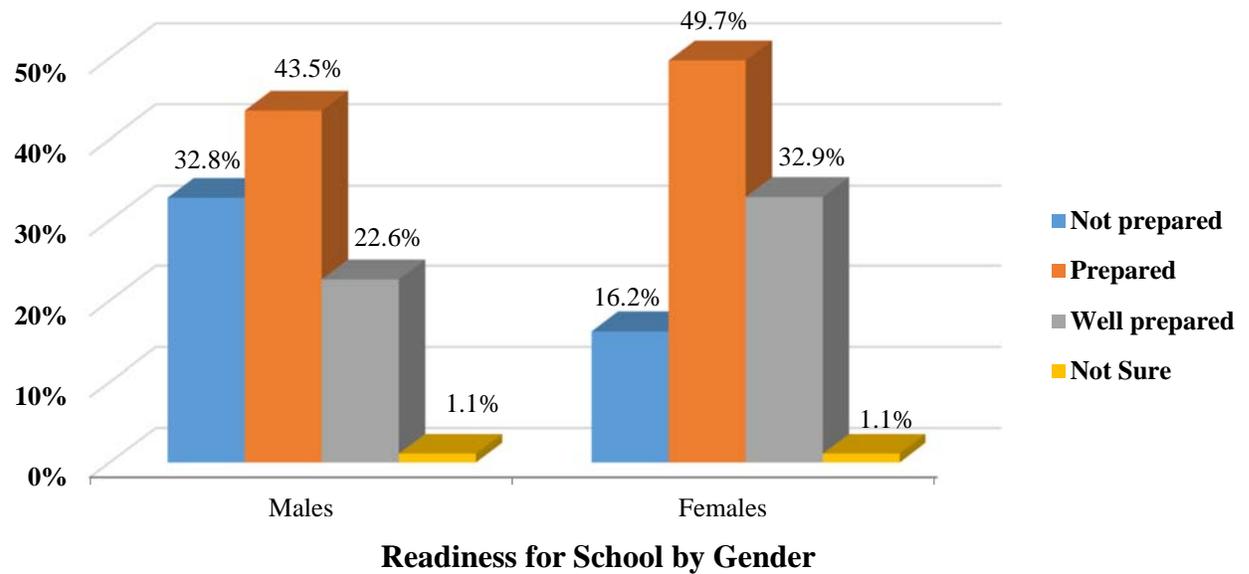
COMPARISONS OF THE 2016, 2014, 2010, 2006 SURVEYS

Aggregate sample N = 1964. All participating school systems.

N (2006) = 796 (40.5%)
N (2010) = 506 (26.8%)
N (2014) = 318 (16.2%)
N (2016) = 344 (17.5%)

(These comparisons have the advantage of the largest N for analyses)

Is there a statistically significant change from 2006 to 2016 in teacher's ratings of students' readiness to enter Kindergarten?

Yes. The percentage of students identified as not prepared for kindergarten was significantly higher in 2014 than in 2006 and 2010. Data from 2016 suggest a slight decrease in the percentage of students identified as *not prepared* for kindergarten from 2014. However, the difference was not statistically significant. Nor was the difference in the percentage of students identified as not prepared in 2016 compared to either 2006 or 2010.

	2006	2010	2014	2016
Not prepared	144 (19.9%)	101 (20.2%)	87 (27.4%)	85 (24.7%)
Prepared	342 (47.2%)	226 (45.2%)	151 (47.6%)	160 (46.5%)
Well prepared	219 (30.2%)	162 (32.4%)	76 (23.0%)	95 (27.6%)
Not sure / too early to tell	20 (2.8%)	11 (2.2%)	3 (0.9%)	4 (1.2%)

Kindergarten Readiness by Study Year
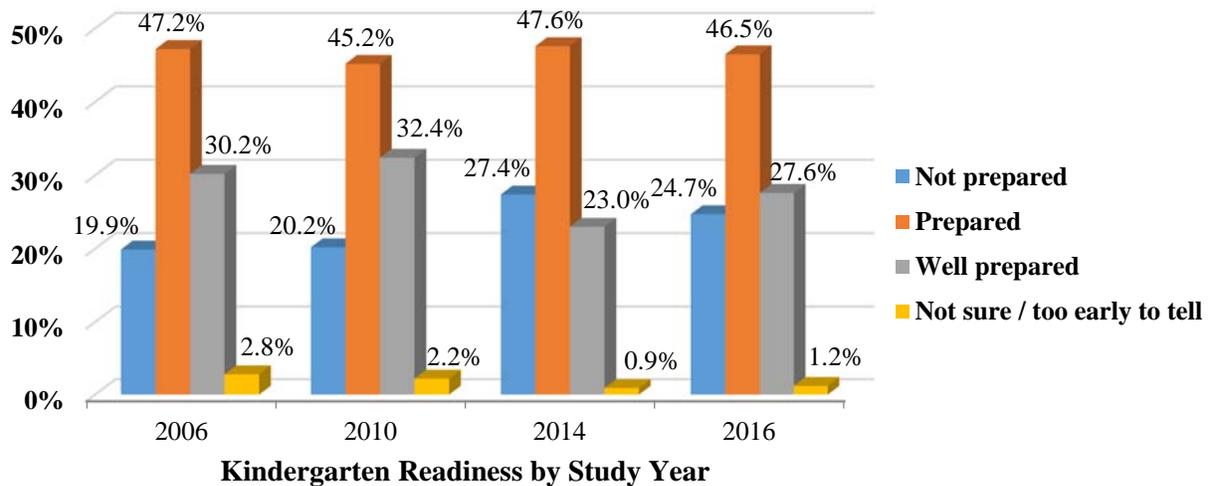
Is there a statistically significant change over the four iterations of the study (2006, 2010, 2014, 2016) in students' DIAL-3 or DIAL-4 percentiles?

Yes. In 2006 and 2010, DIAL-3 percentiles averaged in the low 70s and were not significantly different from each other. In 2014 and 2016, DIAL-4 percentiles averaged in the low to mid 60s and were not significantly different from each other. Significant contrasts were found between the 2006/2010 DIAL-3 percentiles and the 2014/2016 DIAL-4 percentiles. However, we cannot draw conclusions given that different versions of the DIAL were used.

Is there a statistically significant change from 2006 to 2016 in children's scores on the common items of the Behavioral Concerns scale (the risk factors scale) and the common items of the Total Protective Factors scale of the DECA?

Yes. Behavioral Concern scores were slightly, but statistically significantly higher in 2014 than in 2010. Scores in 2006 and 2016 were not different from the scores in any other years. The Total Protective Factors scores in 2010 were slightly, but statistically significantly higher, than scores in 2006, 2014, and 2016. Overall, these effects are extremely small suggesting that while statistical significance was obtained, "practical significance" (i.e., the efficacy of this finding for policy changes) is absent.

	2006	2010	2014	2016
DECA Behavioral Concerns	9.05	8.47	9.84	9.19
DECA Protective Factors	73.08	76.27	70.19	72.29

OTHER FINDINGS FROM 2016 SAMPLE:

- As with previous years, the 2016 DECA Protective Factor scores are related to readiness to enter Kindergarten to similar degrees as they were in 2006 and 2010.

- The 2016 DECA scores are related to free/reduced lunch vs. regular lunch status.

- Again, the 2016 DIAL-4 percentiles and the DECA protective factor scores predict Kindergarten readiness to almost the same degree as was found in the prior multiple regression analyses (with R=.67). Together, the DECA and the DIAL remain strong predictors of teachers' evaluations of kindergarten readiness.

AGGRESSION IN THE CLASSROOM

A total of 88 teachers answered the five questions concerning aggression in the classroom from the School Readiness Survey (2016).

1. How many of your students do you consider to be aggressive?

   Approximately 32% of the teachers reported that no students in their classroom were aggressive, whereas about 68% of the teachers considered one or more children in their classroom to be aggressive.

2. Do you have any children whose behavior is unmanageable within the limits of the classroom?

   Approximately one-third (33%) of the teachers reported having at least one child whose behavior is unmanageable.

3. Percentage of time dealing with aggressive behavior in class.

   The average amount of time spent dealing with aggressive behavior in the classroom was 16.63%. Note: In the 2005 report, the average percentage amount of time spent dealing with aggressive behavior in the classroom was 15%.

4. Over the last 3 years, how has the **frequency** of aggressive behavior changed?

   Almost half of the teachers (46.6%) reported that the frequency of aggressive behavior in the classroom has increased over the last 3 years.
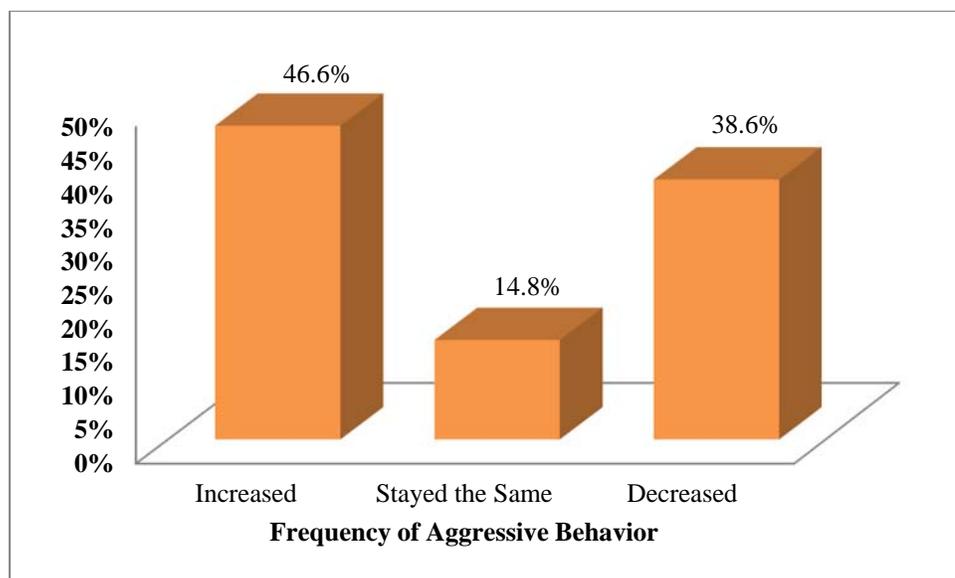
5. Over the last 3 years, how has the **severity** of aggressive behavior changed?

    Similar proportions of teachers reported that the severity of aggressive behavior has increased over the last three years.
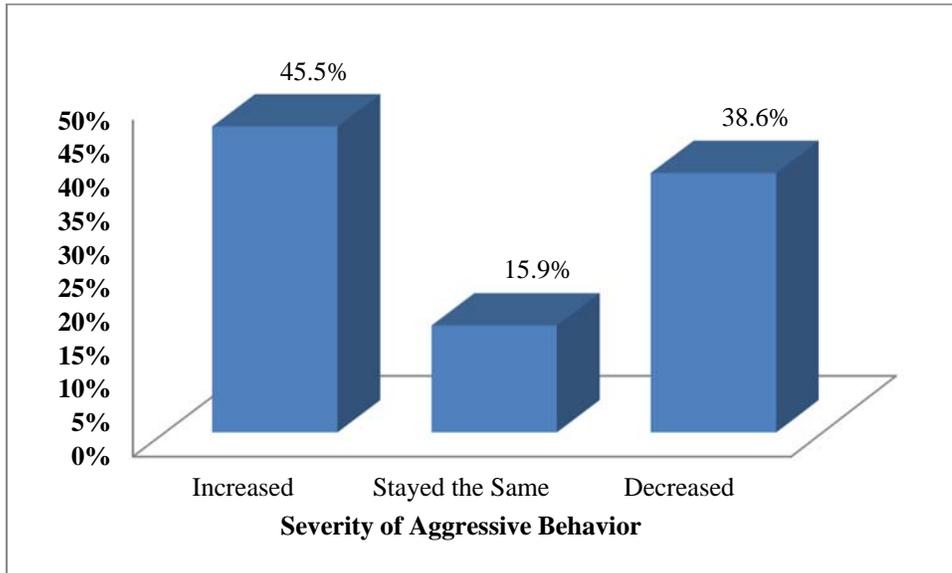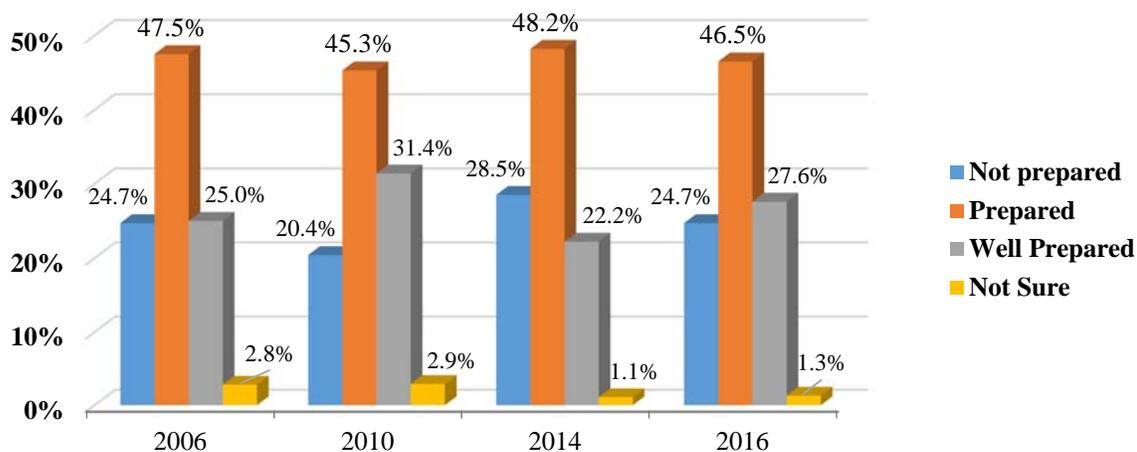
Springfield R-12 School District: Summary Results

OCTOBER, 2006, OCTOBER, 2010 AND OCTOBER, 2014 DATA

Teachers' Evaluations of Students' Readiness to Enter Kindergarten

	Not prepared	Prepared	Well Prepared	Not Sure	N
2016	77 (24.7%)	145 (46.5%)	86 (27.6%)	4 (1.3%)	312
2014	81 (28.5%)	137 (48.2%)	63 (22.2%)	3 (1.1%)	284
2010	78 (20.4%)	173 (45.3%)	120 (31.4%)	11 (2.9%)	382
2006	78 (24.7%)	150 (47.5%)	79 (25.0%)	9(2.8%)	316

- The percentage of students identified as not prepared for kindergarten was significantly higher in 2014 than in 2010. Data from 2016 suggest a slight decrease in the percentage of students identified as *not prepared* for kindergarten from 2014. However, the difference was not statistically significant. Nor was the difference in the percentage of students identified as not prepared in 2016 compared to either 2006 or 2010.

DIAL-3 (2006, 2010) and DIAL-4 (2014/2016) Percentile Scores
(Norm mean = 50)

	Mean	Standard Deviation	N
2016	65.20	29.81	281
2014	61.92	31.88	252
2010	71.98	27.09	365
2006	68.24	26.54	302

- Higher scores on the DIAL-3 and DIAL-4 indicate greater strengths in conceptual, language, and motor development.

- Statistically significant differences were found between the percentiles in 2016 and those in 2010. In addition, statistically significant differences were found between the lower percentiles in 2014 and those of 2006 and 2010 (with no significant differences found between 2006 and 2010). It is unknown if this is the result of different parameters of the newer vs. older versions of the DIAL, a true time-lag/cohort effect that may exist over these years or other specific reasons and combinations of reasons.

Items in common from the original (2006/2010) and revised (2014/2016) Devereux Early Childhood Assessment (DECA)

	Mean	Standard Deviation	N
2016			
Protective Factors items	71.99	14.98	312
Behavioral Concerns items	9.27	7.00	312
2014			
Protective Factors items	69.47	13.70	284
Behavioral Concerns items	9.96	7.38	284
2010			
Protective Factors items	75.58	17.14	367
Behavioral Concerns items	8.69	6.04	369
2006			
Protective Factors items	71.79	15.20	282
Behavioral Concerns items	9.56	6.13	310

- On the Protective Factors items common to the original DECA and the revised DECA, values in 2010 were significantly higher than values in all other years. The increase from 2014 to 2016 was also statistically significant, although slight. Overall, the differences are so tiny as to suggest that while statistical significance was obtained, "practical significance" (i.e., the efficacy of this finding for policy changes) is absent.

- On the Behavioral Concerns items common to the original DECA and the revised DECA, no significant differences were found over the four iterations of the study (2006, 2010, 2014, and 2016).

- Higher scores on the Protective Factors items measure positive developmental assets for the children that support social and emotional strengths.

- Higher scores on the Behavioral Concerns items measure negative characteristics of children that restrict social and emotional wellbeing.

Free/Reduced Lunch and Regular Lunch

	Free/Reduced Lunch	**Regular Lunch**	**Total**
2016	142 (51.6%)	133 (48.4%)	275
2014	134 (53.2%)	118 (46.8%)	252
2010	203 (53.4%)	177 (46.6%)	380
2006	125 (40.8%)	181 (59.2%)	306
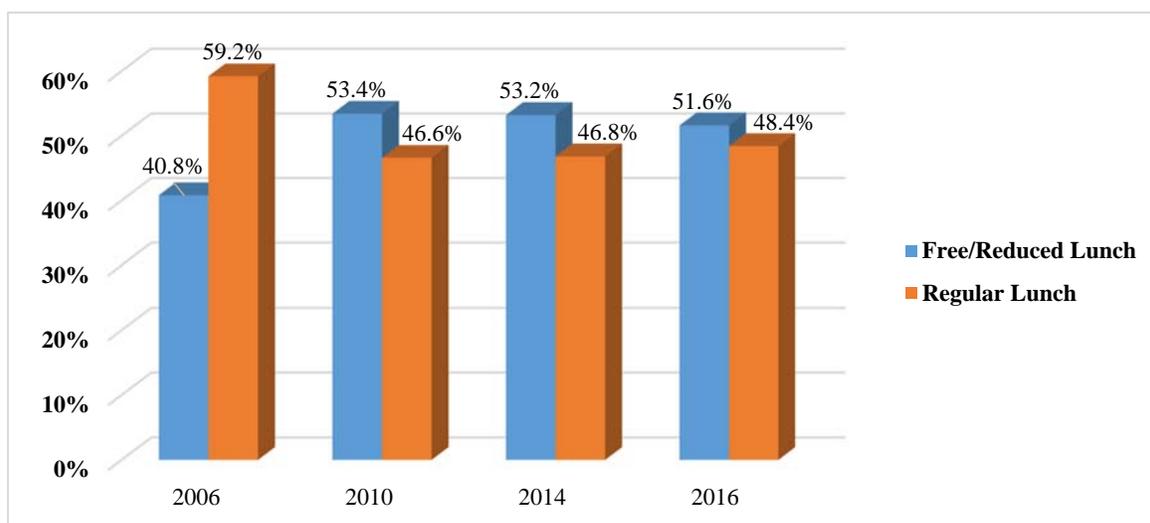
- The percentage of students qualifying for Free or Reduced Lunch was significantly higher in 1010, 2014, and 2016 than in 2006.

Background Information 2014 and 2016
- Gender: 141 Males, 146 Females in 2014; 163 Males, 149 Females in 2016
- Preschool: 134 Attended, 121 Did not attend in 2014; 164 Attended, 89 Did not attend in 2016.
- Average number students per classroom: 20.48 in 2014; 19.2 in 2016
- Average number students not ready for kindergarten per classroom: 5.99 in 2014; 5.68 in 2016.

For further information, contact Denise Bredfeldt at the Mayor's Commission for Children (417)864-1656.

SCHOOL READINESS SURVEY 2016

The survey below is divided into two parts. Part 1 asks background questions about you and your kindergarten students in general. Part 2 asks background questions about specific children in your classroom and contains the items from the Devereux Early Childhood Assessment. Before you begin, please read this section and then follow the instructions below to select five students. If you need to stop in the middle of the surveys, you can leave and return later through the link provided in the email. If you run into any problems completing the surveys, please contact Melissa Fallone at 417-836-6528 or MFallone@missouristate.edu.

Part 1

Teacher's last name:

School district:

❍ Fair Grove
❍ Springfield
❍ Strafford

How many kindergarten students are in your classroom?

How many of your students this year were not ready to enter Kindergarten and meet its challenges successfully?

How many years have you been teaching?

How many years teaching Kindergarten?

In answering the following 6 questions, aggression is defined as hostile or destructive behavior or action on the part of the kindergarten student.

How many of your students do you consider to be aggressive?

On average, what percentage of your time is spent dealing with aggressive behavior of your students?

Do you have any aggressive children whose behavior is unmanageable within the limits of your classroom?

❍ Yes
❍ No

Over the last 3 years, has the frequency of aggressive behavior in your classroom.

❍ Increased
❍ Decreased
❍ Not changed

Over the last 3 years, has the severity of aggressive behavior in your classroom:

❍ Increased
❍ Decreased
❍ Not changed

Part 2

Student Selection Instructions: Please read these instructions before you begin selecting five students for the School Readiness Survey. Refer to your alphabetized class roster and choose the students whose place on your roster corresponds to the numbers listed below: 16, 8, 11, 19, 5, 12, 18, 1, 6, 20, 17, 2, 13, 9, 3, 14, 15, 7, 4, 10. Look at the first number, count down through the students on your roster until you find the child in that position, and then select that student. In each student's official record, you should find a consent form. If no consent form is on file, go to the next choice. While in the student records, look up the DIAL 4 scores, which will be recorded on the survey. Demographic information will also be needed from the form filled out by parents before their child began kindergarten.   We need five completed surveys. Please begin with the first choice listed above. One or more of the numbers may not be usable for a variety of reasons. For example: The student is already six years old · There is no consent form on file for that student There is no student for that number The student is repeating kindergarten If any of these conditions occur, please use the next choice on the list. Twenty numbers are provided to account for these or other situations which might prevent a student from participating. If you exhaust the list and still do not have five students, simply use the students that you have.

Please answer the following questions about the first student selected.

Student 9-digit or 10-digit MOSIS number:

Student Date of Birth (mm/dd/yy):

DIAL 4 percentile:

Student's gender:

- ○ Male
- ○ Female

What is this child's ethnicity?

- ○ Hispanic or Latino
- ○ Not Hispanic or Latino

What is this child's race? Mark one or more races to indicate what the child's parents or the child considers himself/herself to be.

- ○ White
- ○ Black or African American
- ○ Asian
- ○ American Indian or Alaska Native
- ○ Native Hawaiian or Other Pacific Islander

Student lives with: (MARK ALL THAT APPLY)

- ❑ Both parents
- ❑ Father
- ❑ Stepfather
- ❑ Mother
- ❑ Stepmother
- ❑ Guardian

Highest level of education in household: years completed

Lunch status:

- ○ Free/Reduced
- ○ Regular Price

What preschool program(s) did this child attend? MARK ALL THAT APPLY

- ❑ Headstart
- ❑ Title I
- ❑ Faith based (enter name of program below) _____
- ❑ Private provider (enter name of program below) _____
- ❑ Other
- ❑ None

How ready was this child to enter Kindergarten?

- ○ Not Prepared
- ○ Prepared
- ○ Well Prepared
- ○ Not Sure

The 38 question Devereux Early Childhood Assessment (DECA) survey instrument was given to assess the social and emotional development and each student in the random sample group.
Visit www.devereux.org for more info