Parent-Completed Ages and Stages Questionnaire Data at Kindergarten Enrollment as a Predictor of School Readiness and Later Academic Progress

Supporting Norwalk's Public School System; Early Childhood Education, Healthcare, and Social Service Providers; and Families of Young Children in Optimizing Readiness to Learn at Kindergarten

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Introduction

Entering kindergarten 'ready to learn,' sometimes called 'school readiness,' is a way to describe the things a child should know and be able to do when they start kindergarten. These skills and abilities are related to different areas of child development or 'domains.' While knowing letters and numbers is helpful for children entering kindergarten, science on early brain development shows that the skills most important for success in school are things like communication, problem solving, and working well with others. These skills start developing from birth and throughout children's first five years, when a child's brain grows faster than at any other time in life. The way a child is nurtured (i.e., the environment) and a child's nature (i.e., genes) interact to affect the developing brain and subsequently influence important capacities such as focused attention, memory, language development, and immune functioning. While children keep learning and developing in later years, early childhood lays the foundation for future learning.

Norwalk ACTS Early Childhood Development Initiative supports Norwalk's public school system; early childhood education, healthcare and social service providers; and families of young children in optimizing readiness to learn at kindergarten through the implementation of a community-wide, systematic approach for screening, monitoring, and promoting children's development, birth through five years, using the Ages and Stages Questionnaire (ASQ-3™) or 'ASQ'. The ASQ tracks a child's progress between the ages of one month to 5.5 years. It is a cost-effective, parent-friendly instrument that is endorsed by the American Academy of Pediatrics. It has been validated with large and diverse standardization samples and translated and successfully used cross-culturally.

The Early Childhood Development Initiative began as a state-local partnership in 2013 with generous support from the Grossman Family Foundation and has continued under the leadership of Norwalk ACTS since 2023. It is guided by seasoned experts in various aspects of early childhood, all of whom have hands-on knowledge of Norwalk's early childhood services and are in a position to influence practice. Team leaders include representatives from Norwalk ACTS, Family and Children's Agency (FCA), the City of Norwalk, Norwalk Public Schools, and Norwalk's School Readiness programs. Additional partners include members representing parent groups, community advocates, private early childhood education programs, All Our Kin (family-based daycare services), and the Norwalk Community Health Center. The ASQ may be completed by parents independently (for example, via CT's Sparkler App, at preschool and at kindergarten registration), with one-on-one support (for example at a well-child pediatric visit or within home visiting services), during parent-educator meetings such as at preschool orientation or a parent support group, by telephone, telehealth, or where and when it is most suitable. Data collection protocols and mechanisms, facilitated through the roles of an ASQ Community Manger, an ASQ Community Liaison, and Data Analysts at Norwalk ACTS, have been established for pooling and linking routine screenings for individual children across agencies, and from one developmental timepoint to another from infancy through enrollment in kindergarten. As practices for regular administration of developmental screening, monitoring, and tracking have been implemented, the initiative has seen a consistent upward trend in the number of completed ASQ screenings, the number of children who have been screened, and the number of children who have multiple screens.

While the ASQ is being used by Norwalk families, programs and agencies to monitor and promote development for individual children, community-wide data are pulled together for global monitoring and assessment of progress at the population level. Aggregate ASQ data have been analyzed for: evaluating trends (e.g., yearly, by program/agency, and across neighborhoods); examining progress longitudinally (for children with multiple ASQs over time and across agencies); and evaluating effectiveness of interventions promoting children's development (as a pre-post measure). In partnership with the Norwalk Public Schools, parents have been completing the ASQ at kindergarten registration since 2016, and yearly trends in the percentage of children who are on track are examined as an indicator of whether the initiative is making a difference (Hughes et al., 2023).

For the analyses in this report, we explore the extent to which the ASQ, completed by parents when children are enrolled in kindergarten, is associated with kindergarten readiness and later academic progress in the third grade, specifically: teacher-completed Kindergarten Entrance Inventory (KEI) ratings; 3rd grade DIBELS reading assessments; and 3rd grade achievement on SBAC-ELA and Math tests. We also examine the relationship between ASQ status and these four outcomes across Multilingual Learner (MLL), Neighborhood, and Preschool subgroups to explore whether the ASQ is similarly predictive across these different contexts, despite existing gaps in achievement, supporting Norwalk's universal approach to developmental screening and monitoring with the ASQ.

Early Childhood Development, School Readiness, and Academic Progress: Description of Measures

Predictor Measure: Parent-completed ASQ

Ages and Stages Questionnaire

The ASQ-3 assesses five developmental areas commonly targeted in the measurement of early childhood development:
Communication skills - Ability to understand and to express thoughts, feelings, and information.
Gross motor - Locomotor skills like walking and running; manipulative skills such as moving a bat or jumping rope; and stability skills related to balance and weight transfer.
Fine motor - Skills to perform tasks for daily living: Buttoning buttons, picking up finger foods, using a fork, pouring milk.
Problem solving/cognitive skills - Paying attention, developing memories, understanding surroundings, expressing creativity, and starting and finishing a plan.
Personal-social development - Interpersonal skills such as making eye contact, cooperating, following directions, sharing, use of manners, and understanding personal space.

Through a series of screens, the ASQ tracks a child's progress between the ages of one month to 5.5 years. Scores for each of the five domains, or subscales, indicate if a child's development is in the *'above' range*, in a middle range categorized as *'monitoring,'* or *'below'* the range of typical development at each stage. The overall score is determined by the lowest score (Above, Monitoring, or Below) on any one of the five subscales. It is recommended that the ASQ be completed at each stage of development since challenges or delays may not present until later stages. Children with ASQ scores in the Monitoring or Below ranges who then receive follow-up support or resources are expected to improve on subsequent screens or be referred for a more comprehensive assessment of developmental delays.

Outcome Measure: School Readiness at start of Kindergarten

Teacher-completed Kindergarten Entrance Inventory

The Kindergarten Entrance Inventory (KEI) was developed by the CT State Department of Education (CSDE) to align with CT educational standards, kindergarten curriculum, and the domains identified through prior research on child development. The CSDE defines "age appropriate functioning" at the beginning of kindergarten in terms of six domains of functioning: Language skills, Literacy skills, Numeracy skills, Physical/Motor skills, Creative/Aesthetic skills, and Personal/Social skills. Teachers are required by the CSDE to use this tool to rate all students in kindergarten in October of each academic year along each of the six skill domains by categorizing them into one of three developmental performance levels: *Performance Level 1* - Students at this level demonstrate emerging skills in the specified domain and require a large degree of instructional support. *Performance Level 2* - Students at this level inconsistently demonstrate the skills in the specified domain and

require some instructional support. *Performance Level 3* - Students at this level consistently demonstrate the skills in the specified domain and require minimal instructional support. Teachers enter data into the State's electronic system for analyses at the district level. Assessment information is also used by teachers to determine the degree of instructional support needed for individual children.

Outcome Measures: Academic Progress in 3rd Grade

Dynamic Indicators of Basic Early Literacy Skills (DIBELS)

DIBELS assessments are short (one minute) fluency measures used to regularly detect risk and monitor the development of early literacy and early reading skills. The DIBELS is comprised of seven measures or indicators consistent with the Common Core State Standards in reading, including phonemic awareness, alphabetic principle, accuracy and fluency with connected text, reading comprehension, and vocabulary. A Composite Score is categorized as follows: *Well-below benchmark* - The student is unlikely to achieve reading goals without additional instruction that incorporates something more or different from the core curriculum. *Below benchmark* - Student fell below benchmark and requires targeted support. *At benchmark* - Student obtained the benchmark score, and odds of achieving subsequent literary goals is 70-85%. *Above benchmark* - Student obtained the benchmark score, and odds of achieving subsequent literary goals is 90-99% (above). In addition to evaluating individual student development, DIBELS results are used to provide grade-level feedback.

SBAC ELA and Math:

The State administers the Smarter Balanced Assessment (SBAC) in English Language Arts (ELA) and Math, annually in 3rd through 8th grades statewide. The SBAC assessments are aligned to Connecticut Core Standards in English language arts/literacy and mathematics. A balanced assessment system, including *summative,* optional *interim*, and *formative* assessment practices, provides tools to improve teaching and learning. Assessment data are also used to describe student achievement and growth of student learning as part of school, district, and state accountability systems. CSDE defines the four levels of achievement on the SBAC as follows: *Standard 1* - Does Not Meet the Achievement Standard - The student has not yet met the achievement standard for Mathematics/ELA expected for this grade. *Standard 2* - Approaching the Achievement Standard - The student has nearly met the achievement standard for Mathematics/ELA expected for this grade. *Standard 3* - Meets the Achievement Standard - The student has met the achievement standard for Mathematics/ELA expected for this grade. *Standard 4*- Exceeds the Achievement Standard - The student has exceeded the achievement standard for Mathematics/ELA expected for this grade.

Child & Family Characteristics at Kindergarten Enrollment

The table on the right presents child and family characteristics for 3,629 students, representing six cohorts who enrolled in kindergarten in the fall of 2018 through the fall of 2023 and were assessed by a parent/caregiver on the ASQ at the time of kindergarten enrollment:

- Of the total, 3,595 also have a completed KEI, and 1,091 - 1,096 have completed DIBELS, SBAC-ELA, and SBAC-Math assessments.

- On September 1st of the year they enrolled, 65.3% (n=2,368) were 5+ years, while 34.7% (n=1,261) were under 5 years.

- Sex at birth was evenly divided, with 49.8% (n=1,809) of the children designated female and 50.2% (1,820) designated male.

- In terms of race/ethnicity, 51.7% identified as Hispanic (of any race; n=1,877); 28.3% as White (n=1,026); 11.3% as Black (n=410); 5.6% as Multiracial (n=203); 3.0% as Asian (n=109); and 0.1% as Native American/Pacific (n=4).

- In terms of Multilingual Learner (MLL) status, 23.4% (n=850) were Multilingual Learners while 76.6% (n=2,779) were non-Multilingual Learners.

- Of the 22 neighborhoods in Norwalk, there are nine contiguous neighborhoods in south-central Norwalk that form an area with high rates of poverty among young children, while in the surrounding 13 neighborhoods there are relatively few children, or none at all, living at or below poverty levels (Hughes et al., 2019). The percentage of children living in affluent neighborhoods was 49.7% (n=1,805), only slightly less than the 50.3% (n=1,824) who resided in low-income neighborhoods at kindergarten.

- Compared with publicly funded center-based preschool programs (i.e., School Readiness and Head Start early childhood care and education programs), the majority of which are centrally located in Norwalk, there are many fewer privately-funded family and center-based licensed preschool programs, and about half of them are spread around the outskirts in wealthier areas. Therefore, while there is a greater range of variation in the types of privately-funded preschool settings, publicly funded programs serve a more diverse population of students in Norwalk.

In terms of preschool experience, 58.9% of families reported their children attended a publicly-funded

Child Characteristics at Kindergarten Enrollment for 6 Cohorts (2018-2023, n= 3,629)	
Children's age on Sept. 1st	
5 years	2,368 (65.3%)
Under 5 years	1,261 (34.7%)
Sex at Birth	
Female	1,809 (49.8%)
Male	1,820 (50.2%)
Race/Ethnicity	
Hispanic (Any Race)	1,877 (51.7%)
White	1,026 (28.3%)
Black	410 (11.3%)
Multiracial	203 (5.6%)
Asian	109 (3.0%)
Native American/Pacific	4 (0.1%)
Multilanguage learner at kindergarten	
No	2,779 (76.6%)
Yes	850 (23.4%)
Neighborhood	
Affluent	1,805 (49.7%)
Low-Income	1,824 (50.3%)
Preschool Type	
Nonsubsidized Family/ Private	1,047 (28.9%)
Publicly-Funded: Head Start, School Readiness	2,137 (58.9%)
None Attended	445 (12.3%)
Entering Cohort (Graduating Class)	
2018 (2031)	546 (15.0%)
2019 (2032)	581 (16.0%)
2020 (2033)	527 (14.5%)
2021 (2034)	612 (16.9%)
2022 (2035)	661 (18.2%)
2023 (2036)	702 (19.3%)

preschool (n=2,137), 28.9% reported their children attended a privately funded preschool (n=1,047), and the remaining 12.3% reported their children did not attend a preschool (n=445).

- In terms of cohorts in the sample, 15% (n=546) entered kindergarten in 2018, 16% (n=581) entered kindergarten in 2019, 14.5% (n=527) entered kindergarten in 2020, 16.9% (n=612) entered kindergarten in 2021, 18.2% (n=661) entered kindergarten in 2022, and 19.3% (n=702) entered kindergarten in 2023.

Analyses

The chi-square test determines if two categorical variables are related to each other and was used in each of the below analyses to examine if children's developmental progress at kindergarten enrollment, as measured by the parent-completed ASQ, is associated with later outcomes, including teacher ratings on the KEI and 3rd grade performance on the DIBELS, SBAC-ELA and SBAC-Math assessments. For purposes of these analyses, the sample was divided into two groups based on ASQ results: 'Above or Monitoring' (on-track or approaching) on all five domains compared to those who were 'Below' on at least one domain. For the outcome measures, 'Proficiency' refers to the percentage assessed as approaching consistent or consistent performance on the KEI, as at or above benchmark for the DIBELS, and as meeting or exceeding grade standards on the SBAC-ELA and SBAC-Math.

1) The results of Parent-completed Ages and Stages Questionnaire at kindergarten enrollment are predictive of school readiness at the start of kindergarten and later academic progress in the third grade.

Findings from chi-square analyses indicate there is a strong relationship between parent-completed ASQ results at kindergarten enrollment, school readiness at the start of kindergarten* and later academic progress in the third grade.**
* Includes data on all six entering cohorts of children 2018-2023.
** Includes data for the first two of the six entering cohorts of children (2018 and 2019) who have reached the third grade.

A child who is approaching (Monitoring) or on track (Above) across all 5 domains of developmental growth (as measured by the ASQ) is **2.5 times more likely** to be ready for kindergarten, as measured by the KEI (X^2=267.62, p<.001, n=3,595); **1.7 times more likely** to achieve at or above the benchmark on the DIBELS reading assessment (X^2=43.02, p<.001, n=1,091); **3.1 times more likely** to be proficient in 3rd grade reading, as measured by SBAC ELA (X^2=42.37, p<.001, n=1,096); and **2.8 times more likely** to be proficient in 3rd grade math, as measured by SBAC Math (X^2=48.54, p<.001, n=1,093).

Findings illustrated in Figure 1 on the right shows that, of the children who were *approaching or on track developmentally* at kindergarten enrollment (screened by parents at Above or Monitoring on the ASQ), a relatively high percentage were also proficient on the KEI, the DIBELS, and the SBAC ELA and Math tests (67%, 67%, 41%, and 47%, respectively). In contrast, of the children who were *not on track developmentally* at kindergarten enrollment (screened by parents as Below on the ASQ), there was a

Fig. 1 ASQ-3 Is Predictive of Kindergarten Readiness & Later Academic Progress
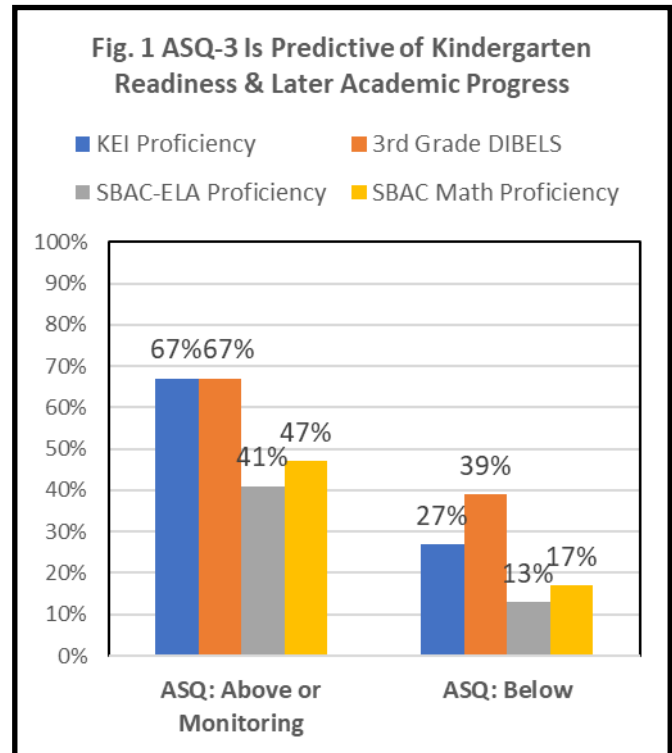
comparatively much lower percentage who were proficient on the KEI, DIBELS, and SBAC ELA and Math tests (27%, 39%, 13%, and 17%, respectively). **These findings demonstrate that the ASQ-3 is predictive of kindergarten readiness and later academic progress.**

2) ASQ status at kindergarten enrollment is associated with school readiness at the start of kindergarten and later academic progress for *both* Multilingual Learners (MLLs) and non-Multilingual Learners (non-MLLs).

Overall, Multilingual Learner Status is associated with school readiness and academic progress in the direction one would predict. Compared to MLL students, non-MLL students are: 2.0 times more likely to be ready for kindergarten on the KEI (X^2=334.39, p<.001, n=3,595), 1.45 times more likely to achieve proficiency in reading as measured by the DIBELS (X^2=37.62, p<.001, n=1,091), 3.5 times more likely to achieve proficiency on the SBAC ELA (X^2=85.76, p<.001, n=1,096), and 2.4 times more likely to achieve proficiency on the SBAC Math (X^2=85.76, p<.001, n=1,096). However, findings from chi-square analyses examining the relationship between ASQ status at kindergarten enrollment and academic progress separately for MLL and non-MLL subgroups show a consistent pattern between the two groups and with the overall analysis described above (see Fig. 1).

For <u>MLL students *(see Fig 2)*</u> who were screened by parents at Above or Monitoring on the ASQ at kindergarten
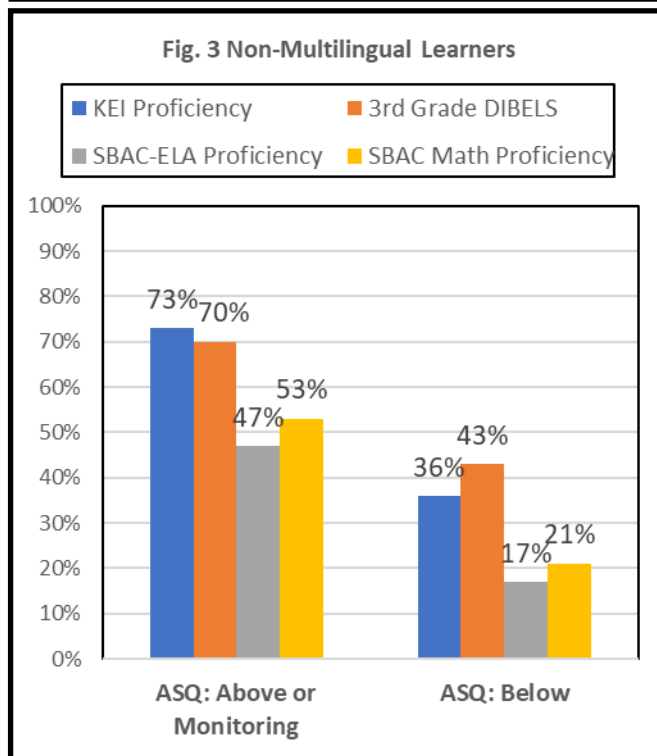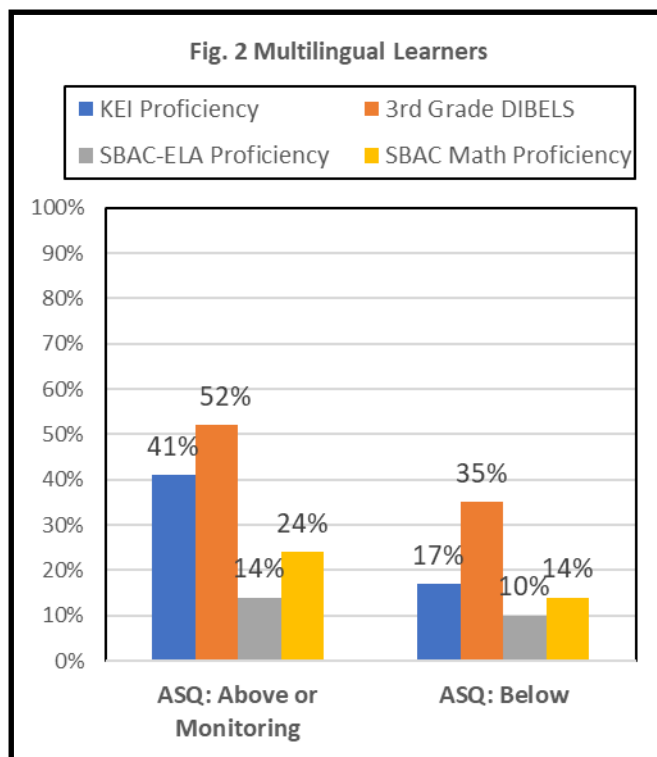
enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC-ELA and Math tests (41%, 52%, 14%, and 24%, respectively). In contrast, for MLL students who were screened by parents as Below on the ASQ, there was a comparatively lower percentage of children who were proficient on the KEI, DIBELS, and the SBAC-ELA and Math tests (17%, 35%, 10%, and 14%, respectively).

Similarly, for the _non-MLL students_ (see Fig 3) who were screened by parents at Above or Monitoring on the ASQ at kindergarten enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC-ELA and Math tests (73%, 70%, 47%, and 53%, respectively). In contrast, for non-MLL students who were screened by parents as Below on the ASQ, there was a comparatively lower percentage of children who were proficient on the KEI, DIBELS, and the SBAC-ELA and Math tests (36%, 43%, 17%, and 21%, respectively). **These findings show that ASQ results are related to school readiness and early learning for both MLL and non-MLL subgroups.**

3) ASQ status at kindergarten enrollment is associated with school readiness at the start of kindergarten and later academic progress for students residing in _both_ Low-Income and Affluent neighborhoods.

Overall, as with MLL status, neighborhood poverty is related to school readiness and academic progress in line with what one would predict. Compared to students residing in Low-Income neighborhoods, students residing in Affluent neighborhoods are: 1.3 times more likely to be proficient on the KEI (X^2=97.09, p<.001, n=3,595), 1.3 times more likely to achieve proficiency in reading as measured by the DIBELS (X^2=32.05, p<.001, n=1,091), 1.8 times more likely to achieve proficiency on the SBAC-ELA (X^2=57.63, p<.001, n=1,096), and 1.75 times more likely to achieve proficiency on the SBAC-Math (X^2=64.67, p<.001, n=1,093). However, once again, findings from chi-square analyses examining the relationship between ASQ status at kindergarten enrollment and academic progress separately for Low-Income and Affluent subgroups show the same pattern as the overall analysis.

For students residing in _Low-Income Neighborhoods_ (see Fig 4) who were screened by parents at Above or Monitoring on the ASQ at kindergarten enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC-ELA and Math tests (60%, 59%, 31%, and 37%, respectively). In contrast, for students residing in Low-Income Neighborhoods who were screened by parents as Below on the ASQ, there was a comparatively lower percentage of

Fig. 2 Multilingual Learners

Fig. 3 Non-Multilingual Learners

children who were proficient on the KEI, DIBELS, and the SBAC-ELA and Math tests (23%, 38%, 11%, and 12%, respectively).

Similarly, for students residing in _Affluent Neighborhoods_ (see Fig 5) who were screened by parents at Above or Monitoring on the ASQ at kindergarten enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC-ELA and Math tests (74%, 76%, 53%, and 59%, respectively). In contrast, for students residing in Affluent Neighbor-
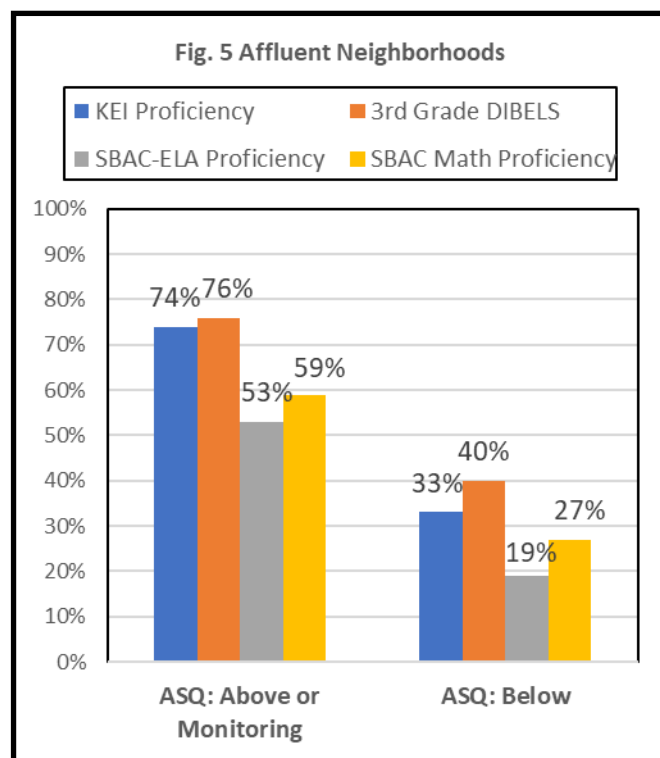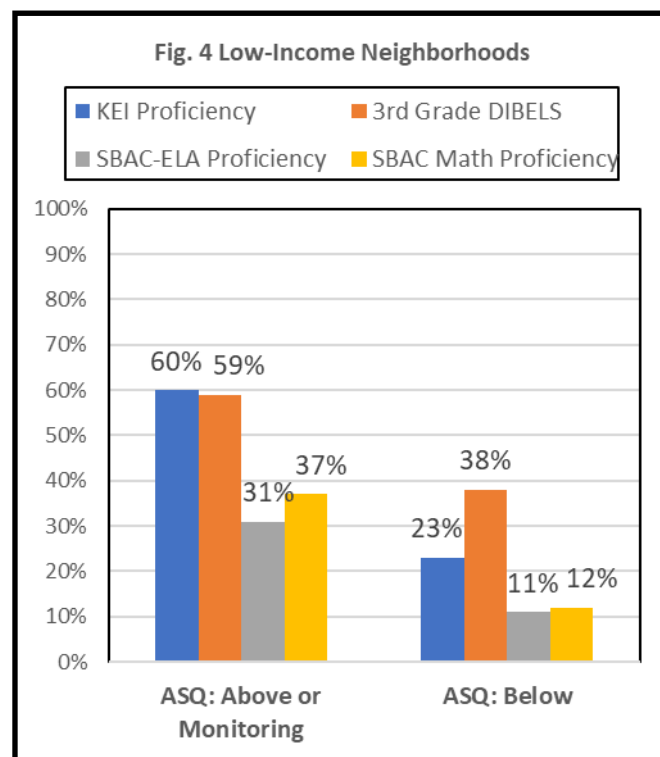
hoods who were screened by parents as Below on the ASQ, there was a comparatively lower percentage of children who were proficient on the KEI, DIBELS, and the SBAC-ELA and Math tests (33%, 40%, 19%, and 27%, respectively). **These findings again show that ASQ results are related to school readiness and early learning for both Low-Income and Affluent neighborhood subgroups.**

4) ASQ status at kindergarten enrollment is associated with school readiness at the start of kindergarten and later academic progress for students who did not attend preschool, who attended publicly-funded preschool, and who attended Private Preschool.

Overall, type of Preschool Experience is associated with school readiness and academic progress. Compared to students who did not attend preschool, students who attended Private or Publicly-Funded Preschools are, respectively, 1.7 and 1.4 times more likely to be proficient on the KEI, (x^2=135.26, p<.001, n=3,595), 1.3 and 1.1 times more likely to achieve proficiency in reading as measured by the DIBELS (x^2=13.65, p<.001, n=1,091), 2.1 and 1.2 times more likely to achieve proficiency on the SBAC-ELA (x^2=51.15, p<.001, n=1,096), and 2.2 and 1.4 times more likely to achieve proficiency on the SBAC-Math (x^2=58.69, p<.001, n=1,093). Once again, however, findings from chi-square analyses examining the relationship between ASQ status at kindergarten enrollment and academic progress separately for No Preschool, Publicly-Funded Preschool, and Private Preschool subgroups show the same pattern as the overall and subgroup findings described above (see Figs 1-5).
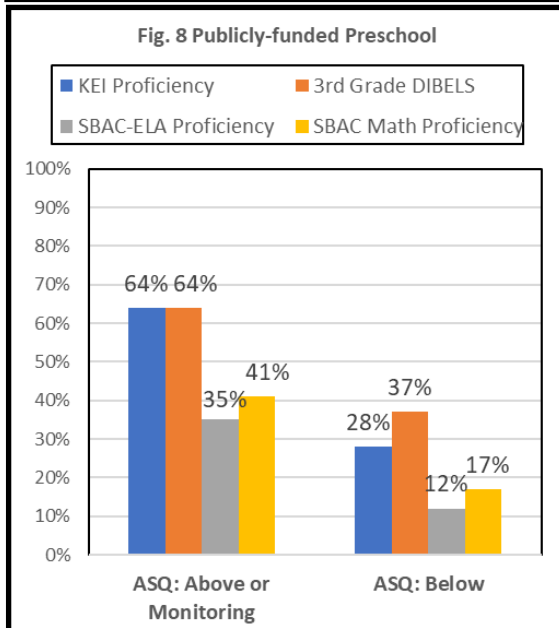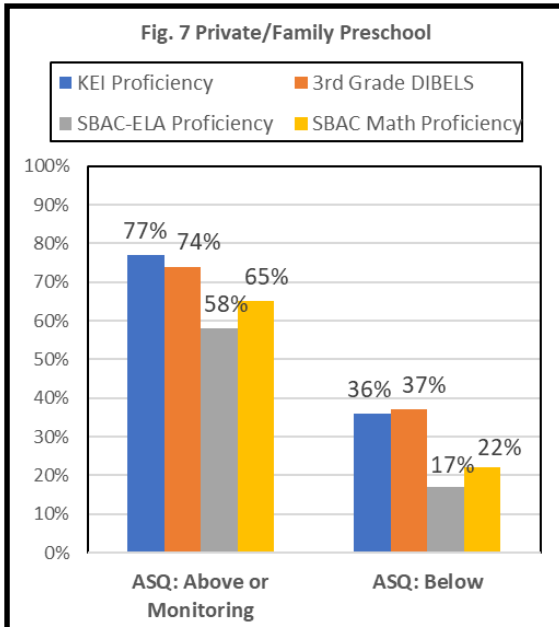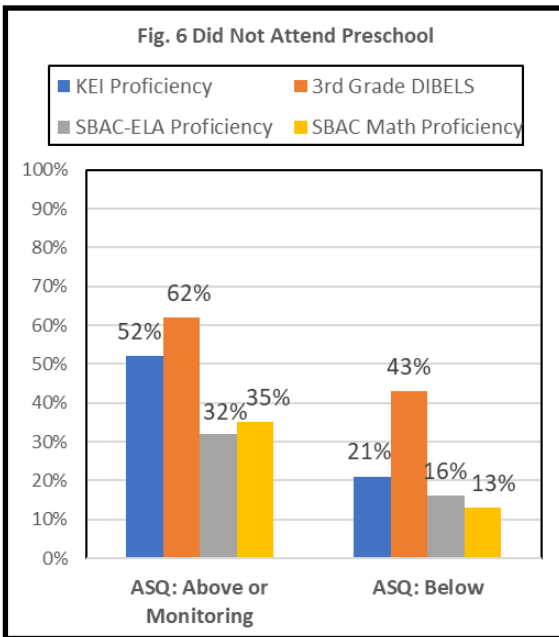
For students with _No Preschool_ experience _(see Fig 6)_ who were screened by parents at Above or Monitoring on the ASQ at kindergarten enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC-ELA and Math tests (52%, 62%, 32%, and 35%, respectively). In contrast, for students with No Preschool experience who were screened by parents as Below on the ASQ, there was a comparatively lower percentage of children who were proficient on the KEI, DIBELS, and the SBAC-ELA and Math tests (21%, 43%, 16%, and 13%, respectively).

For students with _Publicly-Funded Preschool_ experience _(see Fig 7)_ who were screened by parents at Above or Monitoring on the ASQ at kindergarten enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC ELA and Math tests (64%, 64%, 35%, and 41%, respectively). In contrast, for students with Publicly-Funded Preschool experience who were screened by parents as Below on the ASQ, there was a comparatively lower per-

Fig. 4 Low-Income Neighborhoods

Fig. 5 Affluent Neighborhoods

centage of children who were proficient on the KEI, DIBELS, and the SBAC ELA Math tests (28%, 37%, 12%, and 17%, respectively).

For students with _Private Preschool_ experience _(see Fig 8)_ who were screened by parents at Above or Monitoring on the ASQ at kindergarten enrollment, there was a relatively high percentage of these same children who were proficient on the KEI, the DIBELS, and the SBAC-ELA and Math tests (77%, 74%, 58%, and 65%, respec-

Fig. 6 Did Not Attend Preschool

Legend: KEI Proficiency · 3rd Grade DIBELS · SBAC-ELA Proficiency · SBAC Math Proficiency

ASQ: Above or Monitoring — KEI Proficiency 52%, 3rd Grade DIBELS 62%, SBAC-ELA Proficiency 32%, SBAC Math Proficiency 35%

ASQ: Below — KEI Proficiency 21%, 3rd Grade DIBELS 43%, SBAC-ELA Proficiency 16%, SBAC Math Proficiency 13%

Fig. 7 Private/Family Preschool

Legend: KEI Proficiency · 3rd Grade DIBELS · SBAC-ELA Proficiency · SBAC Math Proficiency

ASQ: Above or Monitoring — KEI Proficiency 77%, 3rd Grade DIBELS 74%, SBAC-ELA Proficiency 58%, SBAC Math Proficiency 65%

ASQ: Below — KEI Proficiency 36%, 3rd Grade DIBELS 37%, SBAC-ELA Proficiency 17%, SBAC Math Proficiency 22%

Fig. 8 Publicly-funded Preschool

Legend: KEI Proficiency · 3rd Grade DIBELS · SBAC-ELA Proficiency · SBAC Math Proficiency

ASQ: Above or Monitoring — KEI Proficiency 64%, 3rd Grade DIBELS 64%, SBAC-ELA Proficiency 35%, SBAC Math Proficiency 41%

ASQ: Below — KEI Proficiency 28%, 3rd Grade DIBELS 37%, SBAC-ELA Proficiency 12%, SBAC Math Proficiency 17%

tively). In contrast, for students with Private Preschool experience who were screened by parents as Below on the ASQ, there was a comparatively lower percentage of children who were proficient on the KEI, DIBELS, and the SBAC-ELA and Math tests (36%, 37%, 17%, and 22%, respectively). **These findings again show that ASQ results are related to school readiness and early learning across preschool experience subgroups.**

Summary of Analyses and Conclusions

The overall analyses (Fig. 1) demonstrate that the ASQ is predictive of school readiness and later academic progress. Moreover, the association between ASQ status (Above/Monitoring vs Below), school readiness, and later academic outcomes is relatively consistent across each of the subgroups: MLL status (Fig. 2 & 3), Neighborhood (Fig. 4 & 5), and Preschool Experience (Fig. 6-8). The purpose of the subgroup analyses is not to emphasize inequalities across the groups. Rather, while MLL status compared to non-MLL, Low-Income neighborhood compared to Affluent, and No Preschool compared to Private and Publicly Funded Preschool experience are associated with less academic preparedness and success, approaching or being on-track developmentally on the ASQ is similarly predictive of improved outcomes across _all_ of the subgroups.

As such, the analyses show strong evidence that the ASQ provides important information about later academic success, overall and within all of the subgroups, supporting Norwalk's _universal_ approach to developmental screening and monitoring with the ASQ. Moreover, developmental screening, monitoring, and tiered intervention during early childhood has the potential to improve performance for all children and to reduce gaps in performance across subgroups (i.e., MLL, Low-Income residence, No Preschool). These findings validate Norwalk's efforts - and success so far - in optimizing readiness to learn at kindergarten, and suggest that outcomes will continue to improve as screening reaches all of Norwalk's young children starting in infancy and as tiered interventions are implemented for relevant subgroups (i.e., Targeted Universalism).

While there is a wide range of developmental settings experienced by Norwalk's young children - including MLL status, neighborhood residence, preschool experience as key examples - the ASQ is also meaningful as a common, standard metric of developmental progress that may generate common understandings and practices supporting children's optimal development. Future research will focus on analyses of ASQ longitudinal data and examine the effects of multiple screenings and of tiered interventions throughout children's early developmental stages on later school readiness and academic outcomes, overall and for targeted subgroups. Do systematic outreach, early identification, and intervention lead to improved school readiness and academic outcomes? Are they associated with a reductions in the gaps on these outcomes between subgroups?