Report prepared by Florida International University for the Department of Human Services, Miami-Dade County, for presentation to the Early Learning Coalition of Miami-Dade/Monroe County

# Miami-Dade County Screening and Assessment Project

# Report of Current Findings & Longitudinal Growth 2009-2010

JUNE 7, 2010

All material presented in this report is the product of data analyses conducted at Florida International University (FIU) under the direction of Louis Manfra, a child development researcher and professor at FIU. None of the material presented herein has been reviewed or refereed by peer experts in the field. As with all data analyses, statistical significance should not be viewed as "proof" of any practice or method. All analyses are correlational in nature, as there are no experimental components of this project. Therefore, cause and effect should not be inferred.

The material presented is a combination of data collected by teachers, parents, caregivers, independent assessors, and researchers.

The intent of this report is to present the data in a format in which most individuals can read and understand. It is not to provide an exhaustive exploration of all possible research questions. Such explorations have and will continue to occur by researchers associated with this project. These findings are available as they are completed and published in peer-refereed outlets.



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**All the staff of the Inclusion and Assessment Division, who have worked very hard to facilitate and conduct the screenings and assessments.**

# Contents

# Contents (cont.)

# INTRODUCTION

This report consists of data collected during the 2009-2010 school year for the Miami-Dade County Screening and Assessment Project. Nearly all children receiving subsidies to attend an early care facility or provider were screened with the Ages and Stages Questionnaire (ASQ). A small representative portion of children were also assessed using the Learning Accomplishment Profile system.

In some places, this report contains comparisons of current data to those collected over the past three years, which allows one to view the progress made by children during the time period of the current contract. This report also contains center-based information and the associations between center factors and child outcomes.

We tried to be very consistent with the format of this report. On nearly all pages, there is a small introduction to the analyses conducted followed by a table or figure presenting the data and a "What does it mean?" section that provides a verbal overview of the findings. In most cases, we also included an interpretation or limitation of the findings.

Finally, we tried to include as much information in this report as we could and in a format that is understandable to most. No doubt there will need to be edits, updates, and additions as we share this with the board of the Early Learning Coalition of Miami-Dade/ Monroe and the public. We consider this *Edition 1* and are confident that there will be an *Edition 2* prior to the end of the contract.

# DEFINITIONS

This section contains the definitions of words, phrases, and statistical symbols that are used throughout the report. One should assume a term is defined as indicated here unless otherwise specified in the report.

**Chi-square ($\chi^2$) test** – a statistical test that evaluates whether the proportions of individuals who fall into categories are equal to or different from hypothesized values.

**Comparison group** – all children who were screened and/or assessed that are not included in a group of interest (e.g., at-risk children).

**Confirmed ASQ Concern** – a concern on the ASQ that was agreed upon by an independent observer and/or teacher interview.

**Correlation (*r*)** – the nature, or extent, of the relationship between two variables.

**Eligibility group** - children 3 months to 6 years of age receiving subsidies to enroll in childcare. These children are not necessarily assessed or screened.

***F*-test** - a statistical test that evaluates means differences between two or more groups or populations. *F*-value is the statistic that results from the *F*-test.

**Invalid ASQ** - an ASQ that was completed for a child using the wrong age form.

**Mean (*M*)** - arithmetic average

**Percent (%)** – a rate or proportion per hundred.

**Percentile Rank** – the percentage of children with scores at or below that particular value.

**Phi coefficient ($\varphi$)** – the correlation between two dichotomous variables.

**Point-biserial correlation** – the correlation between a continuous and a dichotomous variable

***p*-value** – the probability of the test statistic occurring by chance (e.g., $p < .05$).

**Standard Deviation (*SD*)** - measure of variability around the mean

**Statistically Significant** – the difference between the hypothesized population parameter and the corresponding sample statistic is said to be statistically significant when the probability that the difference occurred by chance is less than the significance level.

**Total Score** - a score calculated by averaging across all subscale scores.

**T-score** – a standard score with a mean of 50 and standard deviation of 10.

***t*-test** – a statistical test that evaluates means differences between two groups or populations. *t*-value is the statistic that results from the *t*-test.

**Valid ASQ** - an ASQ completed for a child using the correct age form.

# CHAPTER 1

# Overview

FL Statute 411 (c)(2)

*The early learning coalition must implement a comprehensive program of school readiness services that enhance the cognitive, social, and physical development of children to achieve the performance standards and outcome measures adopted by the Agency for Workforce Innovation. At a minimum, these programs must contain the following elements:*

*a. Developmentally appropriate curriculum designed to enhance the age-appropriate progress of children in attaining the performance standards adopted by the Agency for Workforce Innovation under subparagraph (4)(d)8.*

*b. A character development program to develop basic values.*

*c. An age-appropriate assessment of each child's development.*

*d. A pretest administered to children when they enter a program and a posttest administered to children when they leave the program.*

*e. An appropriate staff-to-children ratio.*

*f. A healthy and safe environment.*

*g. A resource and referral network to assist parents in making an informed choice.*

# Overview

This chapter provides an overview of the data collected as part of the requirements by the Florida Statute 411 for Early Learning Coalitions. This chapter will include a section on what assessments and screeners have been used and the overall findings that pertain to the goal of enhancing the progress of low-income children's school readiness skills. Specific findings regarding school readiness skills are presented in Chapter 3.

Sections:

A. Description of Assessments

B. Number of Assessments

C. Overall Child Progress

D. Center Information
    1. Accreditation
    2. Age-Appropriate Curriculum
    3. Staff-Child Ratio
    4. Environmental Rating

# **Overview:** A. Description of Assessments

## *ASQ, DECA, and LAP*

**Overview of Screeners & Assessments**

Children participating in the ELC program are required to be assessed with an age-appropriate measure of their development.

### Ages and Stages Questionnaire (ASQ)

The Ages and Stages Questionnaires (ASQ; Bricker, Squires, Mounts, Potter, Nickel, Twombly, & Farrell, 1999) is a developmental screener for young children from 4 to 60 months of age. The screener is an economical, valid, and culturally sensitive instrument that helps identify children who might be at risk for developmental delays. The ASQ is broken down into 19 different questionnaires that are dependent on children's age (children can be screened at 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 27, 30, 33, 36, 42, 48, 54, and 60 months). The ASQ is composed of five developmental domains, which include communication (i.e., language development), gross motor, fine motor, problem solving (i.e., cognitive development), and personal-social. Each developmental domain contains a series of six questions where the child's parent or caregiver is asked to answer *yes*, *sometimes*, or *not yet*. The ASQ is also contains an Overall Section, which allows assessors to provide more general information that might be concerning.

Results of the ASQ do not tell parents if their child has a development delay, rather they indicate the need for further evaluation. The questionnaires are scored by giving a numerical equivalent to each answer. The responses of *yes, sometimes,* and *not yet* are converted into points, *10, 5,* and *0,* respectively. Each domain has an empirically derived cutoff point. If a child's score is below the cutoff point, then the child receives a "concern" on that subscale and should be referred for further evaluation.

### Devereux Early Childhood Assessment (DECA)

The Devereux Early Childhood Assessment (DECA; LeBuffe & Naglieri, 1999) is a standardized behavior rating scale that measures social and emotional development of preschool children age two to five years old. There are two main domain scores: *Protective Factors* and *Behavioral Concerns*. The protective factors domain has three subscales which include initiative, self-control, and attachment. The three subscales evaluate 27 positive behaviors in preschool children. For *Behavioral Concerns*, the DECA evaluates problem behaviors with 10 items. The DECA is administered by either a parent or childcare provider through self-reports. The rater is asked to rate each question as never, rarely, occasionally, frequently, and very frequently. Answers are then converted into a numerical score (0-4) where never is given a score of 0 and very frequently a score of 4. Interpretation of the scores should be done with children's cultural and socioeconomic status in mind in order to interpret scores appropriately. A high score in the *Protective Factor* scales are desirable because they reflect a child's strengths, hence a high score has a positive meaning. On the *Behavioral Concerns* scale, high scores reflect difficulties with behavior. In this case, a high score is not desirable and is an indication of concern. The DECA provides an *Individual Profile* in which classroom and family-based strategies can be implemented to enforce healthy social and emotional growth within children. Results of the DECA help identify protective factors such as strengths and weaknesses of a child as well as any emotional and behavioral problems a child might be developing.

**Overview of Screeners & Assessments**

*Cont.*

Learning Accomplishments Profile (LAP)

The Learning Accomplishment Profile-Diagnostic (LAP-D; Nehring, Nehring, Bruni, & Randolph, 1992) is a standardized assessment of developmental abilities of children from 30 to 72 months of age. The Early Language Accomplishment Profile (E-LAP) is for children birth to 36 months. For the LAP-D, children are measured on four major domains of development that each contain two subscales: cognitive (matching and counting), language (comprehension and naming), fine motor (writing and manipulation), and gross motor (body and object movement). There are 23 to 34 tasks to be completed on each subscale. The tasks are grouped by subscale objective. For example, one of the language naming subscale objectives is that the child is able to demonstrate s/he can imitate naming. A task associated with fulfilling this objective is that the child names at least 3 out of 5 objects the assessor presents and orally names in front them.

The tasks are listed in order of progressive difficulty and assessors begin with the objective that is age appropriate for the child and continue to work through the tasks together until the child fails three items in a row (out of a five-item span). A total raw score based on the number of satisfied objectives per subscale is calculated for each subscale. The raw scores are then converted into standardized T-scores that compare the child's performance to other children of his or her same age. The standardized norming sample used to create standardized T-scores was selected to represent preschoolers in the nation based on the 1990 U.S. Census and consisted of 404 males, 388 females from 30 to 72 months of age of which 67% were White, 13% African American, 16% Hispanic, and 4% Asian (Nehring, et al., 1992).

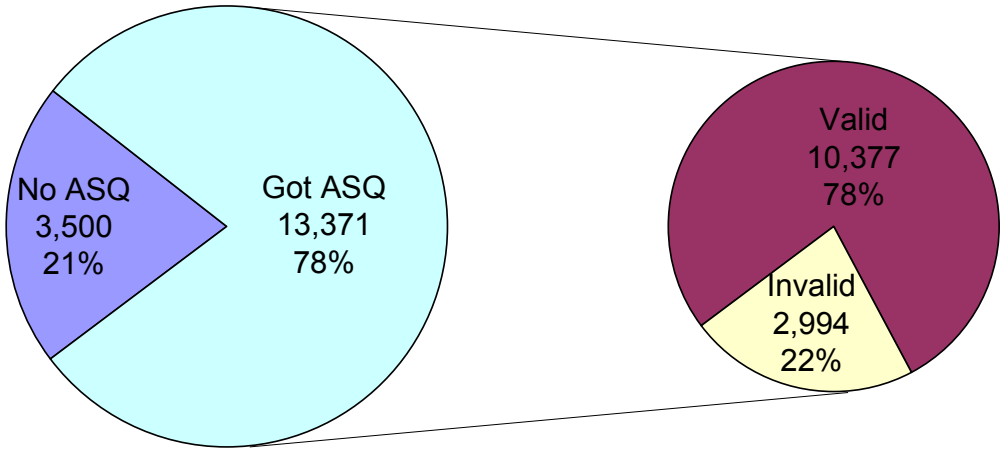
# Overview: B. Number of Assessments

## *ASQ* ***2009-2010***

**Number of ASQs**

Children participating in the Early Learning Coalition (ELC) program are required to be individually assessed with an age-appropriate measure of their development. The Ages and Stages Questionnaire (ASQ) was selected as the screening assessment. The number of assessments and valid assessments are presented below. Toward the bottom of the page is the gender breakdown of children.

**Number of Eligible Children Screened with ASQ**




Children eligible for ASQ: 16,871

**What does it mean?**

Approximately 78% of the eligibility group were assessed with a valid ASQ as of May 3, 2010. The goal set by the ELCM-D/M is that 85% of eligible children are assessed. Three months remain to accomplish this goal. 22% of the ASQ forms completed by teachers/parents were invalid.

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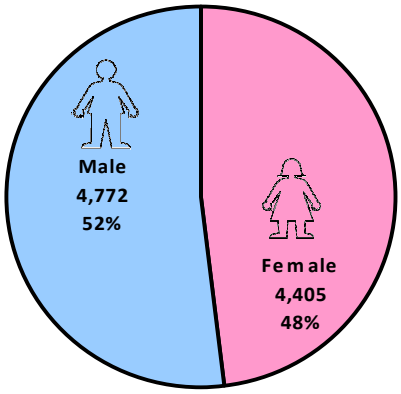
**Gender**

**What does it mean?**

Of the valid ASQ screeners, more boys (51.6%) than girls (48.4%) were assessed with the ASQ. This difference is small and consistent with the percent of boys/girls in the eligibility group, in which 51.7% are male and 48.3% are female. As such, the gender breakdown is representative of the larger population of children receiving subsidies.



# **Overview:** B. Number of Assessments

## *ASQ* ***2009-2010***

**Number of Screeners Collected & Assessments Given**

The following is a continuation of the comparison of children in the screening program (i.e., those who were screened) and the larger group of children eligible to be screened (i.e., those who are subsidized). This page contains the percent of children in various race/ethnic groups and children in various high risk groups.

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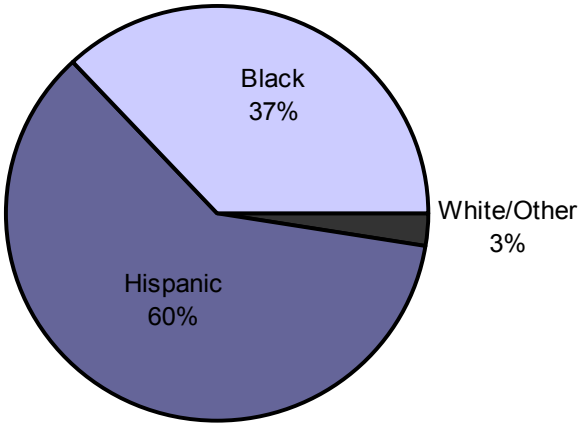
**Ethnicity/Race**

**What does it mean?**

The majority of children assessed with the ASQ were Hispanic/Latino followed by Black/African-American. These numbers are relatively consistent with the eligibility group, which consists of 56% Hispanic/Latino, 41% Black/African-American, and 3% White/Other.

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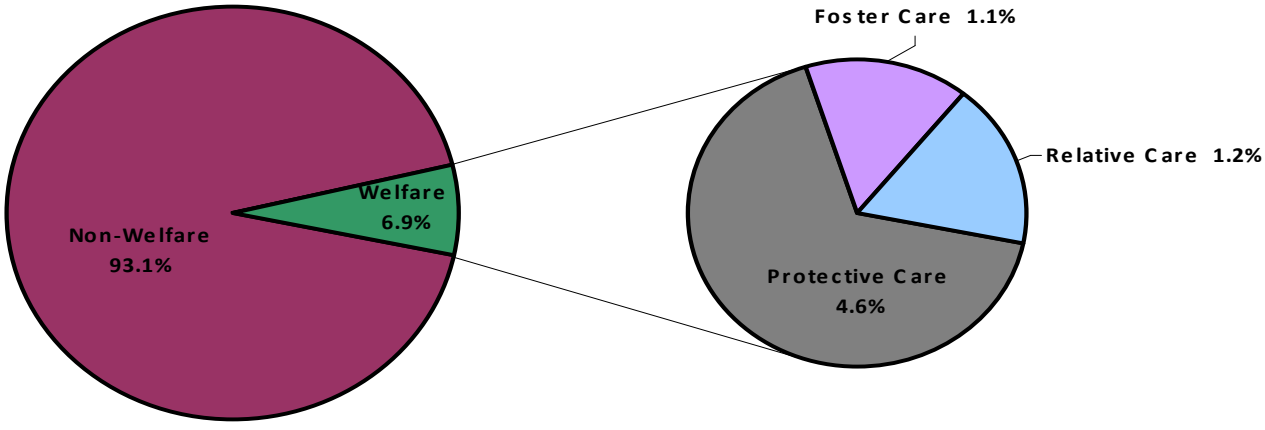
**At-Risk Children**




**What does it mean?**

Approximately 7% of screened children are considered at-risk, as of May 3, 2010. This is slightly lower than the percent of children in child welfare in the eligibility group, which has 11.4%. While each sub-group of the child welfare system is under-represented, children in the protective care sub-group are the most under-represented. There are 8.1% of eligible children in the protective care group, while only 4.6% of the assessed children are in protective care.

# **Overview:** B. Number of Assessments

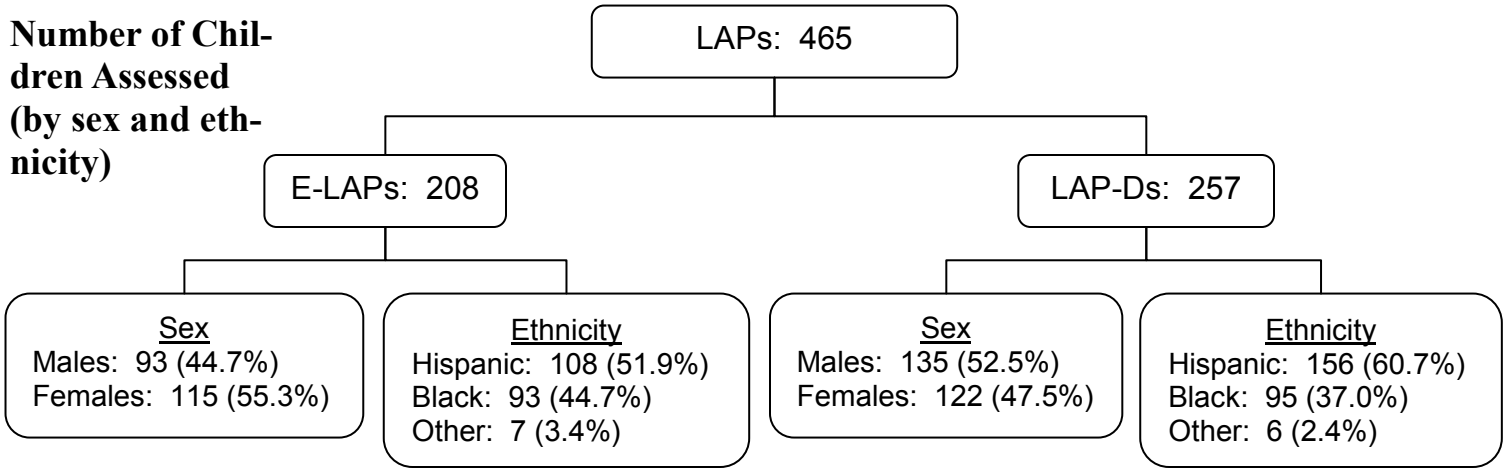
## *LAP-D/E-LAP* ***2009-2010***

**Number of LAPs**

Children participating in the ELC program are required to be assessed with an age-appropriate measure of their progress during the school year. This assessment must be given at the beginning of the school year ("pre") and again at the end of the school year ("post").

The LAP system was chosen for this pre/post assessment. The E-LAP is administered to children under the age of 3 years and the LAP-D is administered to children over the age of 3 years.

**Number of Children Assessed (by sex and ethnicity)**




NOTE: Goal was for **450** pre/post assessments to be completed.

**What does it mean?**

Over 450 children (*n* = 465) received a pre assessment (by either the E-LAP or the LAP-D) during the first part of the 2009-2010 year. This indicates that the assessment team met (and slightly exceeded) the goal that 450 children be assessed with a pre/post assessment.

There was a relatively even distribution of males and females receiving the LAP assessment.

The majority of children assessed were identified as Hispanic/Latino. The second largest group were identified as Black/African-American. These two ethnic/racial groups made up the vast majority of assessments. There were relatively more Hispanic children who received the LAP-D assessment compared to the E-LAP assessment. Therefore, there were relatively fewer Black children who received the LAP-D compared to the E-LAP.

# **Overview:** C. Overall Child Progress

## *ASQ and LAP-D Totals & % Concerns*

**Goals:**

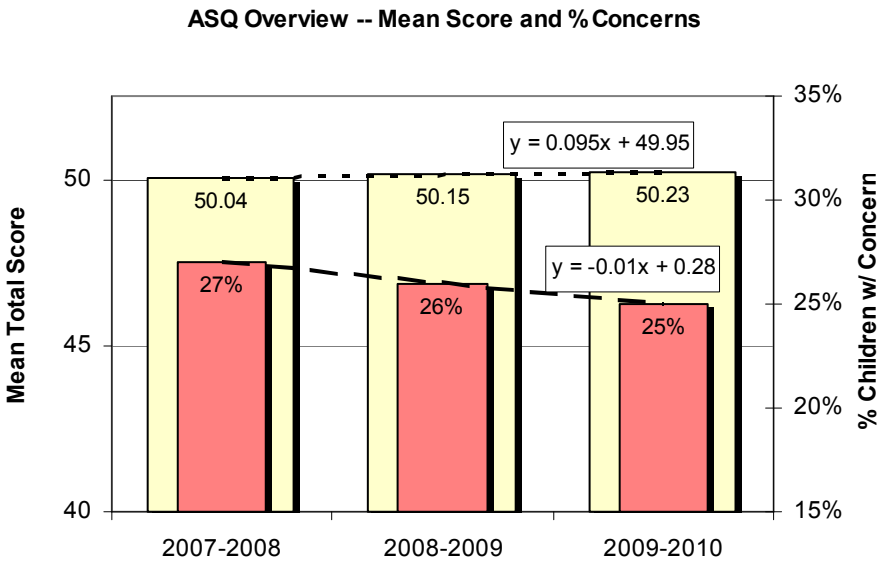
1. **Increase mean scores**
2. **Decrease concerns**

The ASQ measures children's achievement of developmental milestones. The ASQ provides a mean score for each domain and an indication of whether there is concern. The goals are to have a mean score of 55 and a maximum of 10% concerns. The LAP-D measures children's developmental skills in comparison to a national sample. The LAP-D provides a total mean T-score. We have also calculated the % of children who are 2.0 standard deviations below the mean (i.e., T-score < 30) and call this a "concern." The goals are to have a mean score of 55 and a maximum of 10% concerns.

### ASQ Screener

**What does it mean?**

The aggregated mean score for the ASQ has increased slightly over the past three years at a rate of .095 points per year. The current aggregated mean score is 50.23.

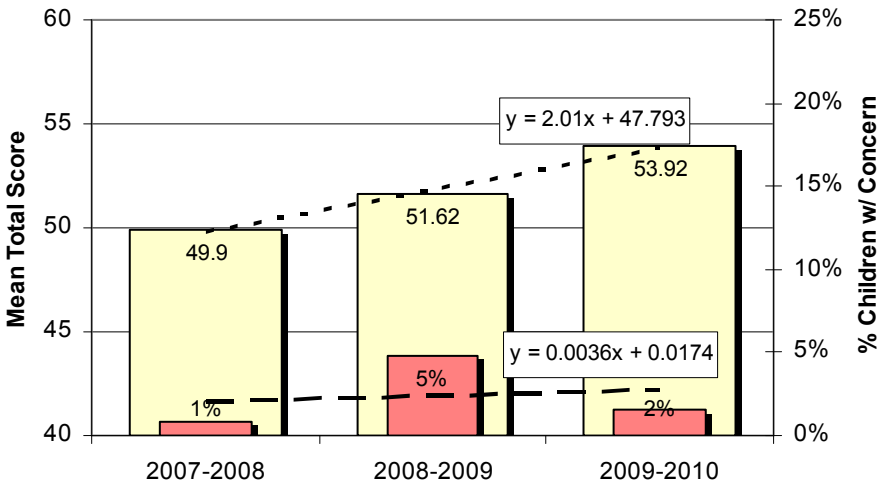



The % of children with concerns in any domain of the ASQ has decreased over the past three years at a rate of 1% per year. Approximately 25% of children had at least one concern on the ASQ.

### LAP-D Assessment

**What does it mean?**

The total score for the LAP-D has increased over the past three years at a rate of 2.01 points per year. The current total score is 53.92.




The % of children with 2+ SD below the mean on the total score has been at or below 5% for the past 3 years. While there is no clear pattern with these *samples*, concerns are below the goal of 10%.

# **Overview:** C. Overall Child Progress

## *Changes between 1st and 2nd ASQ—**2009-2010***

**ASQ Goals:**

1. **Increase mean scores**
2. **Decrease concerns**

The Ages and Stages Questionnaire (ASQ) measures children's achievement of developmental milestones. The ASQ provides a mean score for each domain and an indication of whether there is concern.

A number of children was assessed with the ASQ at two time points. These children were assessed a second time for a number of reasons, including having a concern on the first ASQ. It is therefore important to examine the change scores for children with two ASQ assessments.

**ASQ Mean Scores & Concerns**

The goals are to significantly increase the mean scores and decrease the number of concerns from the 1st ASQ to the 2nd ASQ.

| | 1st ASQ | | | 2nd ASQ | | | | |
|---|---|---|---|---|---|---|---|---|
| | *M* | *SD* | | *M* | *SD* | $M_{Diff}$ | *t* | *r* |
| **Mean Scores** | **46.06** | **11.73** | | **49.03** | **10.79** | **2.97** | **7.68**** | **0.60**** |
| Communication | 44.60 | 16.40 | | 48.04 | 14.85 | 3.43 | 6.06** | 0.58** |
| Gross Motor | 51.56 | 12.21 | | 53.41 | 11.77 | 1.86 | 4.08** | 0.53** |
| Fine Motor | 44.18 | 14.70 | | 47.27 | 13.60 | 3.09 | 5.38** | 0.47** |
| Problem Solving | 44.16 | 15.44 | | 47.29 | 14.22 | 3.13 | 5.31** | 0.50** |
| Personal Social | 46.08 | 14.12 | | 49.31 | 12.74 | 3.24 | 6.10** | 0.50** |
| | | | | | | | | |
| | % | | | % | | $\%_{Chng}$ | $\chi^2$ | $\phi$ |
| **% of Children with a Concern** | **43%** | | | **29%** | | **-14%** | **115.6**** | **0.39**** |
| Communication | 23% | | | 15% | | -8% | 158.4** | 0.48** |
| Gross Motor | 10% | | | 7% | | -3% | 145.4** | 0.44** |
| Fine Motor | 20% | | | 13% | | -7% | 129.2** | 0.39** |
| Problem Solving | 22% | | | 15% | | -7% | 132.1** | 0.42** |
| Personal Social | 9% | | | 7% | | -2% | 67.3** | 0.30** |

* $p < .05$. ** $p < .01$. *** $p < .001$.

**What does it mean?**

The mean scores for all domains significantly increased from the 1st ASQ to the 2nd ASQ. Additionally, the percent children with concerns significantly decreased from the 1st ASQ to the 2nd ASQ on all domains. Large gains (> 3) in all domains except gross motor. Similarly, large decreases in % of children with a concern (> 5%) in all domains except gross motor and personal social.

# **Overview:** C. Overall Child Progress

## *Flow of Children with ASQ Concerns—**2009-2010***

**ASQ Concerns**

It is imperative to follow and understand the progress of children who receive a concern on the ASQ. This section provides data for children who received at least one (1) concern on the ASQ (children can receive up to 5 concerns — one for each domain). The goal is for children to have fewer concerns when given a follow-up (or re-screen) ASQ several months later.

The table below shows children who received at least one (1) concern on their 1st ASQ and were assessed with a 2nd ASQ. The number of concerns for the first ASQ are shown across the top of the table (first row) and the number of concerns for the 2nd ASQ are shown down the left column of the table.

| | # of Concerns on 1st ASQ | | |
|---|---|---|---|
| # of Concerns on 2nd ASQ | 1-2 Concerns | 3 Concerns | 4-5 Concerns |
| 0 | 66% | 48% | 32% |
| 1 | 20% | 9% | 4% |
| 2 | 9% | 11% | 10% |
| 3 | 3% | 19% | 14% |
| 4 | 1% | 5% | 23% |
| 5 | 1% | 8% | 17% |

**What does it mean?**

Over half of children (66%) who had either 1 or 2 concerns on their first ASQ had 0 concerns on their second ASQ. Similarly, about half of children (48%) who had 3 concerns on their first ASQ had 0 concerns on their second ASQ. This indicates that about half of the children who have between 1 and 3 concerns on their first ASQ will not have a concern on their second ASQ. It is possible that this is related to teacher intervention and/or programmatic changes.

Only a third (32%) of children who had 4 or 5 concerns on their first ASQ had 0 concerns on the second ASQ. Over half of these children, however, did decrease in their total number of concerns with 60% of them having only 3 or fewer concerns on the second ASQ. This suggests that while some progress is made with these children, it is important to pay close attention to children with 4 or 5 concerns on the ASQ.

# **Overview:** C. Overall Child Progress

## *E-LAP (Pre)—**2009-2010***

**E-LAP Concerns** The E-LAP provides a measure of young (<3 years) children's developmental skills in several domains. A comparison between the child's given age and their developmental age on the E-LAP provides the basis for determining concerns. Children who's developmental age on a domain was 3 months younger than their actual chronological age were evaluated as having a *concern*.

The goals are to decrease the number of concerns from the 1st E-LAP ("Pre") to the 2nd E-LAP ("Post"). At this point, only data on the 1st E-LAP are available. Therefore, no indication of success for this measure of child progress will be made at this time.

Data are presented by age group (6-month intervals).

| Age Group | Gross Motor | Fine Motor | Cognitive Skills | Language Naming | Self-Help Skills | Social-Emotional Skills | Any Concern |
|---|---|---|---|---|---|---|---|
| 5-12mos | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 13-18mos | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% | 0.0% |
| 19-24mos | 3.6% | 5.5% | 3.6% | 5.5% | 1.8% | 1.8% | 12.7% |
| 25-30mos | 4.9% | 14.8% | 19.7% | 45.9% | 14.8% | 3.3% | 59.0% |
| 31-36mos | 7.5% | 15.1% | 17.0% | 18.9% | 7.5% | 1.9% | 34.0% |
| Total | 4.3% | 9.6% | 11.1% | 19.7% | 6.7% | 1.9% | 29.3% |

**What does it mean?**

Language naming had the highest overall number of concerns (19.7%) followed by cognitive skills (11.1%). Gross motor (4.3%) and social-emotional skills (1.9%) had the lowest number of concerns (and were below 5%).

Children in the youngest two groups showed no concerns on any of the domains. This indicates that children of this age are within 3 months of their expected developmental age.

There is a large increase in concerns related to language for children between 25 and 30 months. This is to be expected given the large variation in language development during this time, particularly for children who are learning (or are exposed to) more than one language. This high number of concerns decreases drastically by the next age group (31-36 months). These changes by chronological age are explored further in Chapter 2.

# **Overview:** C. Overall Child Progress

## *LAP-D (Pre)—**2009-2010***

**LAP-D Concerns**

The LAP-D provides a measure of preschool children's (3 to 5 years) developmental skills in several domains. The LAP-D provides a standard T-score for each domain. T-scores have a mean of 50 and a standard deviation of 10.

The goals are to decrease the number of concerns from the 1st LAP-D ("Pre") to the 2nd LAP-D ("Post"). At this point, only data on the 1st LAP-D are available. Therefore, no indication of success for this measure of child progress will be made at this time.

Data are presented by age group (6-month intervals).

| Age Group | Gross Motor | Fine Motor | Cognitive Skills | Language Naming | Total Score |
|---|---|---|---|---|---|
| 36-41mos | 59.30 | 52.72 | 50.11 | 47.71 | 53.73 |
| 42-47mos | 54.92 | 51.33 | 51.30 | 47.56 | 51.49 |
| 48-53mos | 56.22 | 54.98 | 53.50 | 51.78 | 55.26 |
| 54-59mos | 57.50 | 52.81 | 53.39 | 53.65 | 55.02 |
| 60+mos | 57.67 | 51.25 | 53.75 | 53.50 | 55.58 |
| Total | 57.11 | 52.86 | 52.03 | 50.13 | 53.92 |

**What does it mean?**

Across all age groups, all of the domain and total T-scores were above the national standard score of 50. This indicates that children are generally developing on target according to the LAP-D.

Language naming is the only domain in which some age groups of children scored below a 50. As shown in the table, the language naming T-score increases linearly across the age groups and plateaus by the last two age groups. This finding is consistent with the E-LAP; that children struggle more with language (particularly children learning more than one language) through their 5th year.

There is also a slight increase in cognitive skills across the age groups. Motor skills are a bit more consistent across the age groups. Fine motor skills peaks during the 48-53 month age group.

# **Overview:** D. Center Information

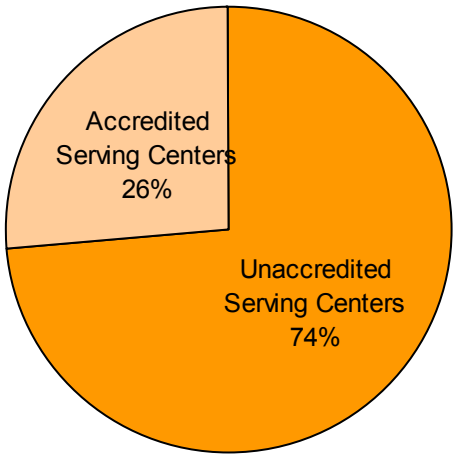
## *1. Accreditation **2009-2010***

**Percent of Accredited Centers Serving Subsidized Children**

This section presents information pertaining to the centers that children receiving subsidies attend. Centers can be accredited by any number of accrediting organizations. Accredited centers are required to maintain a certain level of quality based on the standards of the accrediting organization. Therefore, it is believed that accredited centers maintain a minimum standard of quality that should promote healthy growth and development in young children.

**What does it mean?**

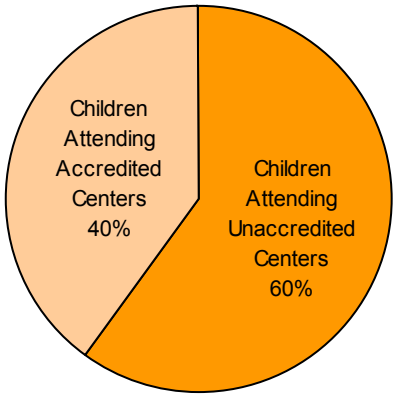
Only a quarter (26%) of the centers serving subsidized children are accredited. This indicates that there are a large number of unaccredited centers serving subsidized centers. Because the number of children at these centers can vary greatly (e.g., 1 vs. 25), it should not be concluded that less than half of the subsidized children are attending accredited centers (analyses exploring this are below).




**Percent of Subsidized Children attending Accredited Centers**

The number of children at accredited centers (compared to unaccredited centers) is explored by examining the average number of enrollments at the center-level and examining the percent of children who are enrolled at accredited and unaccredited centers.

| | Accredited | Unaccredited |
|---|---|---|
| Total Enrolled | 39.16 | 19.94 |
| Total Subsidized Children | 23.86 | 12.79 |
| % Subsidized (Subsidized / Enrolled) | 63% | 69% |




**What does it mean?**

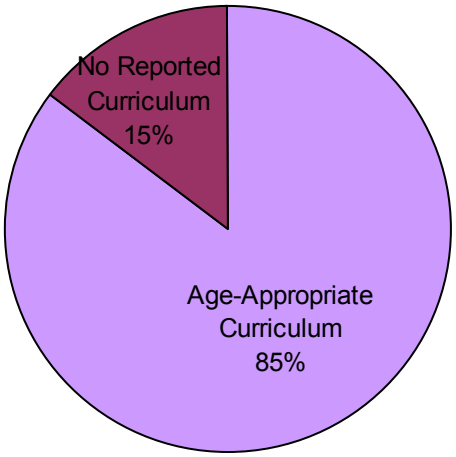
Accredited centers are larger, on average, serving more children (*M* = 39.16 children) compared to unaccredited centers (*M* = 19.94 children). Additionally, accredited centers have a larger average number of subsidized children (*M* = 23.86 children) compared to unaccredited centers (*M* = 12.79 children). However, accredited centers have a lower percent (63%) of subsidized children at their center than unaccredited centers (69%). Additionally, the majority of children (60%) attend an unaccredited center. This is to be expected given that only 26% of centers are accredited. This indicates that most subsidized children are attending unaccredited centers and those who are attending accredited centers are attending large (in terms of number of children) centers.

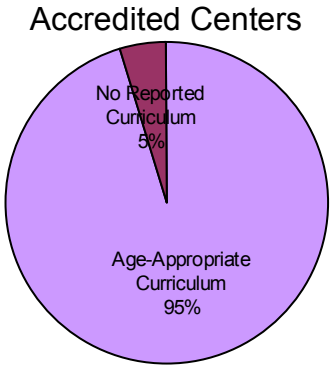
# **Overview:** D. Center Information

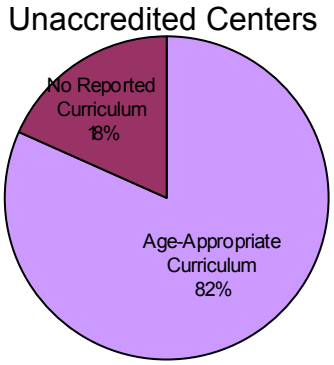
## 2. *Age-Appropriate Curriculum* ***2009-2010***

**Age-Appropriate Curriculum**

It is important for centers to use age-appropriate curriculum, particularly centers serving subsidized children who may need a little extra support with learning early school readiness skills. While age-appropriate curricula are generally a requirement for accredited centers, it is likely that unaccredited centers also use a specified age-appropriate curriculum.




**What does it mean?**

The majority (85%) of centers serving subsidized children use an age-appropriate curriculum. This is roughly consistent with the percent of unaccredited centers using an age-appropriate curriculum (82%). Almost all of the accredited centers (95%) are using an age-appropriate curriculum.

Because age-appropriate curriculum is more often used at an accredited center, it is possible that benefits associated with accreditation are related to the curriculum or at least to the *use* of a set curriculum. Further data analyses should be conducted to explore the effects of curriculum and accreditation on child outcome to determine if the effects of accreditation are independent of curriculum or if one factor is a proxy for the other.

# Overview: D. Center Information

## 3. *Staff-Child Ratio* ***2009-2010***

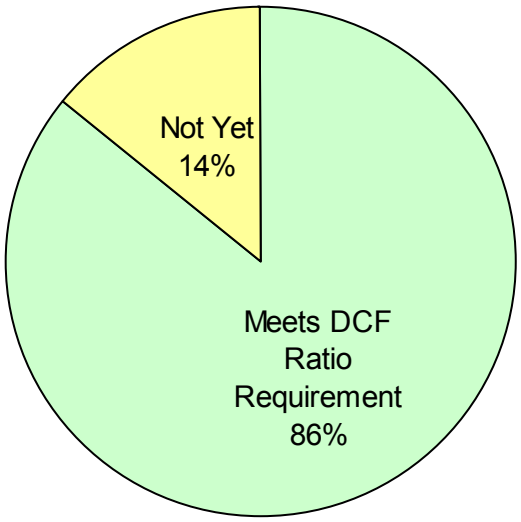
QUALITY COUNTS
Striving for Five Star Early Learning
South

Staff-child ratio data was available by age-group for a subset of 98 centers that are participating in the Quality Counts (South of Flagler) initiative. While these results may not necessarily reflect the staff-child ratios of the whole county, they do provide a bit of information about staff-child ratio for centers seeking to improve the quality of their facility.

### DCF Staff-Child Ratio

**Ratio Requirement:**

**Infants - 1:4**
**1 Year Olds - 1:6**
**2 Year Olds - 1:11**
**3 Year Olds - 1:15**
**4 Year Olds - 1:20**



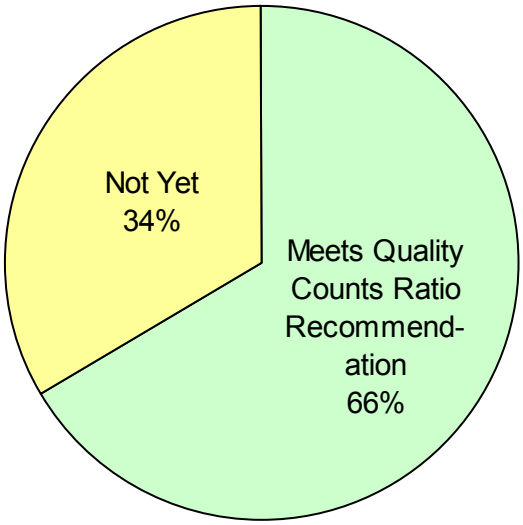

**What does it mean?**

The majority of the 98 centers meet the Florida Department of Children and Families 65C-22.001(4)(a)(b) & 402.305(4) ratio requirement.

### Quality Counts Staff-Child Ratio Recommendation

**Ratio Recommendation:**

**Infants - 1:4**
**1 Year Olds - 1:4**
**2 Year Olds - 1:6**
**3 Year Olds - 1:9**
**4 Year Olds - 1:10**




**What does it mean?**

Approximately two-thirds of the 98 centers meet the Quality Counts Initiative ratio recommendation.

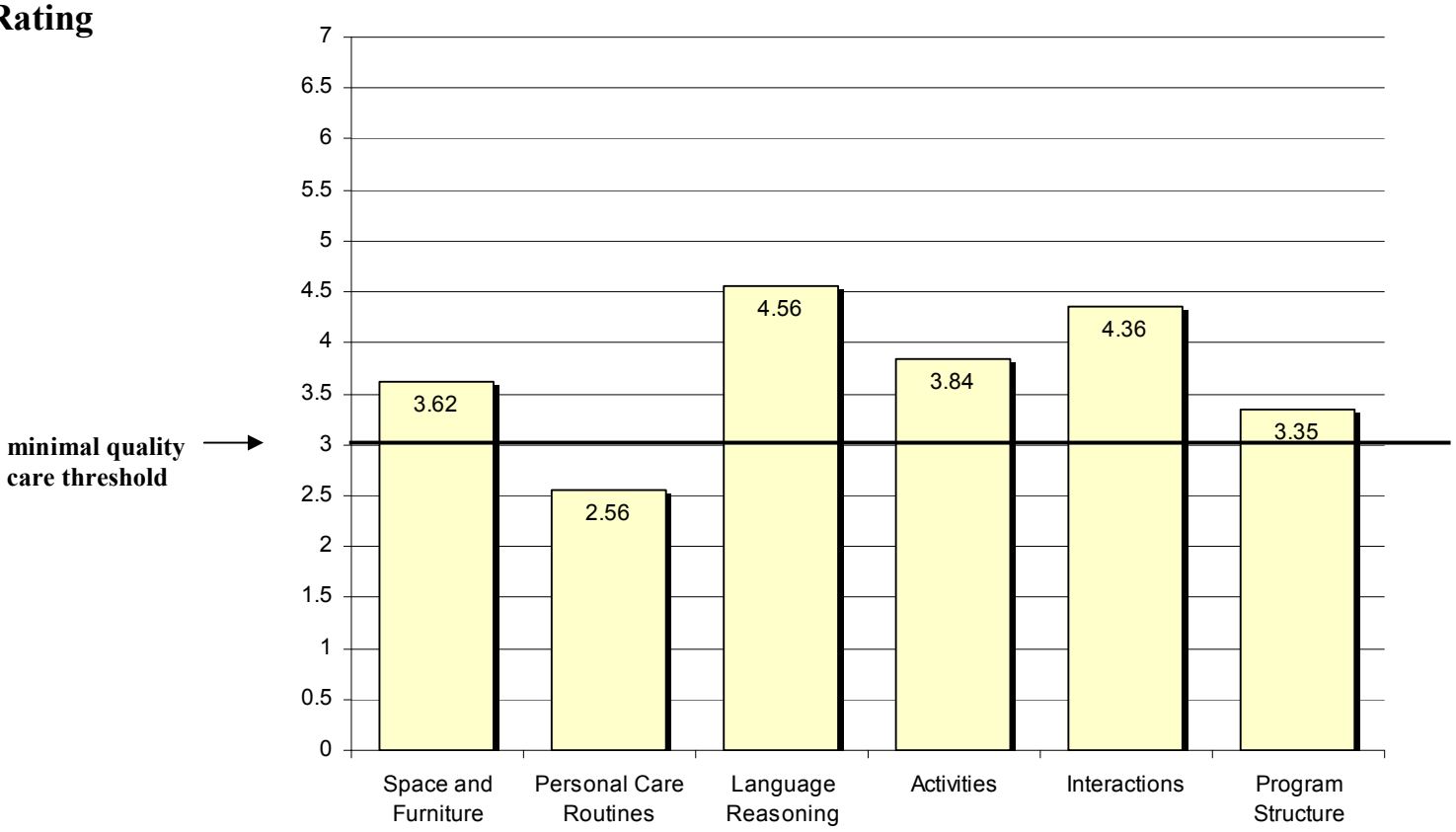
# **Overview:** D. Center Information

## *4. Environmental Rating* ***2009-2010***

**Center Information**

Environmental rating data was available for a subset of 122 centers that are participating in the Quality Counts—South initiative. Information on these centers help give a snapshot of what trends we may see among other centers in the county. The Early Childhood Environment Rating Scale – Revised Edition (ECERS-R; Harms et al., 1998) is an observational measure conducted by trained assessors that provides observer-based information on practices, materials, and interactions within early childhood environments and in particular non-familial childcare settings. Items on the ECERS-R are rated using a 1 to 7 scale with 1 = inadequate care, 3 = minimal care, 5 = good care, and 7 = excellent care in 6 domains areas: Space and Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interactions, and Program Structure.

**Environmental Rating**




**What does it mean?**

On average, the centers were above the minimal quality care threshold on the ECERS-R (score of 3.00 or higher) on all practice and environmental domains *excluding* Personal Care Routine. Personal Care Routine items on the ECERS-R capture basic health and safety features such as sanitary conditions are maintained during meal and nap times (ex. clean bedding), staff and children wash hands most of the time after toileting, essentials needed to handle emergencies are available (ex. telephone, emergency numbers, first aid kit).

CHAPTER 2

# Relevant Factors

# Relevant Factors

This chapter provides an overview of general factors that may influence screening/ assessment results and/or influence the interpretation of said results. All relevant factors uncovered in this chapter are controlled statistically in the analyses presented in Chapter 3.

Sections:

A. Gender

B. Race/Ethnicity

C. Chronological Age

D. Time-to-Assessment (Experience)

E. Rater: Teacher vs. Parent

F. Assessment Language

# Relevant Factors: A. Gender

## *ASQ—**2009-2010***

Boys and girls often perform differently on developmental tasks. Similarly, parents and teachers often rate boys and girls differently when filling out surveys and answering questions. While these differences are sometimes true differences (i.e., boys are behaving differently than girls), they can also be the product of bias (e.g., boys are expected to behave more aggressively and are scores are adjusted by raters accordingly). Regardless of the source of these differences, it is nonetheless important to determine if they exist in the present data. If there are differences, then gender will be taken into consideration in subsequent analyses.

The table below shows the percent concerns for girls and boys (the percents reflect the overall number of concerns divided by the total number *within* the gender category) for each subscale of the ASQ. Chi-square analyses (in the right column) indicate whether the difference is significant. The * indicates $p < .01$.

**Concerns by Gender across ASQ Subscale**

| ASQ Subscale | Female | Male | $X^2$ |
|---|---|---|---|
| Communication | 10.0% | 15.5% | 41.864* |
| Gross Motor | 4.9% | 5.5% | 1.120 |
| Fine Motor | 8.0% | 11.8% | 24.029* |
| Problem Solving | 8.7% | 13.0% | 29.485* |
| Personal Social | 3.4% | 5.8% | 20.913* |

**What does it mean?**

A significantly higher proportion of boys had concerns on each of the ASQ domains, except for gross motor, compared to girls. This indicates that either (a) boys are more developmentally delayed than girls or (b) that the raters of the ASQ or the ASQ itself is gender biased. Because the ASQ is not standardized separately for boys and girls and because we found significant differences, we will be using gender as a control variable in subsequent analyses.

# Relevant Factors: B. Race/Ethnicity

## *ASQ—**2009-2010***

It has been documented that children from different ethnic and/or racial groups can perform differently on different tasks. Reasons for these differences can be related to language, culture, or other ethnic or racially tied factors. It is also possible that assessments and/or raters are biased toward different racial/ethnic groups. Regardless of the source of these differences, it is nonetheless important to determine if they exist in the present data. If there are differences, then race/ethnicity will be taken into consideration in subsequent analyses.

The table below shows the percent concerns for Hispanic/Latino, Black/African-American, and White/Other children for each subscale of the ASQ. The percents reflect the overall number of concerns divided by the total number *within* the race/ethnicity category. Chi-square analyses (in the right column) indicate whether the difference is significant. The * indicates $p < .01$.

**Concerns by Ethnicity/Race and ASQ Subscale**

| ASQ Subscale | Hispanic | Black | White/Other | $X^2$ |
|---|---|---|---|---|
| Communication | 12.6% | 13.1% | 12.2% | .314 |
| Gross Motor | 4.7% | 5.7% | 8.6% | 7.172* |
| Fine Motor | 8.3% | 12.7% | 8.5% | 30.848* |
| Problem Solving | 10.0% | 12.2% | 12.1% | 7.137* |
| Personal Social | 4.6% | 4.5% | 7.9% | 4.09 |

**What does it mean?**

A significantly difference was found for three (3) out of the five subscales (gross motor, fine motor, problem solving). For gross motor, the White/Other children had more concerns than the other children. For fine motor, the Black/African-American children had more concerns than the other children. And for problem-solving, the Hispanic/Latino children had fewer concerns than the other children.

These findings indicate that children of different race/ethnic backgrounds have different strengths and weaknesses. Because the ASQ is not standardized separately racial/ethnic group and because we found differences, we will be using race/ethnicity as control variables in all subsequent analyses.

# **Relevant Factors**: C. Chronological Age

## *ASQ by Form-Month—**2009-2010***

While all of the assessments are standardized by age, it has been noted in a number of places that older children receive significantly higher *standard scores* than younger children. (Note: true age standard scores should be equal—on average—across age groups.)

The following table shows the percent of children who were rated as having a concern on the ASQ (by subscale and overall) by each of the age-graded forms. The hope is that there is a equivalent number of concerns across each age group.

**% Concerns by Form-Month**

| Form Month | Comm | Prob-Solv | Fine Motor | Pers-Soc | Gross Motor | Any Concern | Two+ Concerns (RF) |
|---|---|---|---|---|---|---|---|
| 4 (*n*=399) | 11% | 20% | 18% | 15% | 27% | 40% | 23% |
| 6 (*n*=242) | 6% | 27% | 18% | 10% | 12% | 34% | 18% |
| 8 (*n*=268) | 12% | 13% | 14% | 4% | 12% | 26% | 14% |
| 10 (*n*=283) | 9% | 11% | 9% | 5% | 3% | 19% | 10% |
| 12 (*n*=321) | 9% | 15% | 7% | 3% | 5% | 22% | 9% |
| 14 (*n*=295) | 29% | 20% | 13% | 3% | 6% | 38% | 18% |
| 16 (*n*=326) | 39% | 18% | 15% | 4% | 6% | 44% | 19% |
| 18 (*n*=353) | 16% | 19% | 13% | 4% | 7% | 30% | 16% |
| 20 (*n*=374) | 18% | 5% | 11% | 4% | 8% | 29% | 10% |
| 22 (*n*=379) | 16% | 18% | 12% | 10% | 10% | 31% | 17% |
| 24 (*n*=574) | 20% | 12% | 10% | 7% | 7% | 28% | 13% |
| 27 (*n*=652) | 10% | 15% | 12% | 4% | 5% | 23% | 12% |
| 30 (*n*=675) | 15% | 10% | 17% | 4% | 3% | 26% | 12% |
| 33 (*n*=678) | 10% | 13% | 11% | 3% | 7% | 23% | 11% |
| 36 (*n*=838) | 9% | 12% | 11% | 4% | 5% | 22% | 10% |
| 42 (*n*=738) | 8% | 10% | 11% | 11% | 5% | 21% | 12% |
| 48 (*n*=764) | 9% | 7% | 10% | 2% | 2% | 17% | 7% |
| 54 (*n*=653) | 18% | 8% | 3% | 5% | 7% | 23% | 9% |
| 60 (*n*=439) | 6% | 7% | 5% | 3% | 3% | 14% | 5% |
| **TOTAL (*N*=9251)** | **13%** | **13%** | **11%** | **5%** | **7%** | **25%** | **12%** |

**What does it mean?**

There are clear differences in the percent of children with concerns across each age group (within subscales and overall). In some cases, these differences appear to be linear (e.g., they decrease in number of concerns from the early ages to the later ages) and in other cases curvilinear (e.g., they increase for several months and then decrease). (Examples are shown on the following page.) This indicates that chronological age of child needs to be taken into consideration on subsequent analyses using standard scores.

# **Relevant Factors**: C. Chronological Age

## *ASQ by Form-Month—**2009-2010***

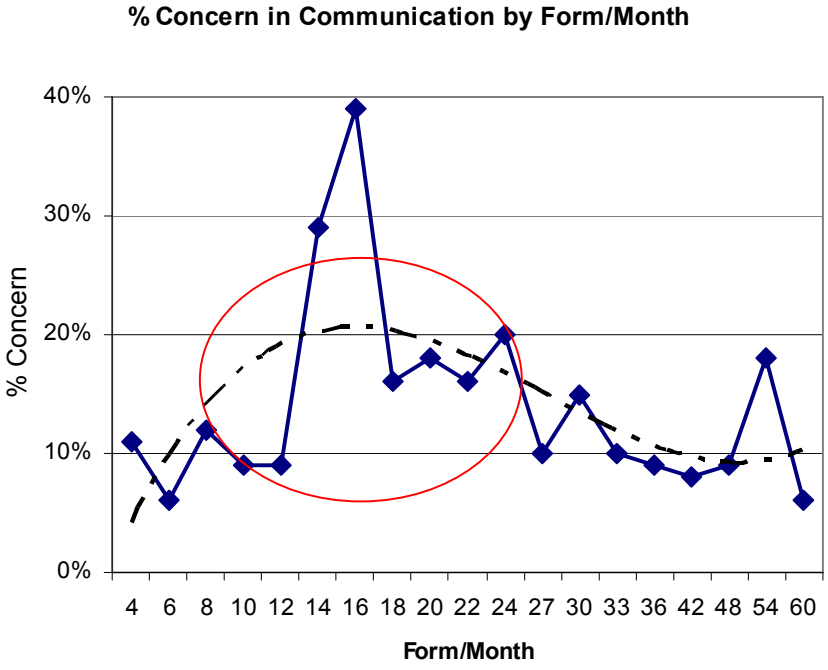
Below are examples from the ASQ of how children of varying chronological ages have varying rates of concern. The first example is ASQ communication subscale by age group. The second example is ASQ problem-solving by age group.

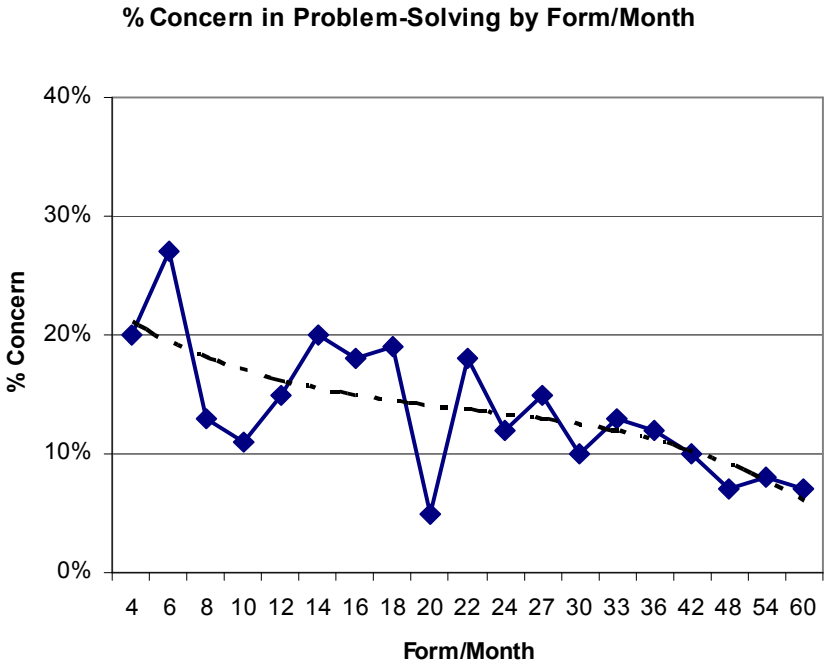
**Examples of Changes in % Concerns on the ASQ by Age Group**

**What does it mean?**

The first figure shows a curvilinear relationship between age group (form/month) and % concerns. This indicates that children are receiving more concerns on communication between 8 and 24 months than at other ages. While this is to be expected — given that language development is highly variable during this time frame — it is nonetheless important to take into consideration in subsequent analyses.

The second figure shows a linear decrease for concerns in problem-solving skills across the age groups. These differences also support the need for controlling chronological age in subsequent analyses.



# **Relevant Factors**: C. Chronological Age

## *LAP-D by Age—**2009-2010***

The following is further exploration of the relation between chronological age and standardized scores using the cognitive and language domains from the LAP-D. As stated on a previous page, standardized scores should yield an equivalent average value (e.g., 50%ile) across age groups.

The table below presents the bivariate correlations between chronological age and cognitive-matching, cognitive-counting, language-naming, and language-comprehension. Positive values indicate that there is a positive relationship between the variables (i.e., as one goes up, the other also goes up; as one goes down, the other also goes down). The * indicates a significant relationship at $p < .05$.

**Relations between Chronological Age and LAP-D Standard Scores**

| | Cognitive Domain | | Language Domain | |
|---|---|---|---|---|
| | Matching | Counting | Naming | Comprehension |
| Chronological Age | .18* | .19* | .22* | .28* |

**What does it mean?**

There is a significant and positive correlation between all of the cognitive and language subscale standard scores (T-scores[1]) and chronological age. This indicates that the chronological age of a child when given the LAP-D will impact his/her score—despite the score being standardized. In practice, this suggests that if a LAP-D is given early in the school year (i.e., when the child is younger), a child may score lower than if the LAP-D was given later in the year. While this difference *might* be related to experience in the classroom/preschool, the findings are consistent regardless of the semester (per vs. post), year (2008 vs. 2009), and the duration between assessments (time between pre and post). In other words, when exploring experience with other methods, the chronological age effect is still present. Therefore, chronological age is important to statistically control in all subsequent analyses. This conclusion is the same as that reached when exploring chronological age with the ASQ.

1. *T-scores have a mean of 50 and a standard deviation of 10.*

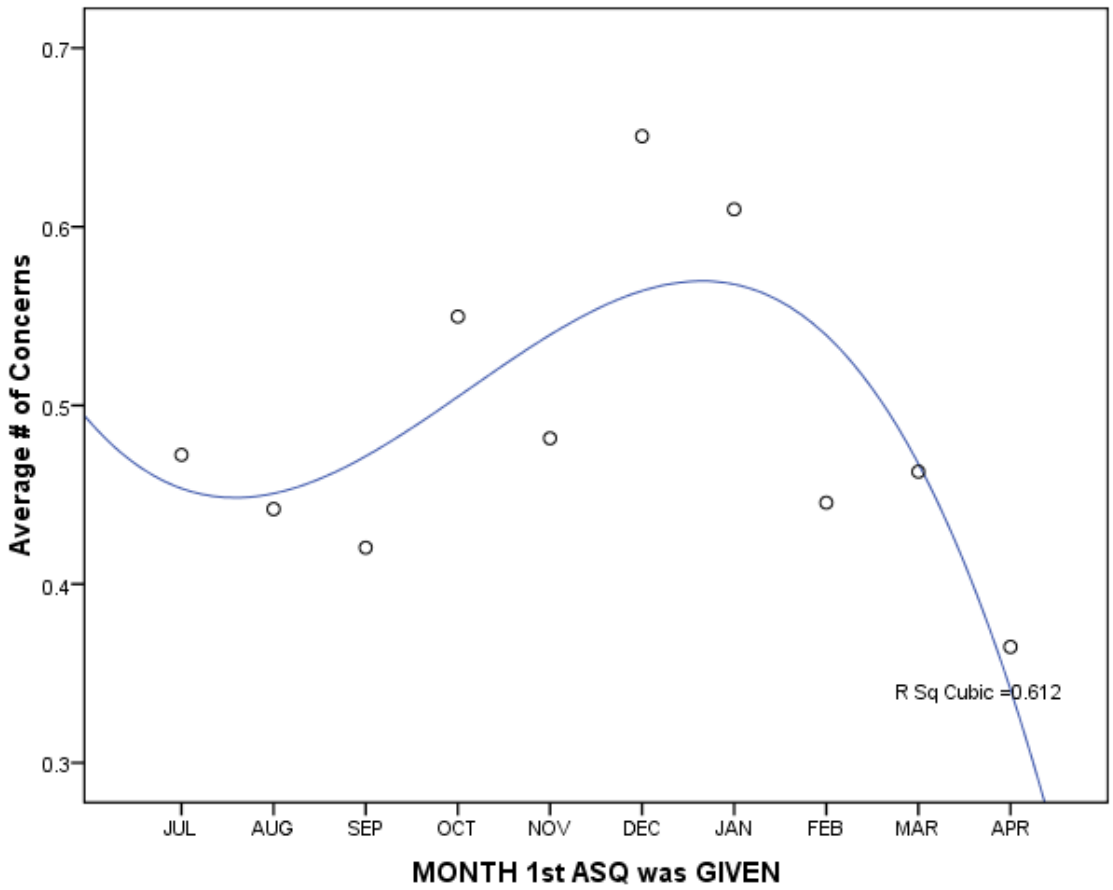
# Relevant Factors: D. Time-to-Assessment

## *ASQ—**2009-2010***

Another potential factor related to assessment outcome is time-to-assessment. Time-to-assessment refers to the amount of time that elapses between the start of data collection and the date the child is actually assessed. Time-to-assessment can be thought of as "experience in the classroom" or "days/months in preschool" before the assessment is given.

The figure below shows the average # of concerns on the ASQ by month of assessment (i.e., "AUG" indicates that a child received the ASQ in August). It should be expected that the # of concern is consistent across the months if time-to-assessment is not related to the # of concerns a child is given.

**Concerns by Month of 1st ASQ**




*Note:* Categorical significant difference, $F(9,10376) = 5.679$, $p < .001$. Cubic curve fits at $R^2 = .612$.

**What does it mean?**

A significant curvilinear relationship was found between average # concerns and time-to-first-assessment. This indicates that children are more likely to receive more concerns if the ASQ is completed between October and January than other times of the year. Therefore, time-to-assessment will be controlled in all analyses.

# Relevant Factors: D. Time-to-Assessment

## *LAP-D—**2009-2010***

Time-to-assessment was also explored with the LAP-D. For the LAP-D, time-to-assessment (i.e., the number of days into the school year before receiving the assessment) was correlated with the cognitive and language subscales.

The table below shows the bivariate correlations between time-to-assessment and cognitive-matching, cognitive-counting, language-naming, and language-comprehension. Positive correlations indicate that as time-to-assessment increases, so do scores on the LAP-D. Negative correlations indicate that as time-to-assessment increase, scores on the LAP-D decrease. The * indicates a significant correlation at $p < .05$. The + indicates a near-significant correlation.

**Correlations between Time-to-Assessment and LAP-D Subscales**

| | Cognitive Domain | | Language Domain | |
|---|---|---|---|---|
| | Matching | Counting | Naming | Comprehension |
| Time-to-Assessment | -.03 | -.11+ | -.09 | -.08 |

**What does it mean?**

None of the correlations reached significance and only one was near-significant. This indicates that time-to-assessment is not a factor for LAP-D scores. Because it was a factor for ASQ scores (see previous page), time-to-assessment will be included as a control factor in subsequent analyses. However, it is not expected that time-to-assessment will have any impact on LAP-D scores in subsequent analyses.

# Relevant Factors: E. Teacher vs. Parent

## *ASQs—**2009-2010***

In most cases, the ASQ was filled out by the teacher during the 2009-2010 year. However, there are a number of ASQs filled out by parents. This section explores whether the rater (teacher vs. parent) matters for the outcome of the ASQ.

**ASQ by Rater 2009-2010**

Table 1. % of Concerns by ASQ subscale and rater. The % shown is the # of concerns divided by the total number given *for that particular rater* (such that base-rate differences are accounted for).

| ASQ Subscale | Parent | Teacher | $X^2$ |
|---|---|---|---|
| Communication | 12.3% | 13.9% | 4.42* |
| Gross Motor | 6.8% | 6.3% | 1.00 |
| Fine Motor | 11.0% | 11.2% | .110 |
| Problem Solving | 12.8% | 12.5% | .182 |
| Personal Social | 5.8% | 5.2% | 1.49 |
| Any Concern | 24.8% | 25.6% | .702 |
| 2+ Concerns | 11.8% | 12.1% | .214 |

Table 2. ASQ subscale mean scores for teacher vs. parents.

| ASQ Subscale | Teacher | Parent | *t* |
|---|---|---|---|
| Communication | 48.97 (14.11) | 49.92 (13.48) | 3.06* |
| Gross Motor | 54.23 (10.32) | 54.23 (10.63) | -.012 |
| Fine Motor | 48.73 (13.15) | 48.43 (13.01) | -1.01 |
| Problem Solving | 48.62 (13.44) | 48.99 (13.49) | 1.23 |
| Personal Social | 50.39 (11.99) | 50.23 (12.32) | -.576 |

*Note.* **= $p$<.001, * $p$< .05

**What does it mean?**

The data presented in these tables show that there are differences in % concern and total scores based on raters in communication—but not the other subscales. While there is only one subscale that shows differences, it is nonetheless important to take rater into consideration in future analyses. Therefore, rater will be controlled in all subsequent analyses presented in this booklet.

The ASQ was filled out in both English and Spanish. Because the ASQ was never standardized in Spanish, it is important to consider the language as a potential factor that might affect outcome. This section explores the form language of the ASQ.

## ASQ by Form Language

Table 1. % of Concerns by ASQ subscale and language. The % shown is the # of concerns divided by the total number given *for that particular language* (such that base-rate differences are accounted for).

| ASQ Subscale | English | Spanish | $X^2$ |
|---|---|---|---|
| Communication | 14.2% | 12.5% | 5.78* |
| Gross Motor | 7.5% | 5.4% | 17.08** |
| Fine Motor | 12.8% | 9.3% | 28.40** |
| Problem Solving | 13.9% | 11.3% | 14.70** |
| Personal Social | 5.4% | 5.3% | .001 |
| Any Concern | 28.2% | 22.4% | 40.26** |
| 2+ Concerns | 13.4% | 10.6% | 16.84** |

Table 2. ASQ subscale mean scores for English vs. Spanish form language.

| ASQ Subscale | English | Spanish | *t* |
|---|---|---|---|
| Communication | 48.47 (14.06) | 50.11 (13.71) | -5.642* |
| Gross Motor | 53.85 (10.79) | 54.63 (10.01) | -3.59* |
| Fine Motor | 47.48 (13.56) | 49.82 (12.51) | -8.53* |
| Problem Solving | 47.86 (13.87) | 49.65 (12.94) | -6.36* |
| Personal Social | 50.21 (12.37) | 50.48 (11.80) | -1.08 |

*Note.* **= $p<.001$, * $p< .05$

**What does it mean?**

On all subscales except personal-social, both % concern and mean scores are different based on the language of assessment. This suggests that there might be a difference between the Spanish and English version of the ASQ. According to the ASQ, the Spanish version was never standardized. Because of these differences, the language of assessment will be used as a control variable in subsequent analyses.

# CHAPTER 3

# School Readiness Skills

*The program must, at a minimum, enhance the age-appropriate progress of each child in the development of the school readiness skills…*

FL Statute 411 (c)(1)(a)

# School Readiness Skills

This chapter explores children's school readiness skills. In each section, the relevant assessment and screening data pertaining to school readiness skills will be presented. These data will be explored across cohorts (i.e., year to year) and within the 2009-2010 cohort (i.e., pre to post) where applicable. All analyses included in this section used the variables outlined in the previous chapter as control factors.

Sections:

A. Cognitive
    1. Verbal Communication Skills
    2. Problem Solving Skills
    3. Counting Skills

B. Social
    1. Interactions with Adults
    2. Compliance and Self-Control
    3. Initiative and Persistence
    4. Self-Help Skills

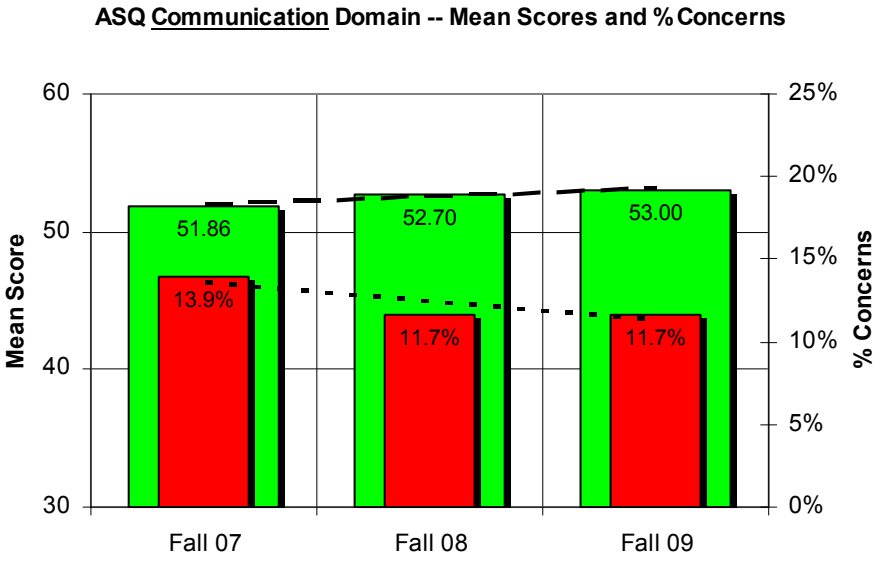
C. Physical
    1. Manipulating Objects
    2. Gross Development

# School Readiness Skills: A. Cognitive

## 1. Verbal Communication Skills

Verbal communication skills are both receptive (i.e., listening) and expressive (i.e., talking). These skills are measured through the ASQ communication subscale, the LAP-D language naming and comprehension subscales, and the E-LAP communication subscale. This section explores verbal communication skills with each of these measures during the 2009-2010 year, as well as with comparisons to previous years.

### ASQ Communication

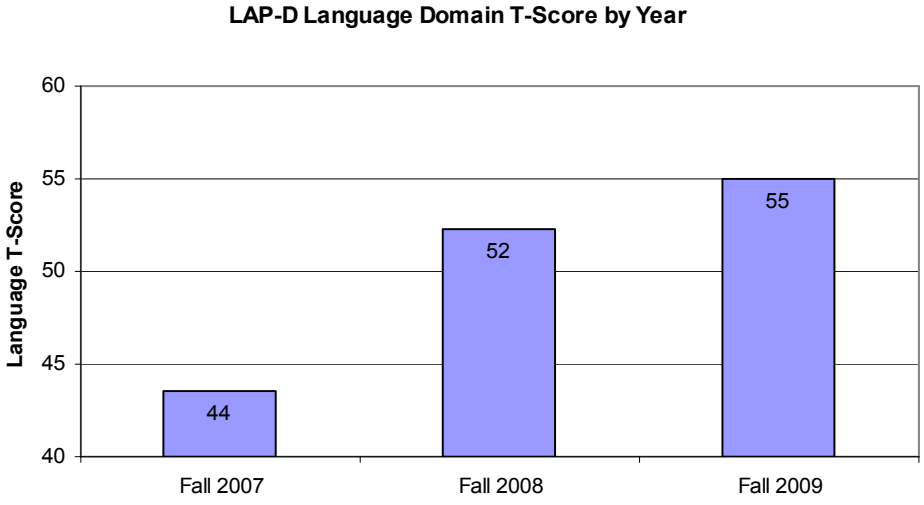



**What does it mean?**

The mean score for communication has increased over the past three years. The current mean score is 53.

The % of children with concerns in communication has decreased over the past three years. There are approximately 11.7% of children with a concern in communication.

### LAP-D Language Naming & Comprehension



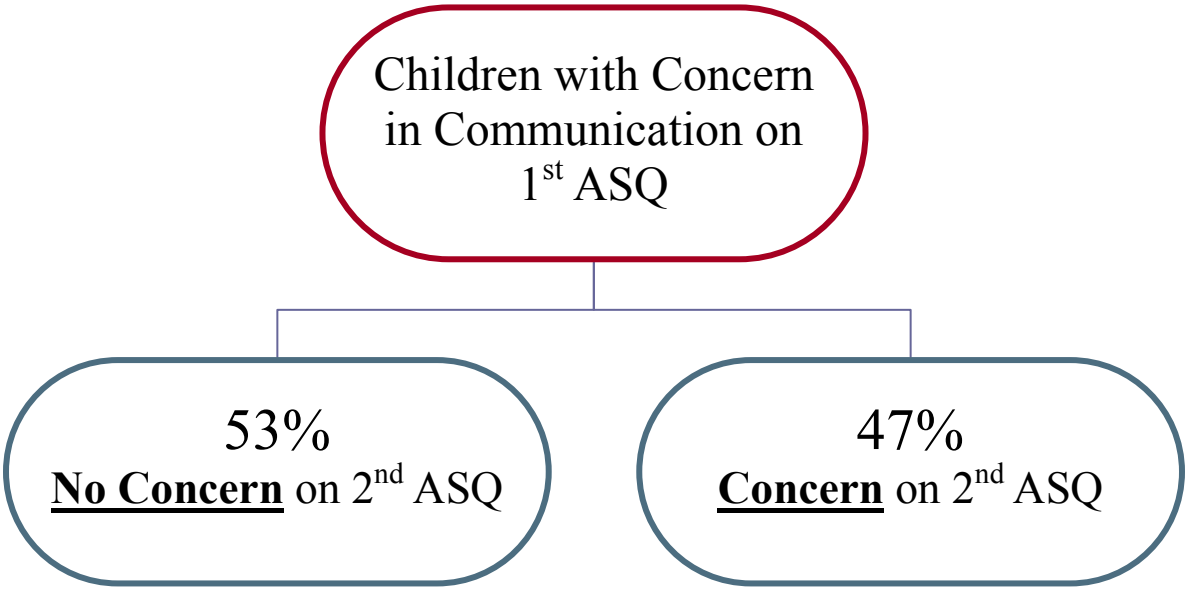

**What does it mean?**

The mean T-score for language skills has generally increased since Fall 2004. The current mean T-score is 54.82.

The goal of a mean T-score of 50 was reached in Fall 2007. The current goal is to have children reach an average T-score of 60 for language skills by Fall 2011. This goal will be attained if the current trends continue.

**Change in the number of ASQ Concerns in Communication from 1st ASQ to 2nd ASQ**

Children with a valid, verified, and confirmed concern on the ASQ are given a follow-up a few months later. The goal is to lower the percent of children who have a concern on the ASQ in the area of communication. Because teachers and coaches focus their intervention work on the areas of concern, it is expected that there will be a decrease in the percent of children with concerns on the ASQ communication subscale.




**What does it mean?**

Slightly over half (53%) of the children who had a concern in communication on their first valid, verified, and confirmed ASQ did *not* have a concern in communication on their 2nd ASQ. This suggests that the interventions and programs that teachers and coaches use to improve the communication skills of children with concerns are beneficial. While it is possible that the decrease in percent of children with concerns is related to other factors, the direct impact of intervention and programmatic changes cannot be ruled out. Further study is needed to explore how interventions and programmatic changes impact children's development.

# School Readiness Skills: A. Cognitive

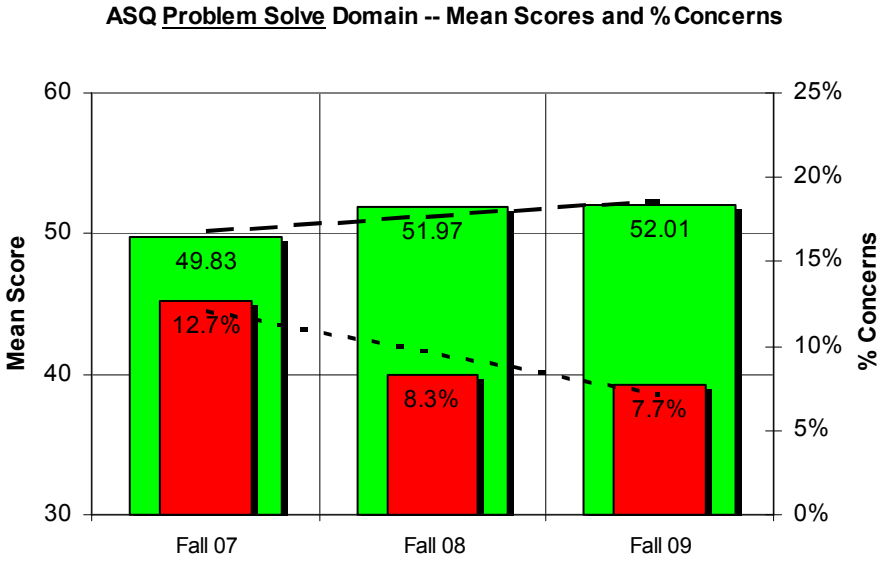
## 2. *Problem-Solving Skills*

Problem-solving skills generally require children to use cognitive processing and critical thinking. These skills are measured through the ASQ problem-solving subscale, the LAP-D cognitive manipulation subscale, and the E-LAP cognitive subscale. This section explores problem-solving skills with each of these measures during the 2009-2010 year, as well as with comparisons to previous years.

### ASQ Problem-Solving

**What does it mean?**

The mean score for problem solving has increased over the past three years. The current mean score is 52.

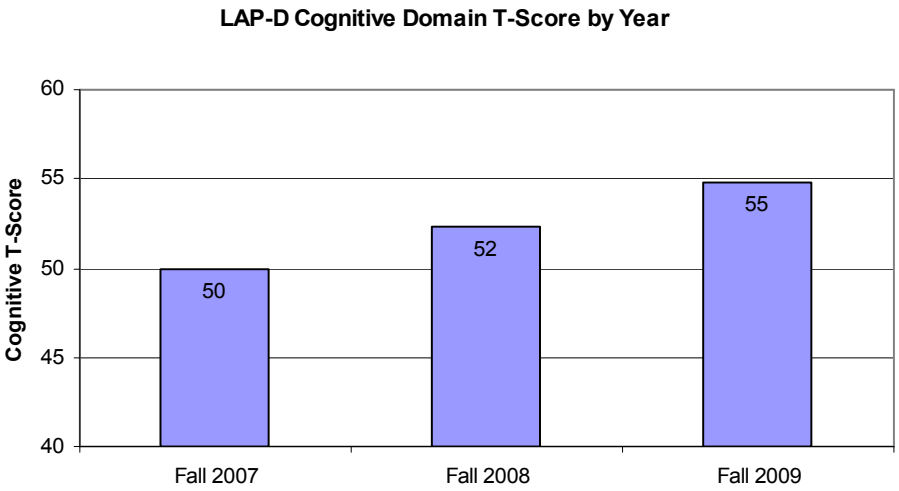



The % of children with concerns in problem solving has decreased over the past three years. There are approximately 7.7% of children with a concern in problem solving.

### LAP-D Cognitive Domain

**What does it mean?**

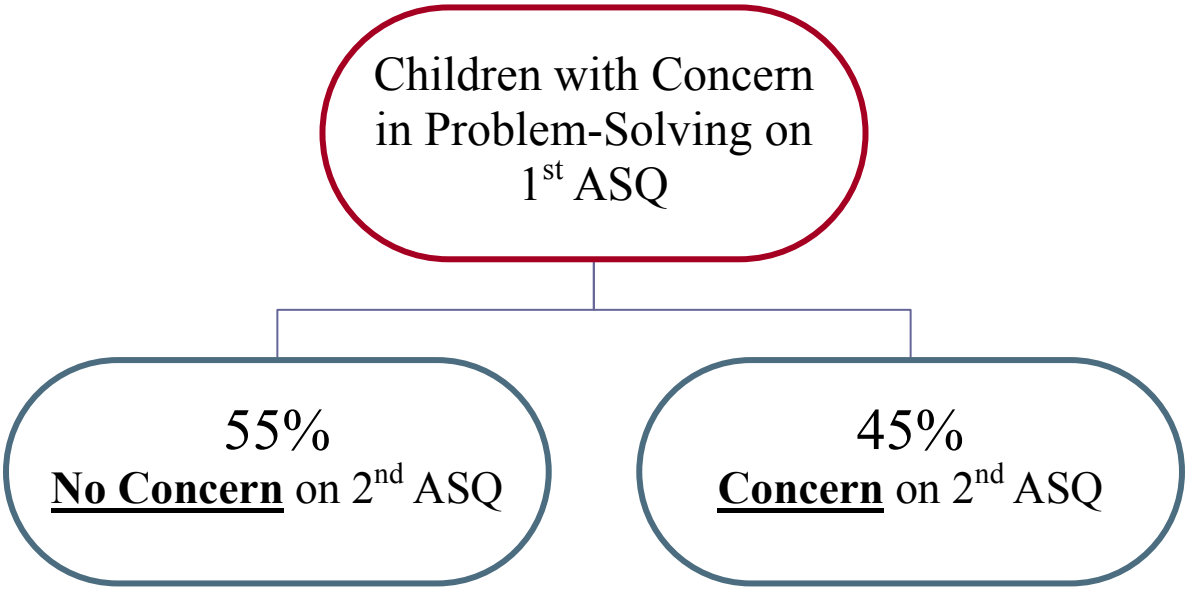
The mean T-score for cognitive skills has generally increased since Fall 2004. The current mean T-score is 54.82.




The goal of a mean T-score of 50 was reached in Fall 2007. The current goal is to have children reach an average T-score of 60 for cognitive skills by Fall 2011. This goal will be attained if the current trends continue.

**Change in the number of ASQ Concerns in Problem-Solving from 1st ASQ to 2nd ASQ**

Children with a valid, verified, and confirmed concern on the ASQ are given a follow-up a few months later. The goal is to lower the percent of children who have a concern on the ASQ in the area of problem-solving. Because teachers and coaches focus their intervention work on the areas of concern, it is expected that there will be a decrease in the percent of children with concerns on the ASQ problem-solving subscale.




**What does it mean?**

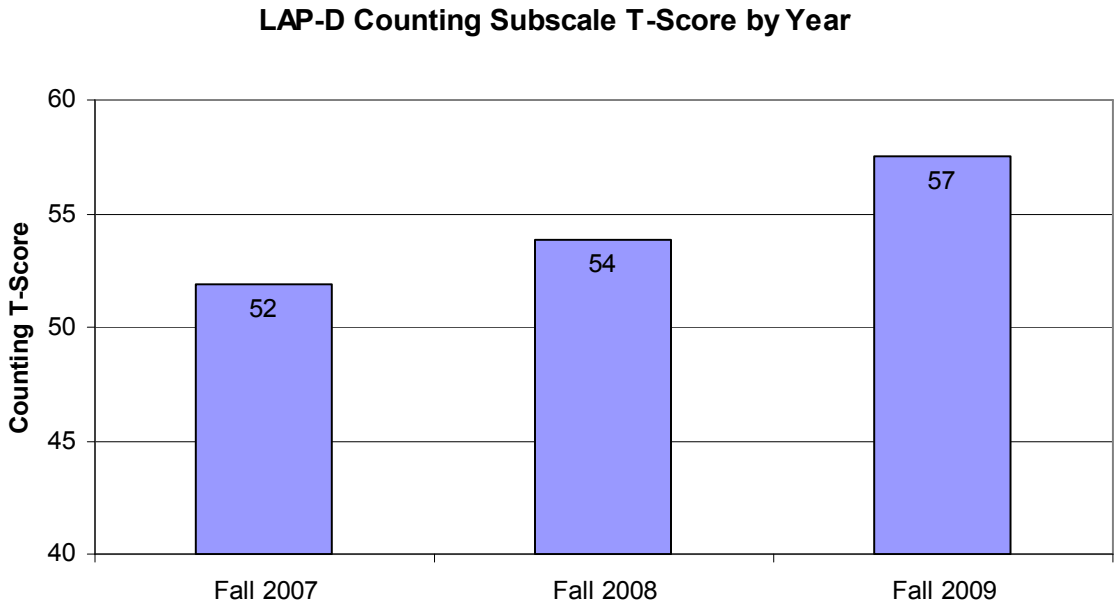
Slightly over half (55%) of the children who had a concern in problem-solving on their first valid, verified, and confirmed ASQ did *not* have a concern in problem-solving on their 2nd ASQ. This suggests that the interventions and programs that teachers and coaches use to improve the problem-solving skills of children with concerns are beneficial. While it is possible that the decrease in percent of children with concerns is related to other factors, the direct impact of intervention and programmatic changes cannot be ruled out. Further study is needed to explore how interventions and programmatic changes impact children's development.

# School Readiness Skills: A. Cognitive

## 3. Counting Skills

Counting skills include reciting number words (in chronological order), one-to-one correspondence, and cardinality (knowing that the last number stated is the amount of the set). These skills are measured through the LAP-D cognitive counting subscale. This section explores problem-solving skills with each of these measures during the 2009-2010 year, as well as with comparisons to previous years.

### LAP-D Cognitive Counting




**What does it mean?**

The mean score for counting has increased over the past three years. The current mean score is 57. This indicates that children have been gaining counting skills over the past three years.

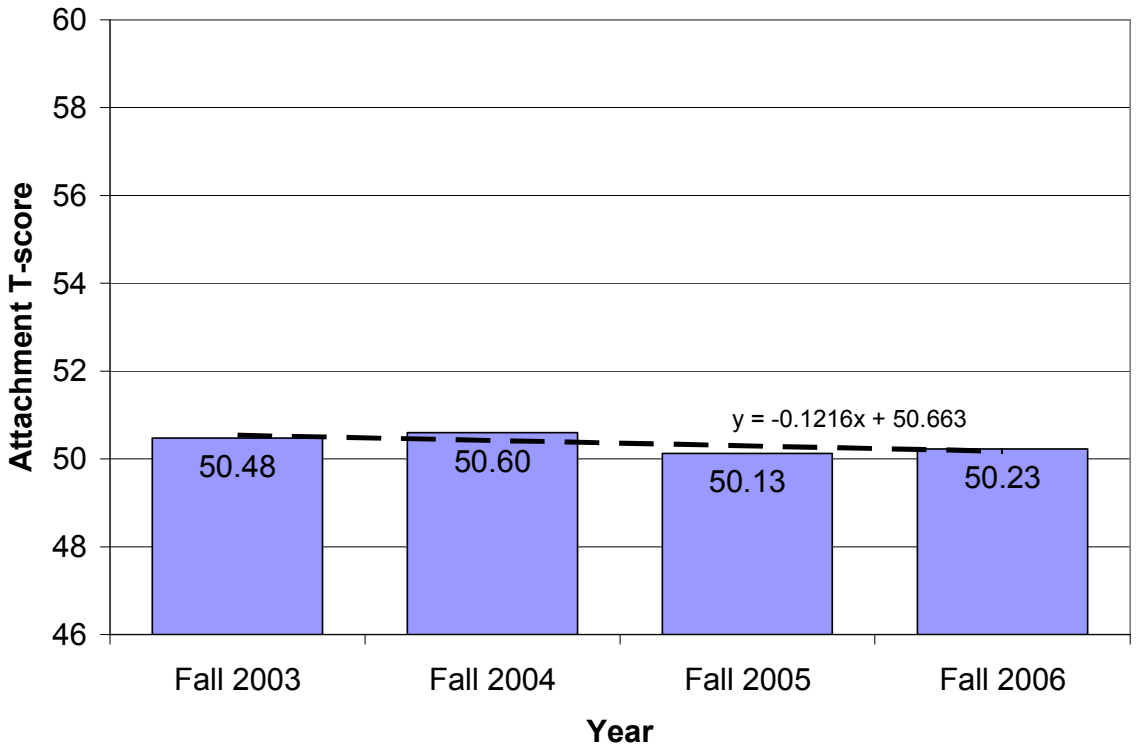
# School Readiness Skills: B. Social

## 1. *Interactions with Adults*

Interactions with adults consists of a child's attachment, closeness, and soothability with adults. These skills are measured through the DECA attachment subscale.

*NOTE*: 2009-2010 data are not available for interaction with adults. Data from previous years are explored.

**DECA Attachment 2003-2006**




**What does it mean?**

The average T-score for DECA attachment was relatively stable between Fall 2003 and Fall 2006. There is a very slight negative trend (estimated to be approximately -.12 T-score points per year). These analyses show that the interactions between children and adults did not improve between Fall 2003 and Fall 2006 (indeed, they decreased very slightly).

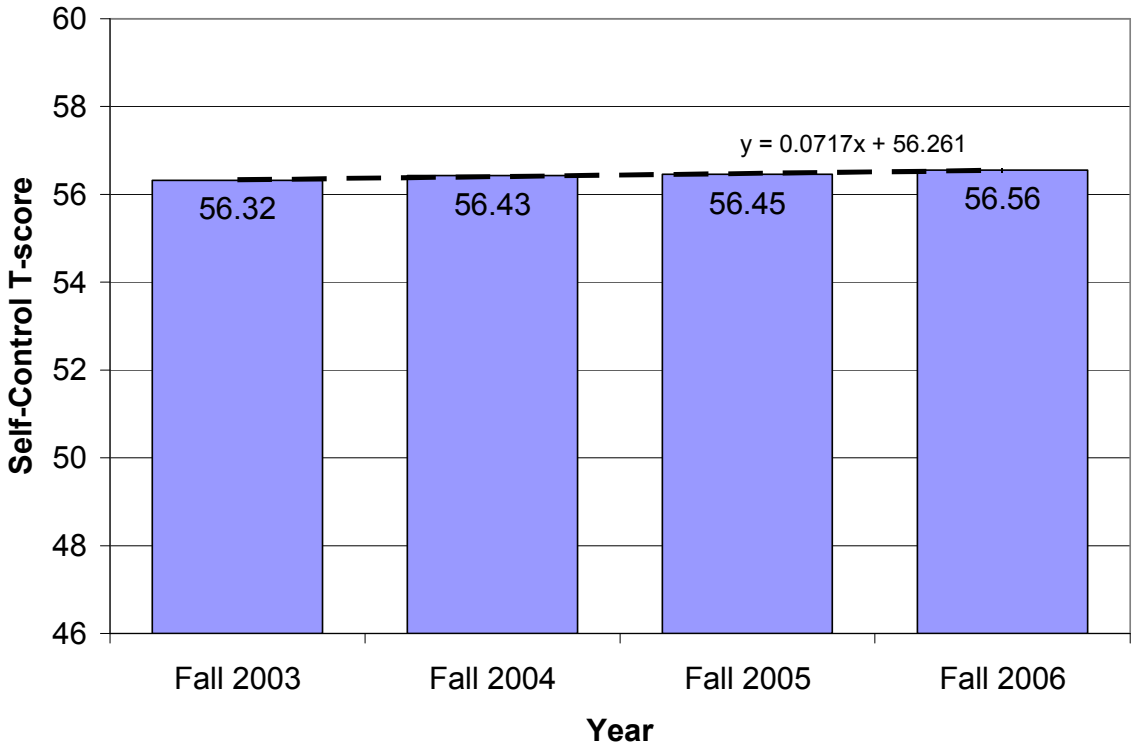
# School Readiness Skills: B. Social

## 2. *Compliance and Self-Control*

Compliance and self-control involve children's ability to follow rules and guidelines and to resist or inhibit poor behavioral choices. These skills are measured through the DECA self-control subscale.

*NOTE*: 2009-2010 data are not available for interaction with adults. Data from previous years are explored.

**DECA Self-Control 2003-2006**




**What does it mean?**

The average T-score for DECA self-control slightly increased between 2003 and 2006. The increase per year is approximately .07 T-score points per year. This indicates that children did improve their self-control across these four years, albeit ever so slightly.

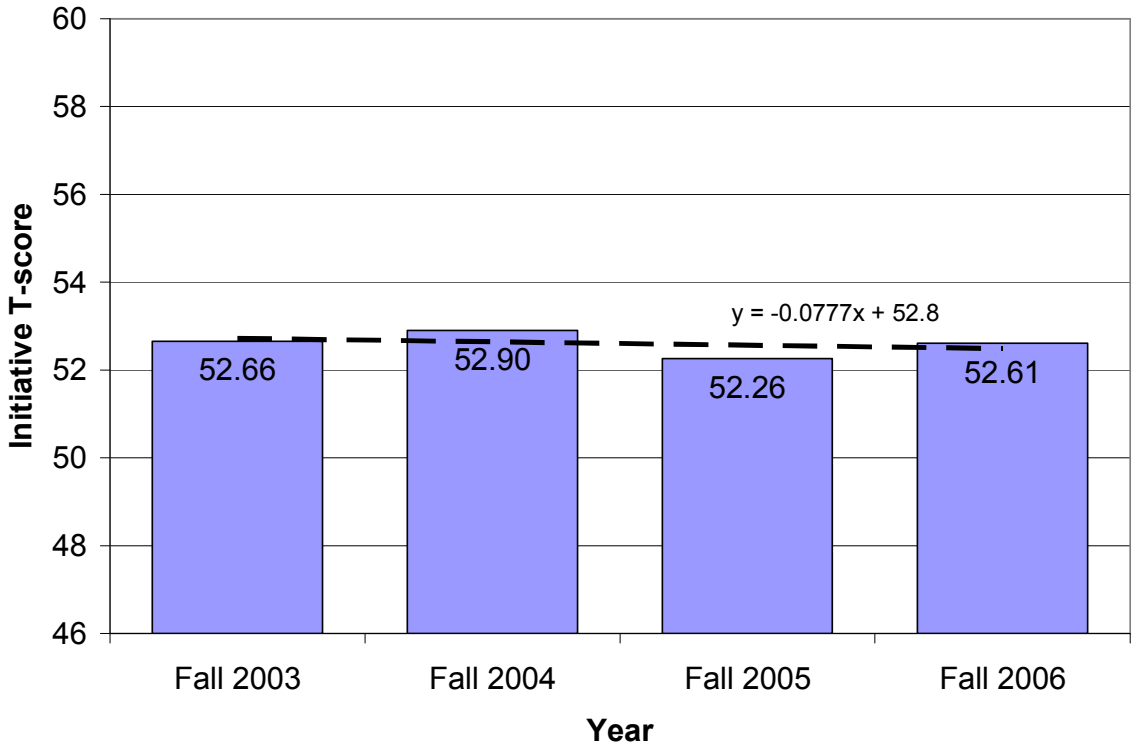
# School Readiness Skills: B. Social

## *3. Initiative and Persistence*

Initiative and persistence involve children's desire and ability to devote time and attention to a given task until it is completed. These skills are measured through the DECA initiative subscale.

*NOTE*: 2009-2010 data are not available for interaction with adults. Data from previous years are explored.

**DECA Initiative 2003-2006**




**What does it mean?**

The average T-score for DECA initiative decrease slightly between 2003 and 2006. This decrease is estimated to be approximately -.07 T-score points per year. While this decrease is slight, the goal was for children to increase in initiative and persistence across the years. These analyses show that children, on average, were rated as being less persistent from 2003 to 2006.

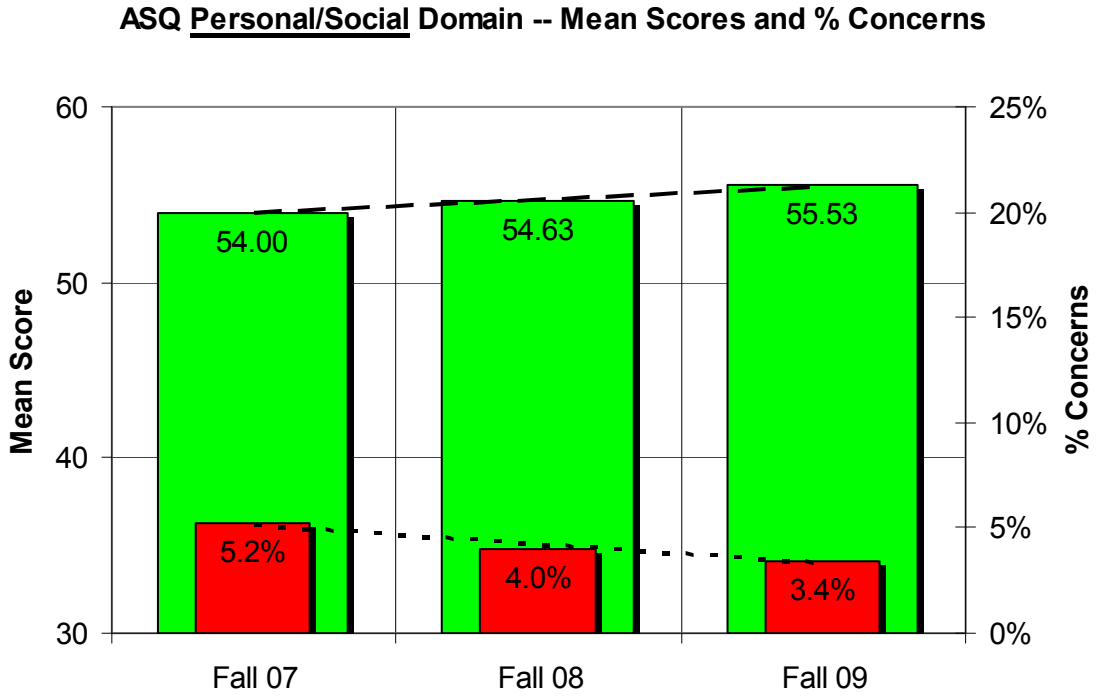
# School Readiness Skills: B. Social

## *4. Self-Help Skills*

Self-help skills are things that children need to learn to take care of themselves. These include things such as cleaning up after him/herself, washing hands, being toilet-trained, etc. The ASQ personal/social domain addresses many of these self -help skills.

The figure below presents the total mean score and % concerns for personal/ social from 2007 through 2009. The goal is to increase the mean score while de-creasing the percent of concerns.

**ASQ Personal-Social**

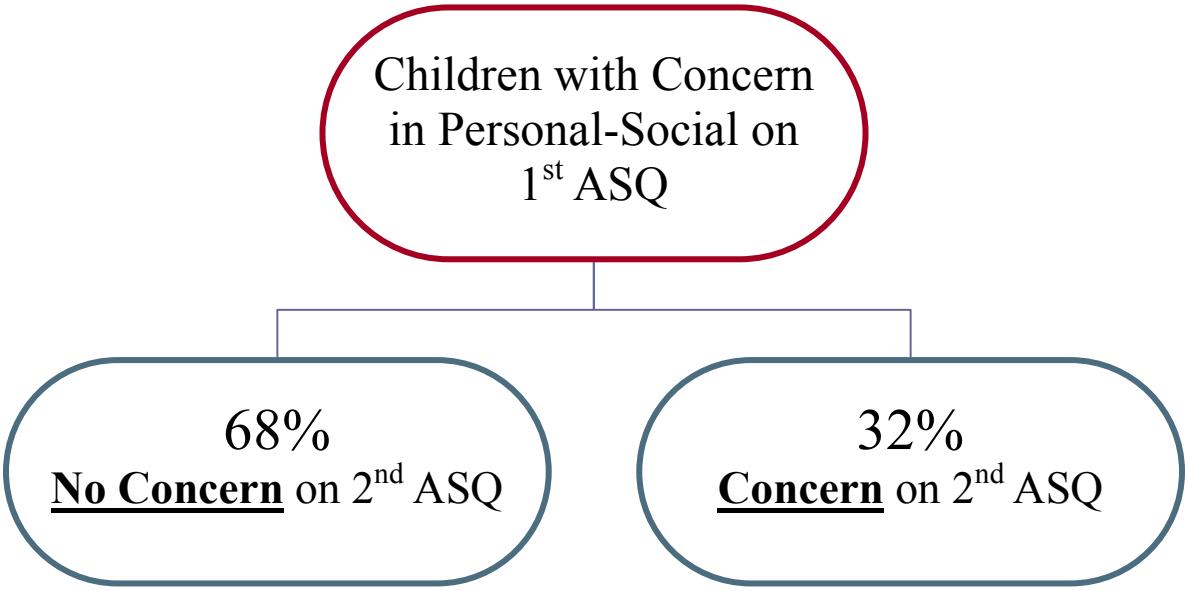



**What does it mean?**

As shown in the figure above, the mean score increase between 2007 and 2009 and the percent concerns decreases. These findings indicate that children are learning more self-help skills each year.

**Change in the number of ASQ Concerns in Personal-Social from 1st ASQ to 2nd ASQ**

Children with a valid, verified, and confirmed concern on the ASQ are given a follow-up a few months later. The goal is to lower the percent of children who have a concern on the ASQ in the area of personal-social. Because teachers and coaches focus their intervention work on the areas of concern, it is expected that there will be a decrease in the percent of children with concerns on the ASQ personal-social subscale.




**What does it mean?**

Over half (68%) of the children who had a concern in personal-social on their first valid, verified, and confirmed ASQ did *not* have a concern in personal-social on their 2nd ASQ. This suggests that the interventions and programs that teachers and coaches use to improve the personal-social skills of children with concerns are beneficial. While it is possible that the decrease in percent of children with concerns is related to other factors, the direct impact of intervention and programmatic changes cannot be ruled out. Further study is needed to explore how interventions and programmatic changes impact children's development.

# School Readiness Skills: C. Physical

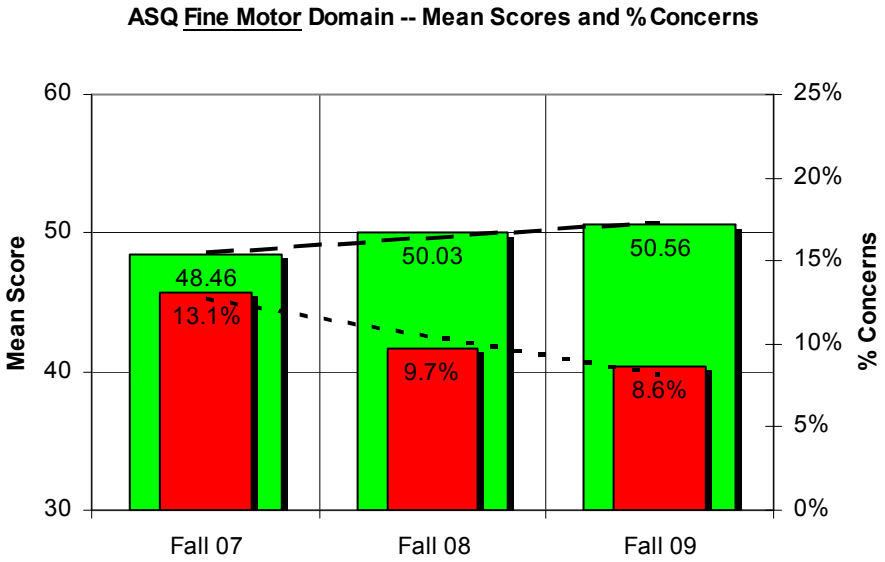
## 1. Manipulating Objects

Manipulating objects (fine motor) general consists of two areas: hand-eye coordination (e.g., threading a needle) and using an object as a tool (e.g., coloring with a crayon). These skills are measured through the ASQ fine motor subscale, the LAP-D fine motor manipulation and writing subscales, and the E-LAP fine motor subscale. This section explores fine motor object manipulation with each of these measures during the 2009-2010 year, as well as with comparisons to previous years.

### ASQ Fine Motor

**What does it mean?**

The mean score for fine motor has increased over the past three years. The current mean score is 50.56.

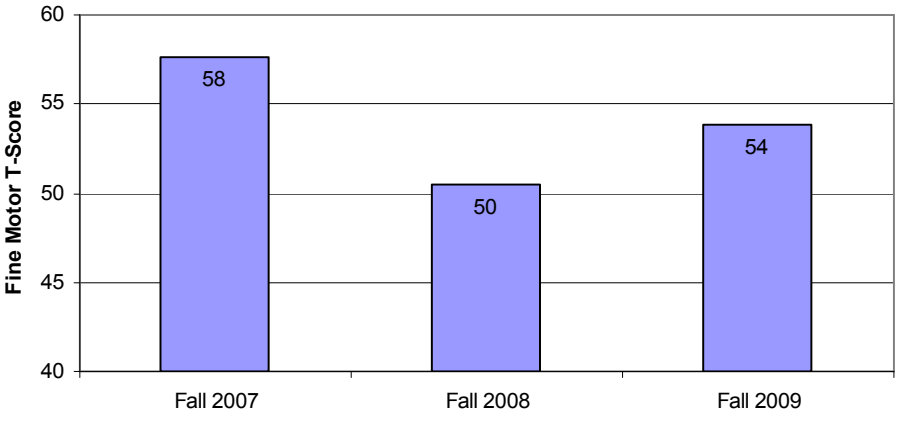



The % of children with concerns in fine motor has decreased over the past three years. There are approximately 8.6% of children with a concern in fine motor.

### LAP-D Fine Motor Domain

**What does it mean?**

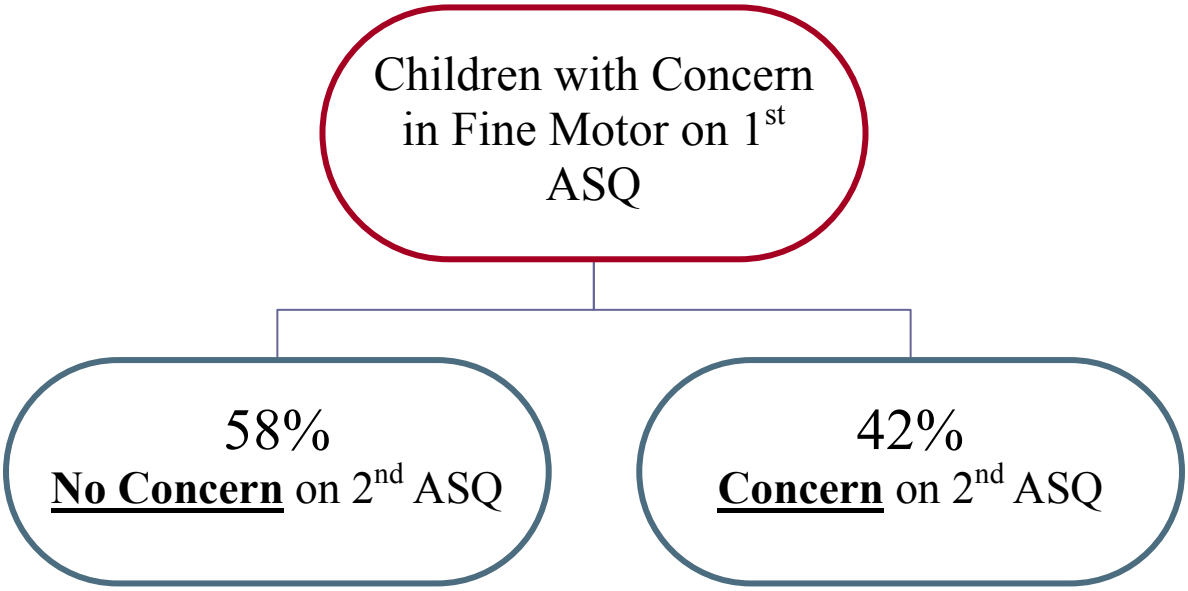
The mean T-score for fine motor skills has generally increased since Fall 2004. The current mean T-score is 54.82.




The goal of a mean T-score of 50 was reached in Fall 2007. The current goal is to have children reach an average T-score of 60 for fine motor skills by Fall 2011. This goal will be attained if the current trends continue.

**Change in the number of ASQ Concerns in Fine Motor from 1st ASQ to 2nd ASQ**

Children with a valid, verified, and confirmed concern on the ASQ are given a follow-up a few months later. The goal is to lower the percent of children who have a concern on the ASQ in the area of fine motor. Because teachers and coaches focus their intervention work on the areas of concern, it is expected that there will be a decrease in the percent of children with concerns on the ASQ fine motor subscale.




**What does it mean?**

A little over half (58%) of the children who had a concern in fine motor on their first valid, verified, and confirmed ASQ did *not* have a concern in fine motor on their 2nd ASQ. This suggests that the interventions and programs that teachers and coaches use to improve the fine motor skills of children with concerns are beneficial. While it is possible that the decrease in percent of children with concerns is related to other factors, the direct impact of intervention and programmatic changes cannot be ruled out. Further study is needed to explore how interventions and programmatic changes impact children's development.

# School Readiness Skills: C. Physical

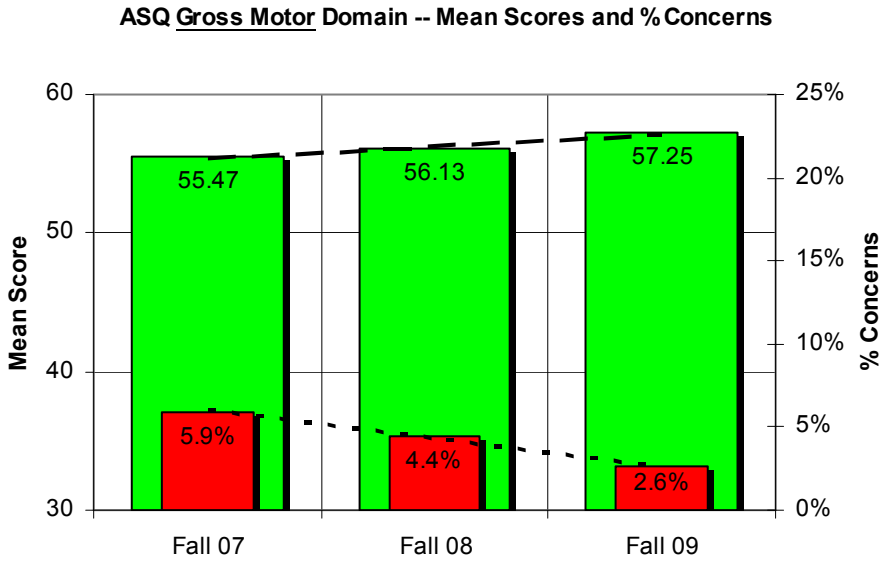
## 2. *Gross Development*

Gross motor development consists of large body movements that may or may not interact with objects (e.g., jumping vs. throwing a ball). These skills are measured through the ASQ gross motor subscale, the LAP-D gross motor domain, and the E-LAP gross motor subscale. This section explores gross motor development with each of these measures during the 2009-2010 year, as well as with comparisons to previous years.

### ASQ Gross Motor

**What does it mean?**

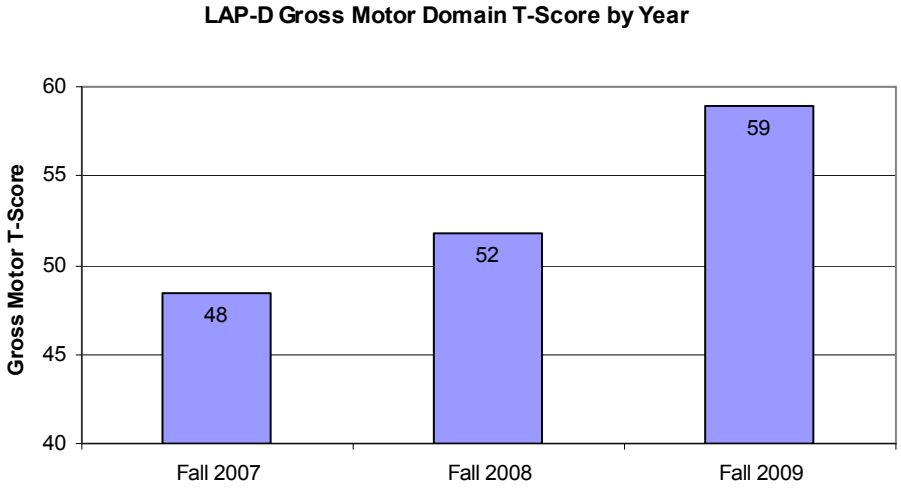
The graph shows that the mean score for gross motor has increased from 2007 through 2009 and that the % concerns have decreased. This indicates that children becoming increasingly more proficient in gross motor development.




### LAP-D Gross Motor Domain

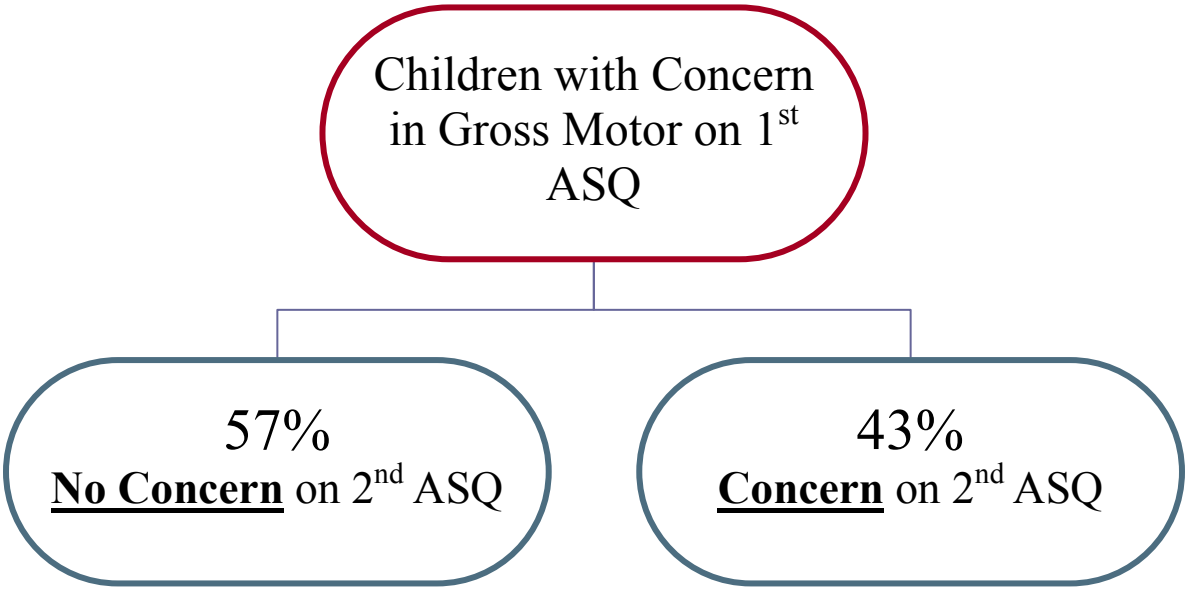
**What does it mean?**

The graph shows a steady increase in gross motor skills as assessed by the LAP-D. This further supports a steady increase in the gross motor development of subsidized children from 2007 through 2009.



**Change in the number of ASQ Concerns in Gross Motor from 1st ASQ to 2nd ASQ**

Children with a valid, verified, and confirmed concern on the ASQ are given a follow-up a few months later. The goal is to lower the percent of children who have a concern on the ASQ in the area of gross motor. Because teachers and coaches focus their intervention work on the areas of concern, it is expected that there will be a decrease in the percent of children with concerns on the ASQ gross motor subscale.




**What does it mean?**

A little over half (57%) of the children who had a concern in gross motor on their first valid, verified, and confirmed ASQ did *not* have a concern in gross motor on their 2nd ASQ. This suggests that the interventions and programs that teachers and coaches use to improve the gross motor skills of children with concerns are beneficial. While it is possible that the decrease in percent of children with concerns is related to other factors, the direct impact of intervention and programmatic changes cannot be ruled out. Further study is needed to explore how interventions and programmatic changes impact children's development.

# CHAPTER 4

# Center Factors

It is one of the goals of any early learning organization to enhance child school readiness skills by increasing the quality of early education centers.

# Center Factors

This chapter provides data relevant to how early learning centers relate to school readiness skills in children. Some of these data are available for a wide range of centers, while other data are limited to centers participating in Quality Counts—South.

Sections:

A. Accreditation

B. Teacher Credentials
    1. Degrees
    2. CDA Credential

# **Center Factors**: A. Accreditation

## *Attendance at Accredited Center vs. Unaccredited Center*

**Scores for Children who attended Accredited and Unaccredited Centers**

The table below displays average scores on the ASQ for children who attended accredited and unaccredited centers. Accredited centers are generally viewed as having higher quality — as they are required to meet the accrediting organizations standards — and thus are expected to support the development of young children.

Data are presented for children who attended accredited and unaccredited centers for each ASQ subscale. Average scores and *F*-values are presented for each subscale.

| ASQ Subscale | Accredited | Unaccredited | F-value |
|---|---|---|---|
| Communication | 50.79 | 49.77 | 9.46** |
| Gross Motor | 55.42 | 55.01 | 3.33 |
| Fine Motor | 50.21 | 48.95 | 16.73*** |
| Problem-Solving | 50.67 | 49.43 | 16.03*** |
| Personal-Social | 51.67 | 51.11 | 3.91* |

* $p < .05$. ** $p < .01$. *** $p < .001$.

**What does it mean?**

Children who attend accredited centers tend to score higher on all ASQ subscales, except for gross motor, compared to those who attend unaccredited centers. This suggests there might be a difference between accredited and unaccredited centers. Children in accredited centers tend to score higher in communication, fine motor, problem-solving, and personal-social skills. Children in accredited centers might be scoring higher in these areas as a result of the standards associated with being an accredited center. In order to be accredited, centers need to meet specific standards of quality in a variety of domains (e.g. learning environment, group ratio, family engagement, etc.), whereas unaccredited centers are not required to do so. This is not to say that some unaccredited centers might meet or exceed similar standards despite not being accredited. Either way, it seems that the standards required for accreditation have some positive impact on young children's development.

# Center Factors: B. Teacher Credentials

## *1. Formal Degrees (High School, College, & University)*

### Degree Type and LAP-D Domain Scores

The following is an exploration of the relation between teacher degree and children's outcomes using the LAP-D and ASQ. The first table presents point-biserial correlations between degree (Y/N) and LAP-D domain scores. Positive values indicate a positive relationship between the variables, such that as one goes up, the other one goes up, and vice-versa. The second table presents point-biserial correlations between degree and ASQ subscale scores. If degree is related to child score, significant correlations will emerge.

| | Fine Motor | Cognition | Language | Gross Motor |
|---|---|---|---|---|
| High School Diploma | .085 | .037 | .021 | .049 |
| Associate's Degree (not in ECE) | -.053 | .003 | -.075 | .025 |
| Associate's Degree in ECE | -.061 | .016 | -.019 | -.024 |
| Bachelor's Degree (not in ECE) | -.010 | .001 | -.018 | -.004 |
| Bachelor's Degree in ECE | -.016 | .191** | .171** | .069 |
| Master's Degree (not in ECE) | .001 | .025 | -.054 | -.033 |
| Master's Degree in ECE | -.082 | -.118 | -.102 | .002 |
| Doctorate Degree | -.051 | .017 | -.025 | -.021 |

* $p < .05$. ** $p < .01$. *** $p < .001$.

**What does it mean?**

### Degree Type and ASQ Subscale Scores

There is a small significant positive relationship between Bachelor's degree in Early Childhood Education (ECE) and LAP-D cognitive and language scores. This indicates that children who have teachers with a Bachelor's degree in ECE may have a small positive impact on their students in the domains of cognition and language development.

| | Communication | Gross Motor | Fine Motor | Problem-Solving | Personal-Social |
|---|---|---|---|---|---|
| High School Diploma | -.010 | .006 | .004 | .003 | -.002 |
| Associate's Degree (not in ECE) | -.008 | .008 | -.003 | .000 | -.005 |
| Associate's Degree in ECE | -.014 | .009 | .015 | -.003 | .002 |
| Bachelor's Degree (not in ECE) | -.008 | -.003 | -.019 | -.010 | -.014 |
| Bachelor's Degree in ECE | .004 | -.003 | .027* | .005 | .012 |
| Master's Degree (not in ECE) | -.013 | .008 | -.013 | -.004 | -.010 |
| Master's Degree in ECE | .024* | .027* | .012 | .012 | .023 |
| Doctorate Degree | .008 | .004 | .007 | .023 | .016 |

* $p < .05$. ** $p < .01$. *** $p < .001$.

**What does it mean?**

There is a very small but significant positive relations between fine motor and Bachelor's degree in Early Childhood Education (ECE). This indicates that children are score slightly higher in fine motor if their teacher holds a Bachelor's degree in ECE. There is also a very small positive correlation between Master's degree in ECE and communication and gross motor. This indicates that there might be a very slight positive impact on children with teacher with these degrees.

# Center Factors: B. Teacher Credentials

## 2. *CDA Credential*

The following is an exploration of the relation between teacher credentials (CDA and CDA-equivalent) and children's outcomes using the LAP-D and ASQ. The first table presents point-biserial correlations between credential (Y/N) and LAP-D domain scores. Positive values indicate a positive relationship between the variables, such that as one goes up, the other one goes up, and vice-versa. The second table presents point-biserial correlations between credential and ASQ subscale scores. If degree is related to child score, significant correlations will emerge.

**Credential Type and LAP-D Domain Scores**

| | Fine Motor | Cognition | Language | Gross Motor |
|---|---|---|---|---|
| CDA | .000 | -.018 | .047 | .046 |
| CDA-Equivalent | -.121 | -.089 | -.083 | -.115 |

**Degree Type and ASQ Subscale Scores**

| | Communication | Gross Motor | Fine Motor | Problem-Solving | Personal-Social |
|---|---|---|---|---|---|
| CDA | -.013 | -.017 | -.010 | -.016 | .007 |
| CDA-Equivalent | -.026* | -.010 | .003 | -.023 | -.014 |

* $p < .05$. ** $p < .01$. *** $p < .001$.

**What does it mean?**

There were no significant associations between teachers' CDA credentials and student outcomes on the LAP-D. Only one correlation was significant for CDA credentials and ASQ scores. A very small *negative* relationship emerged between CDA-Equivalent and communication. This means that communication scores were slightly lower for children who had teachers with a CDA-Equivalent credential.

Taken together, these data suggest that there really is no strong relationship between CDA/CDA-Equivalent credential and children's development. Because these data were not explored within the context of other factors, such as degree, center accreditation, and other student factors, it should be interpreted as only a first-pass finding and conclusions drawn should be tentative.

# CHAPTER 5

# At-Risk Children

Children who are billing group BG1 are considered “at risk.” These children include those in foster care, under protective services, or in relative care. While these children represent only 10% of the population served, they are often the children in most need of services.

# At-Risk Children

This chapter provides data relevant to at-risk children (i.e., children under protective services, in foster care, or in relative care). Included is an overview of their representation in various center types and the assessment program. Additionally, comparison of their screening results to other children is included.

Sections:

A. Representation
    1. Demographics
    2. Center Size
    3. Accreditation
    4. Number of Screenings

B. Screening Results

# **At-Risk Children**: A. Representation

## *1. Comparison of Demographics with Eligibility Group*

**Demographics compared to Eligibility Group**

The table below shows the demographic breakdown for the children in the at-risk group (and at-risk subgroups) and the eligibility group (all eligible subsidized children). Comparisons can be made between the eligibility group and the at-risk group to determine if there are any significant demographic differences. These differences are also examined amongst the children in each of the at-risk subgroups.

| | Eligibility Group | At-Risk Group | Protective Services | Foster Care | Relative Care |
|---|---|---|---|---|---|
| Gender | | | | | |
| Male | 51.8% | 51.5% | 50.4% | 54.7% | 53.3% |
| Female | 48.2% | 48.5% | 49.6% | 45.3% | 46.7% |
| Ethnicity | | | | | |
| Hispanic/ Latino | 58.2% | 38.2% | 38.8% | 31.4% | 41.8% |
| Black/African-American | 39.2% | 55.9% | 56.6% | 58.4% | 50.2% |
| White/Other | 2.6% | 6.0% | 4.6% | 10.2% | 8.1% |
| Age (in years) | | | | | |
| Mean (SD) | 3.00 (1.23) | 2.52 (1.29) | 2.47 (1.27) | 2.59 (1.37) | 2.69 (1.31) |

**What does it mean?**

Overall, the demographic representation of children in the at-risk group is different from other children in the eligibility group. While there seems to be a similar breakdown of gender, a closer examination reveals that there are more boys in the Foster Care (54.7%) and Relative Care group (53.3%) compared to what would be expected based on the eligibility group (51.8%).

The eligibility group is comprised mostly of Hispanic/Latino children (58.2%; with 39.2% Black/African-American), while the at-risk group (overall) is comprised mostly of Black/African-American children (55.9%; with 38.2% Hispanic/Latino). This pattern holds true for all at-risk groups. This indicates that children in the at-risk groups are overrepresented by Black/African-American children.

Interestingly, the age of the children in the at-risk (overall) group (2.52 years) is lower than the age of the children in the eligibility group (3.00 years). This difference in years *might* be due to the fact that preschool-age (3-5 years) at-risk children are receiving other services and/or funding for preschool (such as Head Start or Public Pre-K).

# At-Risk Children: A. Representation

## 2. Comparison of Center-Size with Eligibility Group

**Center size**

The table below presents center size — in terms of number of children and staff — for centers serving children in the eligibility group and centers serving children in the at-risk group. The factors explored are (a) total number of children enrolled at the center, (b) total number of subsidized children enrolled at the center, (c) % of subsidized children at the center (subsidized / enrolled), (d) total number of staff at the center, (e) % of staff to number of children enrolled (staff / enrolled), and (f) % of staff to number of subsidized children (staff / subsidized).

| | Centers Serving Eligibility Group | Centers Serving At-Risk Group | *F*-value |
|---|---|---|---|
| Total Enrolled | 53.77 | 54.84 | 1.39 |
| Total Subsidized | 35.09 | 37.20 | 12.43*** |
| % Subsidized (Subsidized / Enrolled) | 67% | 70% | 57.78*** |
| | | | |
| Total Staff | 11.51 | 10.56 | 22.79*** |
| % Staff to Enrolled (Staff / Enrolled) | 27% | 25% | 10.86** |
| % Staff to Subsidized (Staff / Subsidized) | 39% | 35% | 39.87*** |

**What does it mean?**

Significant differences were found between all indicators of center size between the centers serving eligibility children and centers serving at-risk children, except for total enrolled. Centers serving at-risk children tend to have more subsidized children enrolled, higher percent of subsidized children (to total enrolled), fewer total staff, lower percent of staff to total enrolled, and lower percent of staff to total subsidized children.

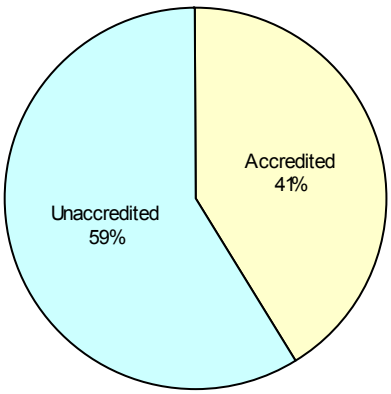
This suggests that at-risk children are more likely to be at centers that have more subsidized children with fewer staff. In other words, it is likely that the staff-child ratio (though not explored here because the information is not available by age-group) is lower (fewer staff per child) at centers serving at-risk children.

The size of centers serving at-risk children—in terms of number of children and number of staff—should be explored further. This should also be explored in terms of child outcome data. It is possible that at-risk children would fair better (see outcome results in subsequent pages) in terms of school readiness skills if they attended centers with lower staff-child ratios. But again, this is mere speculation at this point.

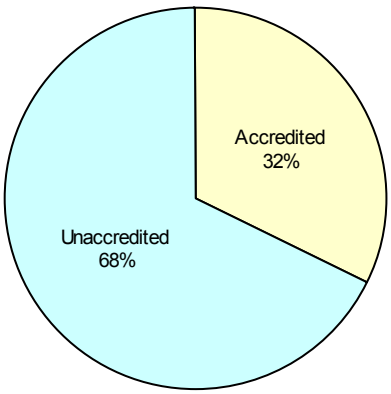
**% Children attending Accredited Center**

The figures below compare the percent of children attending accredited and unaccredited centers. The first figure shows the data for children in the eligibility group; the second figure shows the data for children in the at-risk group. It might be expected that a similar percent of children in the at-risk group attend an accredited center compared to the eligibility group.

Children in eligibility group




Children in at-risk group




**What does it mean?**

Approximately 41% of children not considered at-risk attended an accredited center compared to 32% of at-risk children. Comparatively, one would expect that an equivocal proportion (or greater proportion) of at-risk children (compared to those not in the at-risk group) would be attending an accredited center. This was not found. At-risk children are less likely to attend an accredited center compared to other children.

**% Screened with ASQ compared to Eligibility Group**

The table below contains the percent of at-risk children who were eligible to be screened and the percent of at-risk children who were screened with the ASQ. It is expected that the same percent of children eligible for screening would be screened. Discrepancies in the percent of children screened would suggest an under-representation or over-representation of at-risk children screened.

| At-Risk Group | % Eligible for Screening | % Screened w/ ASQ | Difference |
|---|---|---|---|
| Protective Services | 8.1% | 6.6% | 1.5 |
| Foster Care | 1.6% | 1.6% | 0 |
| Relative Care | 1.7% | 1.7% | 0 |
| TOTAL | 11.4% | 9.9% | 1.5 |

**What does it mean?**

The percent of children who are considered at-risk in the eligibility population is approximately 11.4%. The percent of at-risk children who were screened with the ASQ is approximately 9.9%. The percent of at-risk children screened with the ASQ is slightly lower than what would be expected based on the eligibility group.

In particular, at-risk children in the protective services group are underrepresented in the total group of children who were screened with the ASQ (6.6% compared to 8.1% in the eligibility group). At-risk children in foster care and relative care were equivocally represented in the group of children screened with the ASQ compared to the eligibility group.

# **At-Risk Children**: B. Screening Results

## *Comparison of 1+ Concerns with Comparison Group*

**% with ASQ Concerns compared to Comparison Group**

Data from children who were screened with the ASQ are presented in the table below. The percent of children with one (1) or more concerns is compared between the at-risk group (and subgroups) and the comparison group. This comparison will indicate the degree to which the at-risk children are receiving more (or less) concerns compared to all other children who were assessed with the ASQ.

| | % with 1 or more concerns |
|---|---|
| Comparison Group | 21.8% |
| At-Risk Group | 32.6% |
| Protective Services | 33.0% |
| Foster Care | 37.3% |
| Relative Care | 26.9% |

**What does it mean?**

Approximately 21.8% of children who were assessed with an ASQ had 1 or more concern in the comparison group (NOTE: these are not confirmed concerns. These are concerns based on the 1st ASQ results prior to confirmation). The percent of children in the at-risk group who were assessed with the ASQ and had 1 or more concerns is approximately 32.6%. This indicates that about 1/3 of at-risk children have a concern while only about 1/5 of comparison children have a concern.

The at-risk children in the protective services group have approximately the same percent of children with a concern as the overall at-risk group (33%). There is a higher percent of foster care children with 1 or more concern (37.3%) and a lower percent of relative care children with 1 or more concern (26.9%). This indicates that foster care children are more likely to show concern on the ASQ compared to all of the at-risk children, while relative care children are less likely to show concern. It should be noted that while relative care children have the lowest percent of 1 or more concerns on the ASQ amongst at-risk children, there is still a higher percent of concerns (26.9%) compared to the comparison group (21.8%).

# At-Risk Children: B. Screening Results

## *Comparison of Concerns on ASQ by Subscale*

**% with Concerns by Subscale**

These analyses are similar to those on the previous page except that they are broken down by ASQ subscale. The percent of children with one (1) or more concerns is compared between the at-risk group (and subgroups) and the comparison group by subscale. This comparison will indicate the degree to which the at-risk children are receiving more (or less) concerns on ASQ subscales compared to all other children who were assessed with the ASQ.

| ASQ Subscale | Comparison | At-Risk | Protective Services | Foster Care | Relative Care |
|---|---|---|---|---|---|
| Communication | 11.9% | 18.7% | 18.4% | 21.8% | 16.8% |
| Gross Motor | 4.5% | 9.0% | 8.9% | 14.5% | 4.2% |
| Fine Motor | 8.8% | 16.8% | 17.6% | 22.7% | 8.4% |
| Problem-Solving | 9.8% | 16.2% | 17.1% | 16.4% | 12.6% |
| Personal-Social | 4.4% | 6.2% | 5.9% | 10.0% | 4.2% |

**What does it mean?**

For all subscales of the ASQ, the percent of children with concerns is higher for the at-risk group than for the comparison group. The subscale that shows the least amount of difference is personal-social.

Children in the foster care group consistently had higher rates of concern compared to the other at-risk groups on all ASQ subscales. Children in the relative care group had very similar percent of children with concerns as the comparison group for gross motor, fine motor, and personal-social. Despite having similar percents in these three areas, the relative care group had more concerns in communication (i.e., language development) and problem-solving (i.e., cognitive development) than the comparison group. The percent of children with concerns was also similar for the protective services group and the comparison group.

This indicates that children in the at-risk group are showing more concerns than the comparison group in all areas (overall) and that communication (language) and problem-solving (cognitive) are two domains in which all at-risk children need additional support.