



Outcome 2: Increased Developmental Screenings

Goals & Measures:

1. **Increase the percentage of children screened prior to entering kindergarten--*increase this number by 10% each year until over 90% of children in the Fox Cities area receive a screening prior to entering kindergarten***
2. **Promote screening of children at earlier ages.**

Overview

The Community Early Learning Center (CELC) seeks to increase the number of developmental screenings of children under age five in the Fox Cities area. Specifically, the goal is to increase the number of children screened by 10% each year until over 90% of children in the community are screened. Additionally, the CELC hopes to promote the screening of children at earlier ages and to keep records of actual screening scores.

Birth to five is a critical period of development in a child's life. Therefore, it is very important to catch early signs indicating developmental concerns so that children can receive the help and support they need in order to stay on track developmentally. Screening instruments are useful tools in detecting concerns. In fact, the American Academy of Pediatrics (AAP) recommends that "pediatric providers implement developmental screening with all children as part of well-child care, not just those whom health care providers judge to be at risk for developmental and behavioral problems" (Bethell, et al., 2011, p. 153). However, according to Bethell and colleagues (2011), only 25.9% of children in Wisconsin, ages 10-71 months, had pediatricians or other health care providers recommend that parents complete a standardized developmental screening questionnaire. In fact, this percentage is relatively high when compared to the national average of 19.5%. Members of the Fox Valley Early Childhood Coalition work with pediatricians and physicians to encourage increased developmental screenings.

Children who completed developmental screenings were more than twice as likely to have an



Individual Education Plan (IEP) or an Individual Family Service Plan (IFSP) than those who were not screened. It is reasonable to conclude from this information that increasing the number of developmental screenings may also increase the likelihood that children and families who could benefit from an IEP or IFSP have the opportunity to do so. This information also alerts us to the possibility that there are currently children and families who are not receiving the support needed to ensure optimal development and school-readiness.

The CELC is in a unique position to increase the number of developmental screenings and referrals of children under five through the collaboration of the agencies within the CELC partnership. The CELC houses three early childhood education programs, two developmental screening agencies, the AASD 4-K administrative offices, and the Birth to Five family support program.

CELC Early Childhood Education Programs

The three early childhood education programs located at the CELC are Even Start Family Literacy, Head Start, and Project Bridges Day Care Center and Preschool. Even Start is a family literacy program that provides low-income families with educational programs for adults and children (ages birth to eight years). Parents take English Language Learner (ELL) and educational (e.g., GED) classes, and participate in parent/child interactive literacy activities. Children at Even Start are screened through the AASD screening services. Parents also complete a developmental screening for their children using the Ages and Stages Questionnaire^a (ASQ), with the assistance of Even Start staff.

Head Start is a federally funded program that serves families at or below the poverty line with children ages three to five. Head Start provides half-day preschool, 4-year-old kindergarten (with two extended day 6-hour programs), as well as family services, health and nutrition services, meals, and transportation. Head Start uses the ASQ-3, a screening tool completed by parents and faculty.

Project Bridges Day Care and Preschool is a nationally accredited center for six-week to six-year old children with diverse needs, cultures, and socioeconomic backgrounds. The program has three scholarship programs offered with funding support through United Way Fox Cities, including a special needs program, an English Language Learners program, and a sliding fee program. Project Bridges is also a Head Start collaboration program, serving children who qualify for Head Start childcare, and is also affiliated with Lawrence University, providing high quality child care to the children of students, faculty, and staff. Prior to relocating to the CELC, Project Bridges did not regularly screen children. Through the collaboration and working with the CELC research team, students from Lawrence University assisted in completing screenings this 2014-2015 school year. Project Bridges has added the ASQ-3 to their registration packet, with the intent of increasing the percentage of early screenings to 100%.

^a Note that Even Start used the ASQ-2, an earlier version of the ASQ, for some of their screenings in 2014-2015 while the other CELC programs used the ASQ-3, the latest version of the ASQ.

Project Bridges Screenings. Between April and July 2015, 88 developmental screenings were completed at Project Bridges. A student research team from Lawrence University conducted screenings with Project Bridges children who were not previously screened by a different agency, using the ASQ-3. Each research assistant worked with children in one Project Bridges classroom for several hours each week, and thus became familiar faces for the children. Consequently the screenings were a comfortable and fun experience, both for the children and the research assistants.

The Project Bridges teachers also played an important role in completing these screenings. The ASQ-3 contains a number of “overall” questions pertaining to a child’s general demeanor, behavior, hearing, vision, and medical history. In order to answer these questions as accurately as possible, Project Bridges teachers answered these questions for each child in their classroom. The participation of the classroom teachers was important for screenings because they were able to speak more accurately and fully in response to questions that required a longer and more personal relationship with the child.

CELC Screening Services

The CELC also houses two screening agencies, Outagamie County’s Early Intervention (Birth to Three) program and the Appleton Area School District (AASD) 4K/Early Childhood Special Education (ECSE) Diagnostic Center, who together serve children from birth to age five. The collaboration of the two agencies has allowed the CELC to implement universal screening days once per month where children from birth to five can all be served together. AASD encourages all children to be screened in order to gain a sense of developmental progress, and the CELC helps to promote this message and provides a convenient location for families to bring their children to be screened.

The AASD Diagnostic Learning Center provides play-based assessment of children aged three to five years. They screen children in AASD programming, and also receive referrals for further evaluation from other agencies.

The Outagamie County Early Intervention Program provides a variety of services and resources to families of children ages birth to three. Staff members visit families in the home and at childcare settings to screen children and make recommendations about the types of resources that may benefit the child. If a child is experiencing developmental delays, Early Intervention provides home-based, family-centered services to children with diverse needs. They receive referrals from a variety of different agencies and organizations throughout the Fox Cities.



Statement of Goals

This outcome report evaluates the CELC goal of increasing the number of developmental screenings of children in the community by 10% in the first year. The report focuses on the number of screenings completed by the programs located in the CELC: AASD Early Childhood Diagnostic Center, Outagamie Early Intervention, Even Start Family Literacy Program, Head Start, and Project Bridges Day Care Center and Preschool. In addition, the report documents how the screening results were used by documenting the number of follow-up assessments completed by the AASD Diagnostic Center and Early Intervention.

This outcome report includes:

- An overview of the number of screenings by each agency over the past two school years, including the percentage of increase for each agency.
- An overview of the total number of follow-up assessments completed over the past two years.
- Analysis of screening results comparing ASQ scores by different groups such as gender, socioeconomic status, age, and ethnicity.



Screening Information

Screening Events. The Appleton Area School District (AASD) strongly encourages all families with young children to have their children screened to check on their developmental progress. One of the goals of the CELC collaboration was to implement collaborative *universal screening* days each month with AASD's Developmental Screening Program and Outagamie County Early Intervention. That is, the AASD screening team (for 3 to 5 year olds) and the Birth to 3 Early Intervention team came together to offer universal screenings so that the birth to five population could be served simultaneously. Throughout 2014-2015, eight universal screening days took place, nine at the CELC beginning in September, 2014.

During the 2014-2015 school year, AASD held 54 additional screening events. These events took place at the Appleton Public Library, AASD elementary schools, and the CELC. Of

the 54 total screening events, 25 took place at the CELC. Over 250 children ages three to five were screened in this new facility over the course of the school year. Early Intervention does not hold independent screening events, but does participate in birth to three screening events held by other school districts (e.g., Clintonville, Hortonville, New London) as well as the new universal screening events at the CELC.

As noted above, the collaboration between AASD’s Three to Five-Year-Old Developmental Screening Program and Outagamie County Early Intervention’s Birth to Three Program allowed for children aged birth to three to be screened at the same time and location as children aged three to five. Prior to the collaboration between the two agencies, families with children in different age groups often faced challenges when scheduling screenings because they had to coordinate multiple times and locations. Universal screenings are convenient and alleviate the stress of scheduling and attending multiple appointments. If screenings are more convenient and hassle-free for parents, it increases the likelihood that families make time to bring their children to screening events. Staff from the CELC’s childcare agencies reported that it was easier to encourage families to attend screening events or follow up on referrals when they could just walk the child down the hall to the event, referring to the CELC as a “one stop shop.” Staff from the screening agencies could also more easily connect families with early childhood services in the building that met their needs. When referred, families may have felt more comfortable following up with the referral due to familiarity with the location and staff.

The Appleton Area School District and the Appleton Public Library helped community members connect with the screening opportunities by advertising screening events on their websites and posting signs at the CELC. The websites provided families with information on when and where various screening events were to take place, and how to schedule a screening.

Increased Screenings

The CELC opened in September of 2014. In 2013-2014, the year prior to the opening of the Community Early Learning Center, 1,221 total children were screened in the Fox Cities with different developmental screening tools. After the opening of the CELC, this number increased by 14.0% during 2014-2015 to 1,392 total children screened. The CELC collaboration surpassed their goal of increasing screenings by 10%.

	AASD & Even Start^a	Head Start^b	Project Bridges^c	Early Intervention	Total
2013-2014 Screenings	629	180	0	412	1,221
2014-2015 Screenings	632	200	88	472	1,392
Percent Increase	0.5%	11.1%	NA	14.6%	14.0%

Notes:

^a Children from the Even Start Family Literacy (ESFL) program were screened by AASD & also screened by ESFL using the ASQ.

^b Note that of the 180 children screened by Head Start in 2013-14, 15 were also screened by AASD. In 2014-15, of the 200 screened by Head Start, 12 were also screened by AASD

^c The 88 Project Bridges screenings were done by the CELC research team and Project Bridges teachers.

Of the 1,221 screenings completed in the 2013-2014 school year, 629 were through AASD programs. In 2014-2015, 632 screenings were completed through AASD programs. Note that Even Start is included in the number of screenings by AASD. While AASD's number of completed screenings did not increase substantially over the past year, AASD gained a stable location from which to hold screenings and outreach programs. The Early Childhood Special Education Center received more referrals and was able to complete more follow-up evaluations from screenings with the new CELC collaboration.

The number of children screened through Head Start programs increased by 11.1% since 2013-2014. Head Start is required to screen 100% of children within 45 days of enrollment. Consequently, the increase seen in 2014-2015 is due to increased enrollment at the CELC.

Prior to the CELC partnership, Project Bridges did not regularly screen children in the program. Through the CELC's collaboration with Lawrence University, trained research assistants screened 88 of the children enrolled at Project Bridges (100% of the children not enrolled in their 4-K program) with help from Project Bridges teachers. That is, teachers completed any ASQ questions requiring long-term knowledge of the child, and reviewed and approved the research assistants' assessments. Project Bridges chose not to screen the children enrolled in their 4-K program because these children are regularly assessed, and most had also been screened previously.

Outagamie County Early Intervention screened 412 children in 2013-2014. This number rose by 14.6% to 472 children in 2014-2015. The CELC collaboration has led to an increased number of referrals to Early Intervention and has helped facilitate universal screening events.

Screening at Younger Ages

In its first year, the CELC partnership has also succeeded in promoting screening of children at younger ages. All of the children served at Early Intervention are under the age of three, representing 472 of the children screened this school year and 412 the previous year. Project Bridges serves children ages six weeks to five years. Of the 88 children screened at Project Bridges this year, 24 (27.27 %) were under the age of three.

	Project Bridges	Early Intervention	Total Screenings
2013-2014 Screenings	0	412	412
2014-2015 Screenings	24	472	496
Percent Increase	NA	14.6%	20.4%

The number of children screened under the age of the three this past school year increased by 20.39%. This increase marks the beginning of the CELC's mission to promote the screening of

children at younger ages. The collaboration allows programs to pool resources and provide more screening services to children under the age of three.

Further Evaluations

By increasing the number of developmental screenings for children from birth to five, we also increase the likelihood that those children in need of further developmental support do not go unnoticed. Screening measures allow caretakers to gain a broad sense of a child's development, but sometimes further assessment is needed to determine whether developmental or educational intervention is needed. In instances where a child's screening results show the possibility of developmental concerns, families are referred to either Early Intervention, which serves children from birth to three, or AASD's Diagnostic Center, which serves children ages three to five, for further assessment.



Assessment tools differ from screening tools in that they provide detailed measurements on specific areas of development, whereas a screening tool only indicates whether the child is performing at an age appropriate level, and whether or not there is a need for further assessment.

The AASD Diagnostic Center increased the percentage of evaluations by more than 20% in 2014-2015. Early Intervention increased their evaluations by more than 30%. Clearly, increased screenings has contributed to increases in evaluations, especially at earlier ages (i.e., birth to 3).

	AASD Diagnostic Center^b	Early Intervention: Birth to Three	Total
2013-2014 Evaluations	215	235	450
2014-2015 Evaluations	262	312	574
Percent Increase	21.9%	32.8%	27.6%

The process of determining whether further evaluation is needed from screening data is similar for Head Start and Project Bridges. At Project Bridges, screening data are used to suggest a course of action for follow up. The Project Bridges executive director, program coordinator, and classroom teachers work together to decide how to proceed. If concerns are minor, further enrichment in weak areas and monitoring is recommended. Based on screening

^b The number of evaluations by the AASD Diagnostic Center was calculated by adding the number of full evaluations to the number of speech and language only evaluations. For the 2013-2014 school year, there were 140 full evaluations and 75 speech and language evaluations at the AASD Diagnostic Center. In the 2014-2015 school year there were 171 full evaluations and 91 speech and language evaluations.

scores, children who show possible concerns in one or more developmental areas are recommended for follow-up or further developmental assessment. For example, if a child showed mild signs of difficulty with gross motor skills, it would be recommended that the child be given extra gross motor practice or stimulation, and screened again at a later date, if necessary.

In Head Start, if the ASQ-3 reveals that a child is below cutoff or close to cutoff, the Head Start program provides increased intentional services. This begins with observation and monitoring using the ongoing developmental assessment tool. Parents input is also gathered. Targeted supports for children who require additional academic or behavioral supports are generally provided through small-group instruction, embedded instruction/ interventions, or individualized scaffolding. If the child is not making progress, a referral is made to the local education agency, in this case AASD.

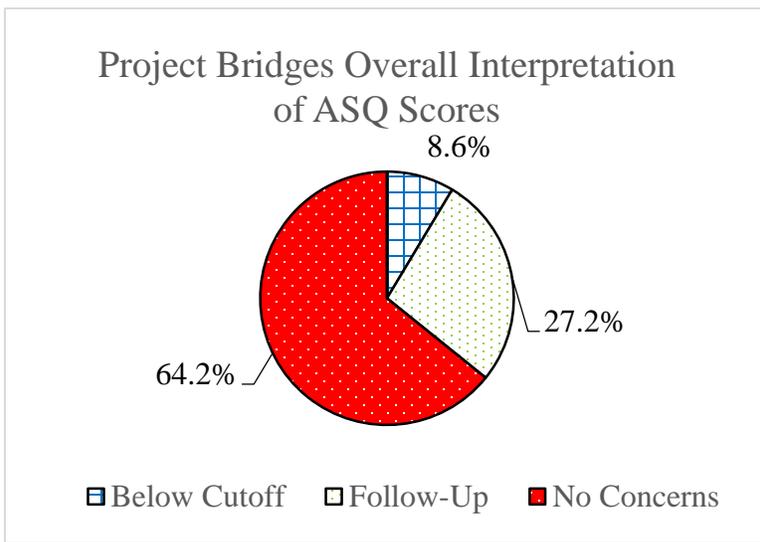
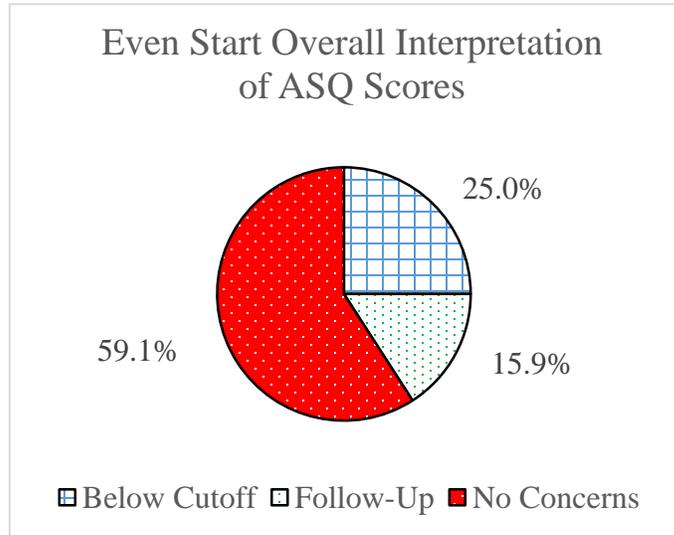
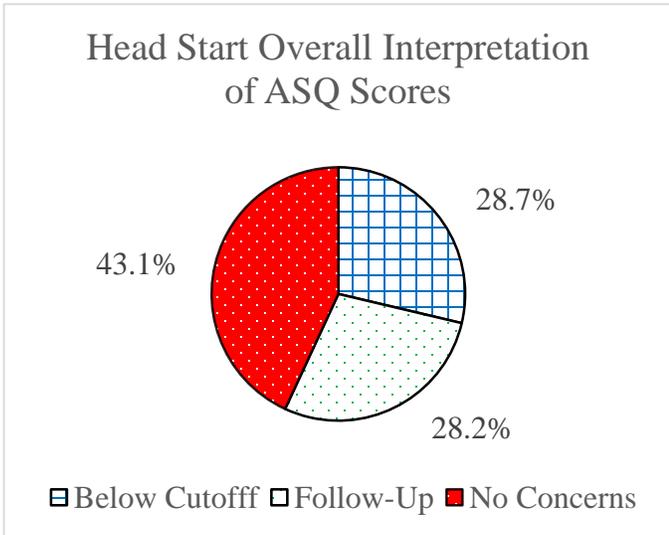
Analysis of Screening Data

Screening results by agency. The following tables depict the number and percentage of children above cutoff, close to cutoff, or below developmental cutoff on each area of the ASQ, by agency. If a child scores below the cutoff in a certain area, this indicates a concern in that developmental area, and may also indicate the need for a referral for a full developmental assessment. If a child scores close to the cutoff, this indicates that this area may be of concern developmentally and should be monitored further in some way, such as with a follow-up screening a few months later, or by increasing activities and practice in the area of concern. For example, if the child scored close to the cutoff for fine motor skills, more drawing could be introduced to the child's playtime. If a child scores above the cutoff in a certain area, this means there are no concerns for this area and that the child is developmentally on track. The following table shows the percentages of children above, close to, and below the cutoff across the following agencies: Early Intervention, Even Start, Head Start, and Project Bridges.

ASQ Summary Across Agencies

	Below Cutoff	Close to Cutoff	Above Cutoff	Total
Communication Skills	30 (9.2%)	51 (15.6%)	245 (75.2%)	326
Gross Motor Skills	23 (7.0%)	30 (9.2%)	274 (83.8%)	327
Fine Motor Skills	30 (9.2%)	50 (15.3%)	246 (75.5%)	326
Problem-Solving Skills	40 (12.3%)	52 (16.0%)	234 (71.8%)	326
Personal-Social Skills	22 (6.7%)	33 (10.1%)	271 (83.1%)	326

The following charts show the percentages of children screened who, based on overall interpretation of ASQ scores, were in need of referral, further monitoring, or had no concerns, by agency.



The charts show that Project Bridges had a larger percentage of children who had no developmental concerns or minor concerns. At Even Start (25%) and Head Start (28.7%) about 25% of the children were referred for further evaluation, while at Project Bridges only 8.6% were referred for further evaluation. Even Start and Head Start serve higher risk populations, and screening is helping to identify areas where the children need additional support.

Analysis of Numerical Screening Results

Not only does the CELC partnership strive to increase the number of children screened, but another goal of the collaboration was to record and analyze the numerical results of these screenings in order to identify developmental gaps across groups and track developmental progress over time. In previous years, agencies tracked the number of children screened and the number of referrals for further evaluation, but did not compare numerical screening results across groups. The numerical screening results allow for quantitative comparisons across categories, such as across socioeconomic groups, which are useful not only for research purposes, but also provide insight into when achievement gaps begin to appear. Pooling the results across the CELC agencies also provides a much larger sample of children (over 300 this year).

Using ASQ data collected from Head Start, Even Start, Project Bridges, and Early Intervention, statistical analyses were performed comparing average ASQ scores across different age, gender, ethnic, and socioeconomic groups. The ASQ measures developmental growth in five main categories: communication skills, gross motor skills, fine motor skills, problem-solving skills, and personal-social skills. A child's score can range from 0-60 in each of these categories. The ASQ also contains an "overall" section that contains questions regarding the child's medical history, behavior, and more. Analyses of screening data gives birth to five agencies and the families they serve a greater understanding of how children in the Fox Cities area compare developmentally. It also allows further insight into factors that may be influencing a child's development and academic success.

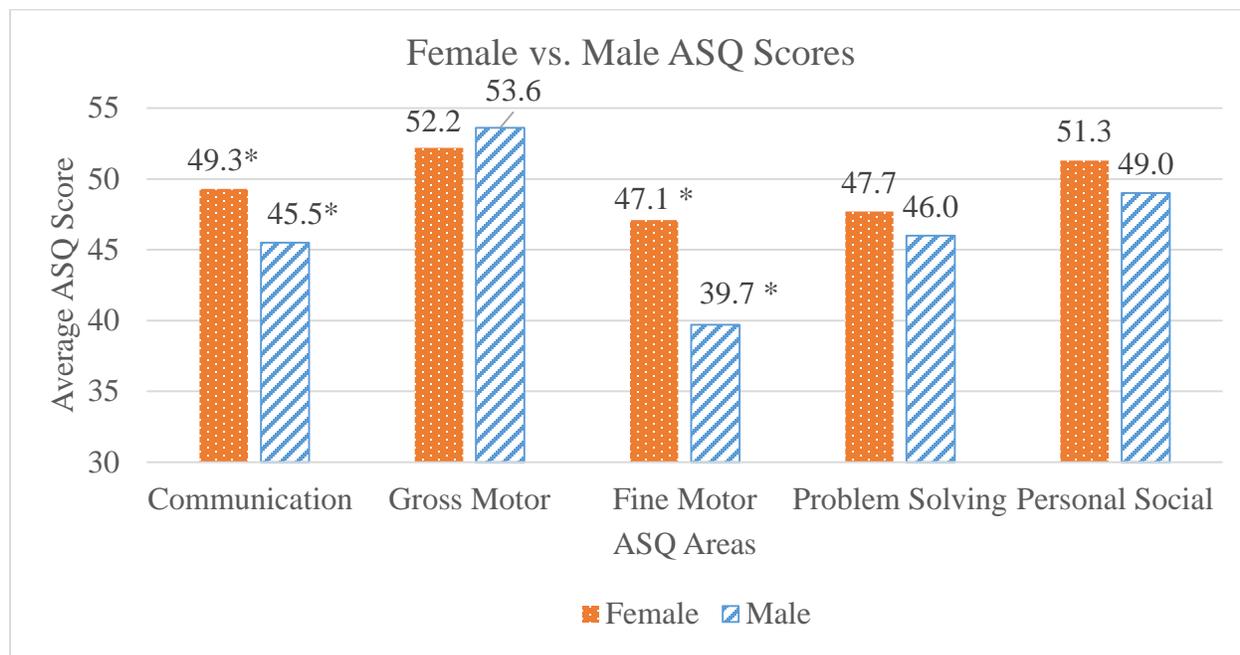
All of the early childhood programs located at the CELC use the ASQ as a screening tool, and Early Intervention occasionally uses the ASQ if another screening has not been completed. Researchers compared scores on the different ASQ categories to shed light on age, gender, ethnic, and socioeconomic differences in children's development. The approximate number of ASQs available for analysis this year is shown below.

	Even Start	Head Start	Project Bridges	Early Intervention	Total
2014-2015 ASQs	51	190	80	14	335

Gender

Gender comparisons for ASQ scores revealed that girls scored significantly higher in communication and fine-motor skills, but there were no significant gender differences in gross motor, problem-solving, or personal-social skills. Better performance by girls in these areas is

fairly common in early childhood development. The graph below shows boys' and girls' average ASQ scores in each area.

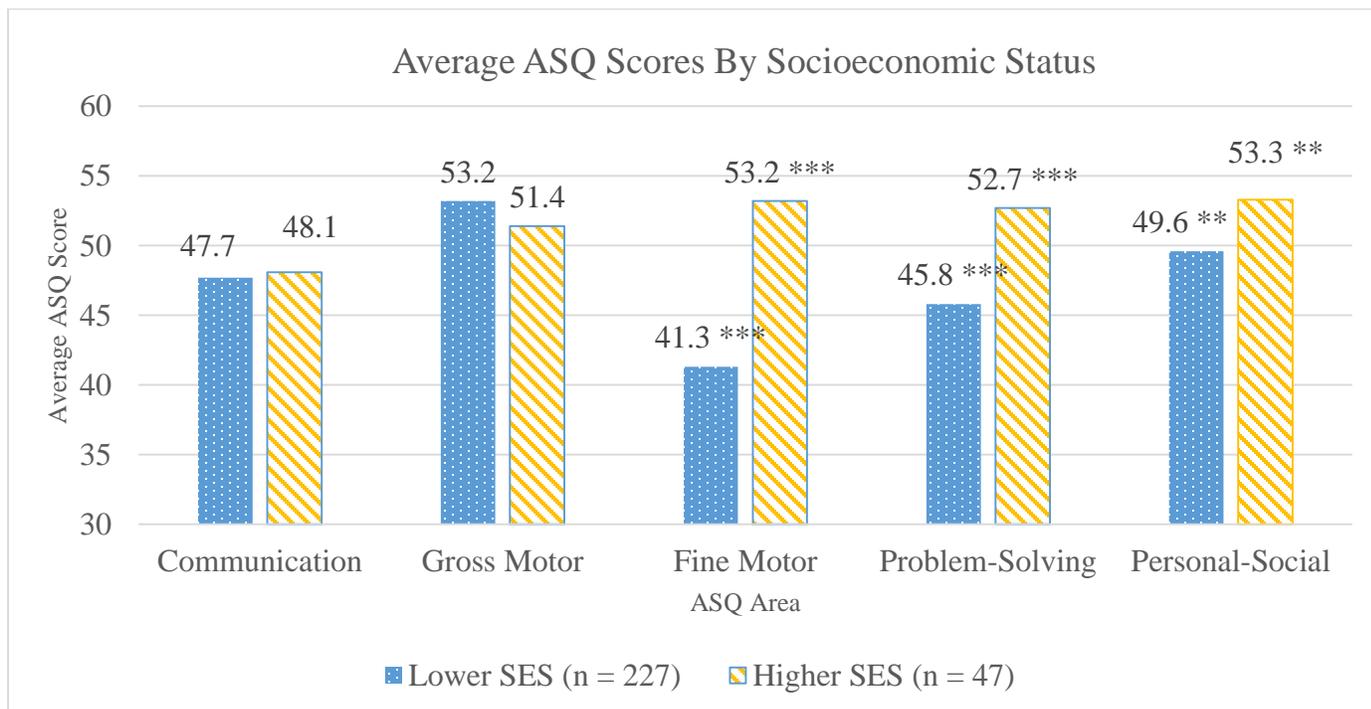


* $p < .05$, that is, females scores were significantly higher in these areas.

Socioeconomic Status

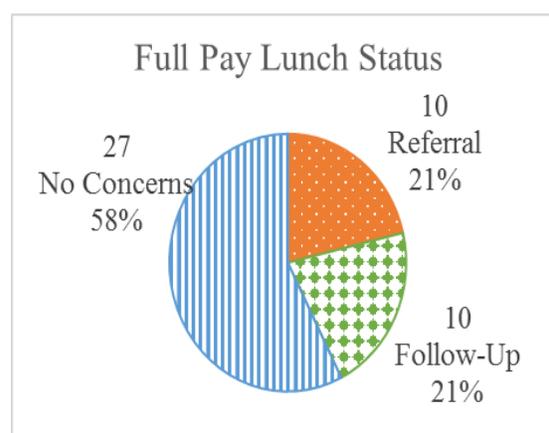
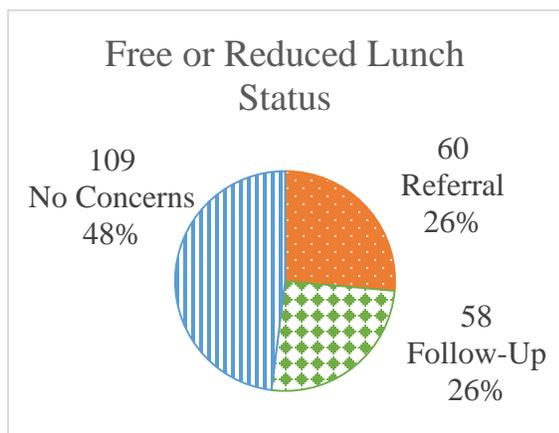
Correlational analyses between income and ASQ scores revealed that higher income was significantly related to higher scores on communication, fine motor, problem-solving, and personal-social skills. Gross motor skills is the only area which was not significantly related to income. This trend is prevalent in child development. According to McLoyd (1998), preschool children are particularly susceptible to the detrimental effects of poverty related to schooling. In fact, the past 70 years of accumulated research on socioeconomic status and academic achievement has overwhelmingly shown that children from low socioeconomic backgrounds achieve lower levels of academic success (Bradley & Corwyn, 2002).

Information on eligibility for free or reduced lunch was used to group participants into categories representing higher or lower socioeconomic status (SES). The lower SES group refers to children whose family qualified for free or reduced lunch programs. Depending on household size and income, federal food programs subsidize either part or the full cost of lunch at school for children whose families are near or below the poverty line. The results of analyses comparing average ASQ scores of lower socioeconomic children (i.e. those who qualified for free or reduced lunch) and higher socioeconomic children (i.e. those who pay the full price of lunch), are shown below.



*p<.05, **p<.01, ***p<.001, meaning that the differences are significant & some are quite large

The graph shows that, on average, children with higher SES score higher than children with lower socioeconomic status in all areas of the ASQ except for communication and gross motor skills. Children with higher socioeconomic status scored significantly higher than children with lower SES on fine motor, problem solving skills, and personal-social skills. If only children in CELC early childhood education programs (i.e., not Early Intervention) are considered, there is also an effect for communication, with higher SES children performing better.

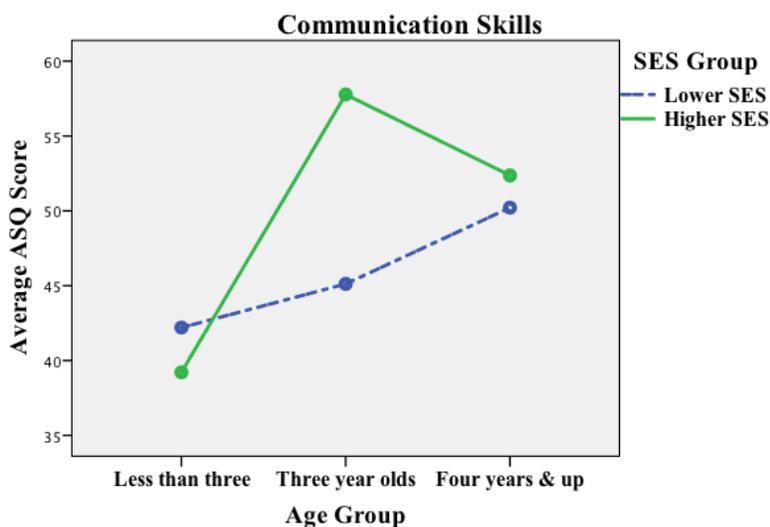


The following charts and table show the number and percentage of children who, based on ASQ scores, were recommended a referral, follow-up, or demonstrated no concerns, by SES group.

	Lower SES	Higher SES
Referral	60 (26.4%)	10 (21.3%)
Follow Up	58 (25.6%)	10 (21.3%)
No Concerns	109 (48.0%)	27 (57.4%)

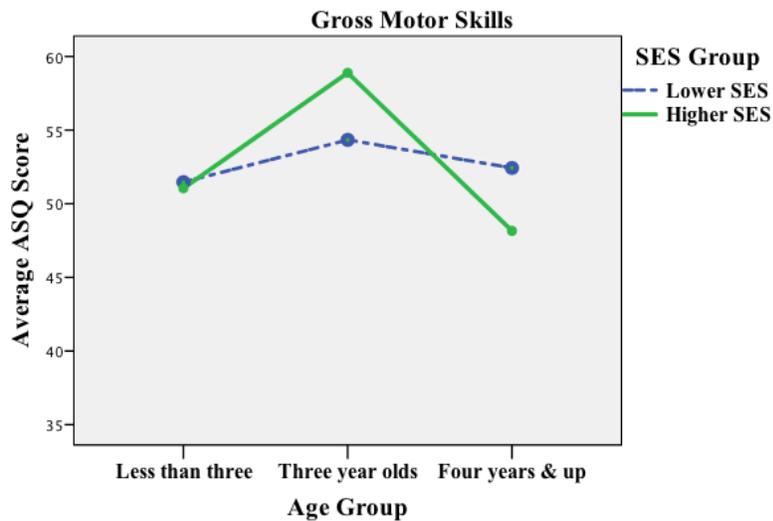
Lower SES children were in need of follow-up action or referrals at a higher rate than higher SES children.

Age. In order to more closely examine *when* these developmental gaps in performance begin to appear, we created three different age groups, depending on the child's age at the time of screening. The age groups were children under three, three year-olds, and children aged four and up. For children under three, no significant SES differences were found between scores on any areas of the ASQ. However, for the three year olds, significant differences in scores were found between the two socioeconomic groups in every area of the ASQ, with higher socioeconomic status children performing better. Encouragingly, for children four and up, these performance gaps had narrowed in some areas. However, children with higher socioeconomic status were still scoring significantly higher in fine motor and problem solving skills than children with lower socioeconomic status. The graphs below illustrate these age trends and highlight the age at which this gap is typically widest. We report the sample size as there are many fewer high SES children than lower SES children, and yet some differences are significant.



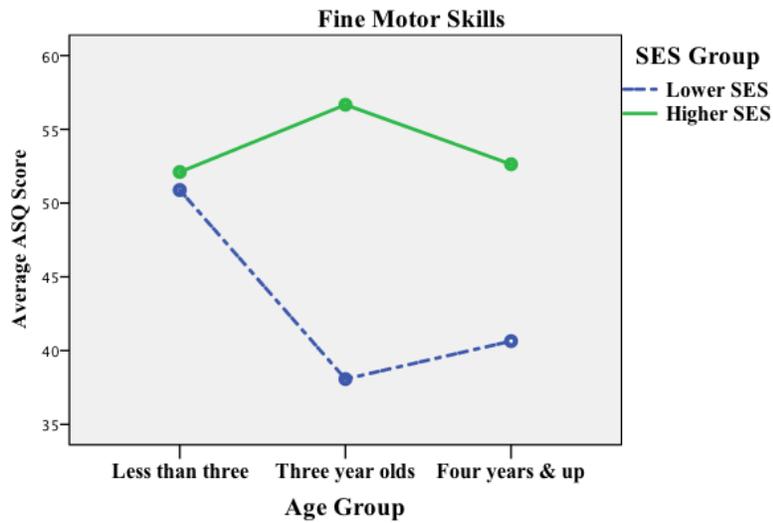
Communication	Lower SES	Higher SES
Children Under 3	42.2 (n = 34)	39.2 (n = 19)
Children Aged 3	45.1 (n = 83)	57.8 (n = 9)
Children 4 Years & Up	50.2 (n = 139)	52.4 (n = 19)

The graph and table above indicate that among 3-year-olds, those with higher SES scored significantly higher in communication skills than those with lower SES. Children under three and children aged four and up did not show any significant SES differences.



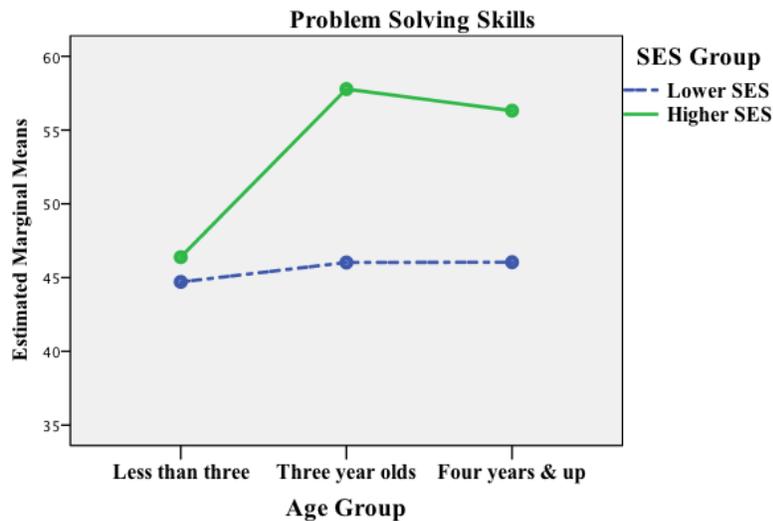
Gross Motor	Lower SES	Higher SES
Children Under 3	51.5 (n = 34)	51.0 (n = 19)
Children Aged 3	54.3 (n = 83)	58.9 (n = 9)
Children 4 Years & Up	52.9 (n = 140)	48.2 (n = 19)

Follow up analyses indicate that the only significant SES difference for gross motor skills was found for 3 year olds, with the higher SES children performing better.



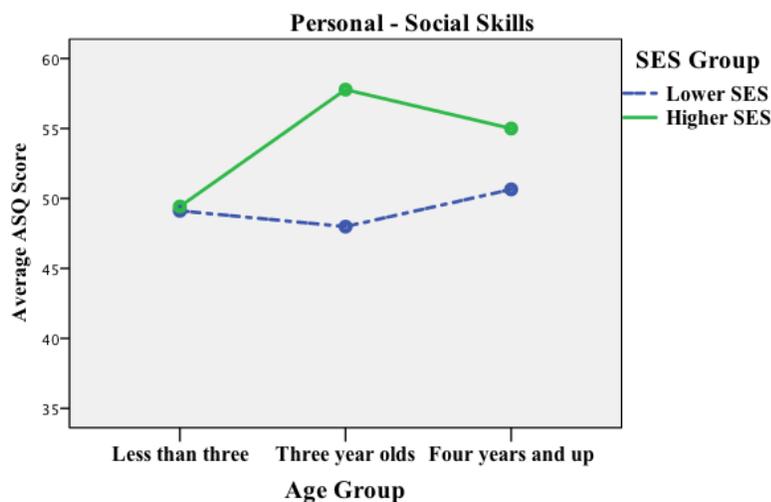
Fine Motor	Lower SES	Higher SES
Children Under 3	50.9 (n = 34)	52.1 (n = 19)
Children Aged 3	38.1 (n = 83)	56.7 (n = 9)
Children 4 Years & Up	40.6 (n = 140)	52.6 (n = 19)

The graph and table above show that among 3-year-olds and children 4-years and older, those with higher SES scored significantly higher in fine motor skills than those with lower SES.



Problem-Solving	Lower SES	Higher SES
Children Under 3	44.7 (n = 34)	46.4 (n = 18)
Children Aged 3	46.0 (n = 83)	57.8 (n = 9)
Children 4 Years & Up	46.0 (n = 139)	56.3 (n = 19)

Follow-up analyses indicate that among 3-year-olds and children 4 years and older, those with higher SES scored significantly higher in problem-solving skills than those with lower SES. Children under three did not show any significant SES differences in problem solving.



Personal-Social	Lower SES	Higher SES
Children Under 3	49.1 (n = 34)	49.4 (n = 19)
Children Aged 3	48.0 (n = 82)	57.8 (n = 9)
Children Over 3	50.6 (n = 139)	55.0 (n = 19)

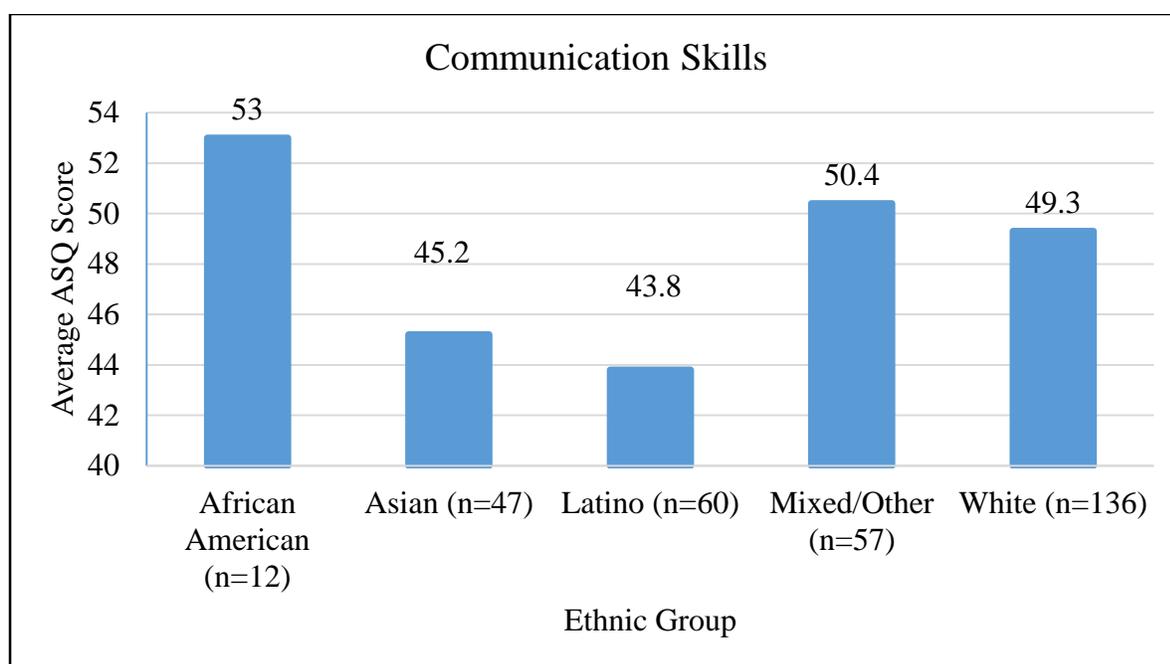
The graph and table above show that among 3-year-olds, those with higher SES scored significantly higher in personal-social skills than those with lower SES. Children under three and children aged four and up did not show any significant SES differences in personal-social skills.

Although cautious interpretation is recommended given the low number of 3 year-old children with higher SES (i.e., 9 children) the age analyses suggest that SES differences are greatest among three year olds, and decline in some areas by age four. It will be important to do further analyses that track children's individual performance over time (rather than across age groups) to determine whether lower performing children are improving on developmental assessments over time. The fall and spring developmental assessments done by the CELC agencies will allow these types of analyses.

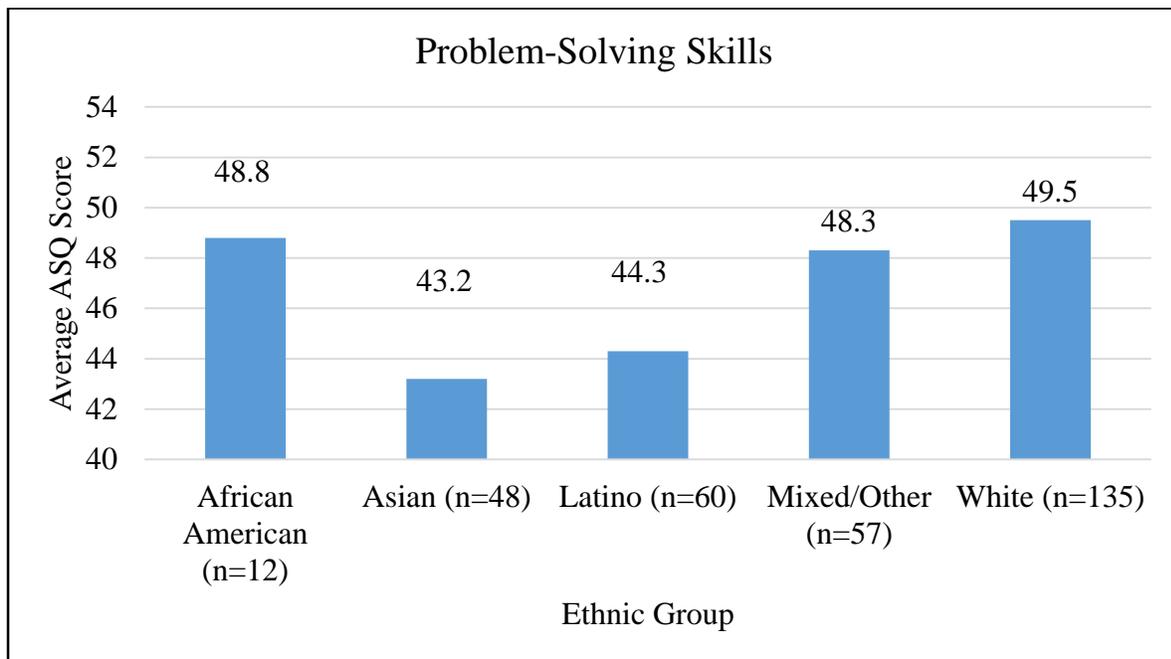
Ethnicity

Analyses comparing ethnicity and average ASQ scores were performed in order to determine whether there were ethnic variations in performance on the ASQ. Ethnicity was self-reported on consent forms filled out by parents. For the purpose of this analysis, the following five major ethnic groups were created based on the prevalence of different ethnicities reported: African American, Asian, Latino, Mixed or Other, and White.

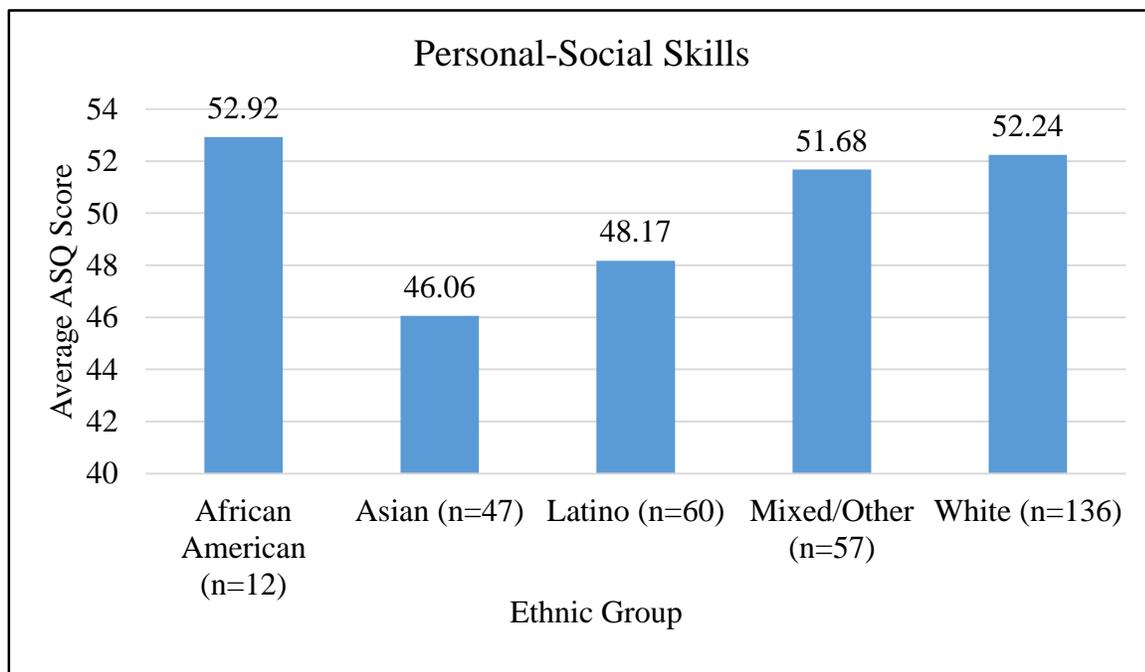
Significant differences were found between ethnic groups on communication, problem-solving, and personal-social skills. Follow up comparisons were made to determine specifically between which ethnic groups these significant differences occurred. First, African American, White, and Mixed/Other children did not differ significantly in any developmental outcome. Second, as illustrated below, these same groups, African American, White, and Mixed/Other, scored significantly higher than Asian and Latino children on communication, problem-solving, and personal-social skills. Finally, a comparison between Asian and Latino children, found no significant differences in scores in any area. There were no significant ethnic differences for gross motor or fine motor skills. The graphs below show the distribution of scores for areas with significant ethnic differences.



The graph above shows that African American, Mixed/Other, and White children scored significantly higher in communication skills than Asian and Latino children.



The graph above shows that African American, Mixed/Other, and White children scored significantly higher in problem-solving skills than Asian and Latino children.



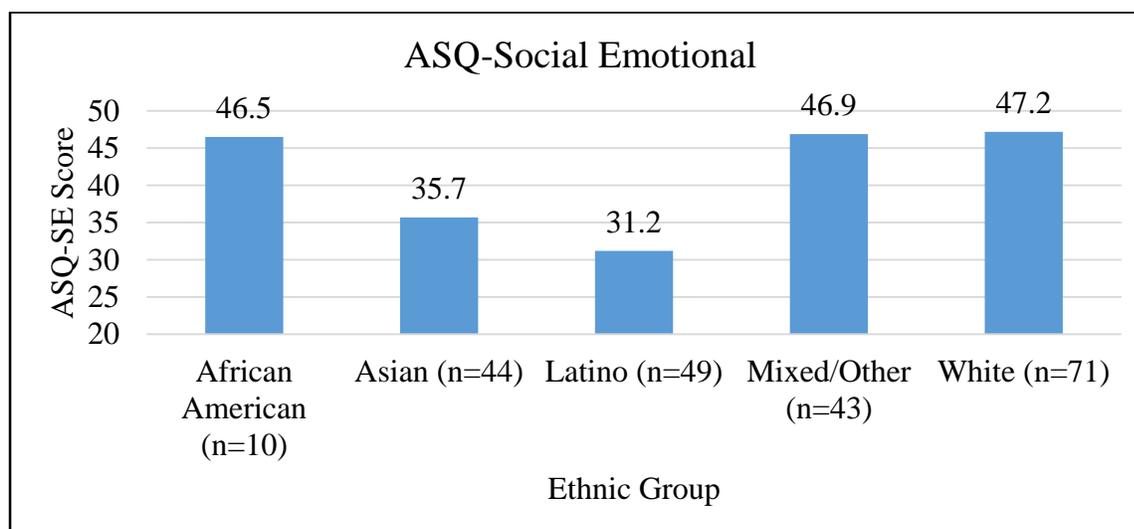
The graph above shows that African American, Mixed/Other, and White children scored significantly higher in personal-social skills than Asian and Latino children.

Significant ethnic group differences were found in communication, problem-solving, and personal-social skills, which are all areas that require language skills and often, interpersonal interaction (e.g. playing well with other children or using appropriate grammar). On the other hand, the two areas in which no significant ethnic differences were found (gross motor and fine motor) involve skills that can be developed independently (e.g. running, climbing stairs, drawing). In this particular sample, Asian (predominantly Hmong and Laotian) and Latino children were more likely to have limited English skills. Therefore, they may be struggling more than White, African American, or Mixed/Other children in areas involving linguistic interaction. At the CELC, children in Even Start make up about 15% of the total children screened. Given that Even Start is a literacy program this means that many of the Asian and Latino children in this sample are currently learning English. Furthermore, many Asian and Latino children in other agencies, such as Head Start, speak English as a second language (in 2014-2015, about 20% of Head Start children were not proficient in English). These results suggest that early language skills may impact not only communication, but problem solving and personal-social skills.

Ethnicity and ASQ-SE Scores. The ASQ-Social Emotional questionnaires (ASQ-SE) measure social and emotional competence and are used to gain a sense of a child's general mental health. Unlike the ASQ, which is divided into five areas (communication, gross motor, etc.), the ASQ-SE yields a total score for social-emotional competence. It is important to note that on the ASQ-SE, a *lower* score indicates *higher* social-emotional competence. That is, the ASQ-SE produces a raw score for social-emotional competence, which is compared to a cutoff score that varies depending on age. Scores below the cutoff, indicate strong social-emotional competence, while scores above the cutoff, indicate weak or problematic social-emotional competence.

Comparing ASQ-SE scores and ethnicity, we found that Asian and Latino children showed significantly better scores on social-emotional competence, than African American, Mixed/Other, and White children. There were no significant differences between Asian and Latino children's scores, or between White, African American, and Mixed/Other children's scores. Overall, Latino and Asian children showed significantly higher scores in social-emotional competence than did African American, White, and Mixed/Other children. Head Start and Even Start were the only agencies that completed ASQ-SE screenings, therefore the data available for this analysis were entirely from lower income families. Among lower income families, Latino and Asian children showed the strongest social and emotional competence.





The graph above shows that Asian and Latino children demonstrated significantly stronger social-emotional competence than African American, White, and Mixed/Other children.

While significant differences were found for Asian and Latino children compared with African American, White, and Mixed/Other children on the ASQ-SE, it should be noted that the average scores for each ethnic group fell below the cutoffs (cutoffs are 59-70 for 3-4 year olds). Therefore, on average, none of the ethnic groups showed signs of overall concerns in social-emotional competence.

Summary and Conclusions

Successes and Accomplishments. In conclusion, the CELC was successful in achieving many of its goals pertaining to screening during its first year. Implementation of universal screening events and collaboration between partners helped facilitate an increase in the total percentage of children screened prior to entering kindergarten, and in the number of referrals for follow up assessments. Numerical screening data were analyzed to gain insight into the development of children in the Fox Cities. These analyses revealed some concerns, especially the finding of lower performance by children from lower SES families.

Referrals. The shared CELC building provided convenient access and proximity to other services, and helped ensure that families followed up on the referrals made by their primary childcare agency. A staff member could simply walk the family down the hall rather than referring them to an agency located miles away, thus eliminating possible transportation and scheduling issues for the family. Additionally, the proximity of the various agencies and collaboration for events like Family Night and Universal Screening Days allowed families to become more familiar and comfortable with the staff of agencies that they do not currently utilize, thus increasing the chances that the family will follow up on referrals made by their primary childcare agency.

Next Steps. The successful increase in screenings does not end with this school year. The CELC hopes to continue to increase the number of children screened prior to entering kindergarten by 10% each year, until over 90% of children in the Fox Cities have been screened prior to school entry. Agencies who regularly screen their children will continue to do so with increased efficiency and collaboration, while Project Bridges will now have every child who registers for the program complete a screening by including the ASQ as part of its registration packet.



Data were also gathered on actual screening results, not just information on whether or not screenings took place. That information is now in a database available for the CELC researcher and the CELC partners to use. The database is important for research purposes and for improved efficiency in tracking children's development across agencies. That is, partners can reference a child's history in the database if they move to a new agency. For example, if a child is screened by Early Intervention, and later enters Head Start, Head Start will be able to review the child's history to better understand the child's needs. The database also allows for more complex analyses of the screening data, such as how they relate to other factors such as socioeconomic status, gender, and ethnicity. Already, analyses by socioeconomic groups revealed particular achievement gaps in the preschool population. Understanding where developmental gaps are most likely among SES groups helps us to program accordingly to ensure the brightest possible futures for all children in the community. Additional assessment data were gathered, but are not included in this report. That is, all of the CELC early childhood



education programs do some longitudinal developmental assessments where they assess children two or three times per year. Future analyses will explore the connection between screening outcomes and these developmental assessments and will help us to understand whether early childhood education helps to address weaknesses identified at screening.



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