Ready or Not, Here We Come!

AN ASSESSMENT OF KINDERGARTEN READINESS IN CONTRA COSTA COUNTY

2017

Most American children arrive at their first day of kindergarten without the skills and tools that would make them most successful in school. The educational achievement gap between the affluent and the middle income, as well as between middle income and low income groups, is large and growing.[1]

At the same time, scientific research about the importance of infant and toddler brain growth and development has become irrefutable, and more widely understood. Research makes the unmistakable case that early learning is formative to later indicators of personal and professional success.

For these reasons, states and localities have been focusing more and more attention on the notion of "kindergarten readiness" to improve children's outcomes in school and thereby ensure all children are equally prepared when they enter the K-12 school system.

First 5 Contra Costa commissioned this study of kindergarten readiness skills among Contra Costa County children. It is the first county-wide study of its kind. It describes the factors that influence skill-building among young children, and provides comprehensive information to school administrators at all levels, so that schools and communities are better equipped to support and educate the children of Contra Costa County.

WHAT DO WE MEAN BY KINDERGARTEN READINESS?

Although this study describes the attributes that children come to school with, First 5 Contra Costa holds a wider definition of kindergarten readiness. In our view, the ingredients that are required for a child to be most successful in school include the preparation that the child receives at home and in early childhood education and development settings, the support and stability of families and communities, and the commitment of schools to meet the needs of every child. This study provides information about one slice of that definition—that of the child's measurable skills during the first weeks of kindergarten—and is intended to add to the body of knowledge that is necessary to understand and then improve children's success in school and beyond.

[1] Reardon, S. July 2011. "The Widening Academic Achievement Gap Between the Rich and the Poor: New Evidence and Possible Explanations. *Whither Opportunity? Rising Inequality, Schools, and Children's Life Chances*. New York: Russell Sage Foundation.

First 5 Contra Costa contracted with Applied Survey Research to conduct this research. A total of 1,154 students from ten elementary school districts participated in this study.[2] The research is based on ASR's School Readiness Assessment, which measures readiness dimensions that are consistent with those found in other frameworks and standards, and its findings have been strongly correlated with 3rd grade test scores.[3] The assessment uses two sources of information:

• A *Kindergarten Observation Form*, a two-page instrument conducted by the kindergarten teacher within the first few weeks of school. Teachers rate students' proficiency levels on 20 skills, which comprise the "Building Blocks" of school readiness. See box for more information on the Building Blocks of school readiness.[4] Within a small margin of error, this sample is statistically representative of the county.

• A *Parent Information Form*, a one-page form, filled out by parents, that includes questions about research-based predictors of readiness, including child demographics, family background, parenting activities, family stressors and child care experiences. The form was offered to families in English or Spanish. A total of 936 parents completed this form for this study (81% return rate).

BASIC BUILDING BLOCKS OF SCHOOL READINESS

KINDERGARTEN ACADEMICS

• Recognizes numbers	• Counts 20 objects	• Understands details in literature
• Recognizes shapes	• Writes own first name	• Understands basic features of books
• Recognizes letters	• Recognizes rhyming words	

SOCIAL EXPRESSION

• Eager to learn
• Expresses empathy
• Expresses needs and wants
• Tells about a story/experience

SELF REGULATION

• Stays focused
• Follows rules
• Follows directions
• Plays cooperatively
• Participation in circle time
• Handles frustration well

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[2] Participating districts included Antioch, Brentwood, John Swett, Lafayette, Moraga, Mt. Diablo, Orinda, Pittsburg, San Ramon Valley, and West Contra Costa. See Appendix A for more information about the number of classrooms and students included per district.

[3] For more information, see http://www.appliedsurveyresearch.org/school-readiness-assessments

[4] Children's overall school readiness scores are based on these Building Blocks as well as measurements of fine and gross motor skills.

According to this research, **less than half of Contra Costa children are fully ready for kindergarten.** Across the county, **44% of children meet the definition of "fully ready,"** by demonstrating proficiency in all Building Blocks of Readiness. Over a third of children are "partially ready," meaning they demonstrate proficiency in one or two Building Blocks. **Twenty-two percent of children did not demonstrate proficiency in any of the Building Blocks.** These findings are similar to those found in other Bay Area counties that have assessed kindergarten students with the same methodology.

OVERALL KINDERGARTEN READINESS

44%

35%

22%

■ % Fully Ready   ■ % Partially Ready   ■ % Not Ready
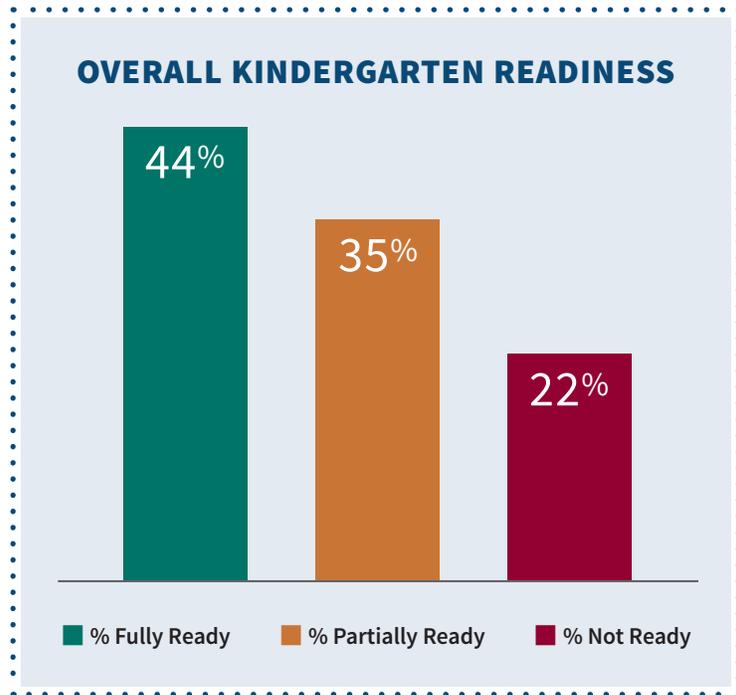
22% of children did not demonstrate proficiency in any of the Building Blocks

PROFICIENCY BY BUILDING BLOCK

The figure below describes the levels of proficiency found for students within each Building Block in Contra Costa County.

Legend: ■ % Proficient ■ % In Progress ■ % Beginning ■ % Not Yet

KINDERGARTEN ACADEMICS

Skill	% Proficient	% In Progress	% Beginning	% Not Yet
Recognizes primary shapes	65%	26%	6%	3%
Writes own first name	61%	23%	8%	7%
Recognizes all number 0–10	61%	25%	10%	4%
Understands structure, basic features of books	57%	31%	9%	3%
Counts up to 20 objects	50%	34%	11%	5%
Recognizes rhyming words	43%	26%	9%	22%
Recognizes letters of the alphabet	38%	34%	23%	6%
Answers questions about details in literature	33%	42%	18%	8%

SELF-REGULATION

Skill	% Proficient	% In Progress	% Beginning	% Not Yet
Follows two-step directions	58%	29%	10%	3%
Works and plays cooperatively with peers	54%	31%	12%	3%
Handles frustration well	49%	33%	12%	6%
Follows class rules and routines	49%	33%	14%	4%
Participates successfully in large group activities	45%	35%	15%	5%
Stays focused in individual/small group activities	42%	38%	14%	5%

SOCIAL EXPRESSION

Skill	% Proficient	% In Progress	% Beginning	% Not Yet
Appropriately expresses needs and wants	52%	35%	10%	3%
Expresses empathy or caring for others	52%	32%	12%	4%
Demonstrates curiosity, eagerness for learning	45%	38%	13%	4%
Tells about a story or experience	40%	40%	16%	5%

MOTOR SKILLS

Skill	% Proficient	% In Progress	% Beginning	% Not Yet
Has general coordination	57%	32%	9%	2%
Uses a pencil with proper grip	51%	32%	13%	5%

Source: Kindergarten Observation Form (2017). N=1,082-1,152. Note: Scores range from 1 (Not Yet) to 4 (Proficient). Percentages may not sum to 100 due to rounding. Scores were omitted for students for whom language barriers were a concern. Post-stratification weights are applied to approximate socioeconomic status, race/ethnicity and English learner status proportions to the county.

Across the county and among different groups, however, important differences in readiness emerge.
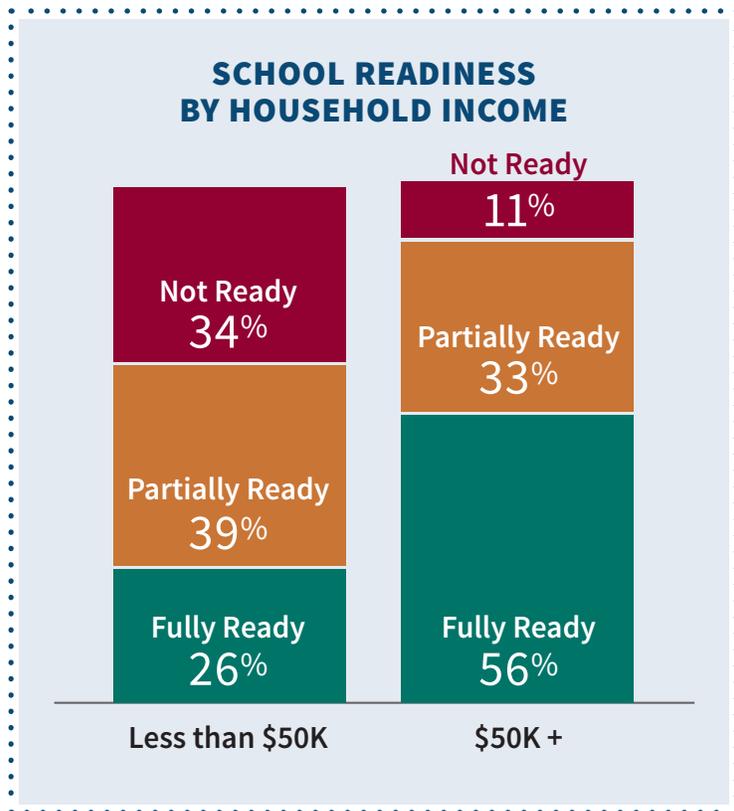
BY INCOME

To meet the basic costs of living in Contra Costa, a family of one adult and one child must earn annual wages of $55,000; a family with two adults and two young children must earn an annual wage of $85,000 to meet the self-sufficiency standard.[5] Applied Survey Research analyzed readiness scores among children whose family income was less than $50,000 to understand how living below the self-sufficiency standard may affect school readiness. They found that over a third of children living below the self-sufficiency standard are not ready for school, compared to just 11% of children with higher income.

Over a third of children living below the self-sufficiency standard are not ready for school.

SCHOOL READINESS BY HOUSEHOLD INCOME

Not Ready
11%

Not Ready
34%

Partially Ready
33%

Partially Ready
39%

Fully Ready
26%

Fully Ready
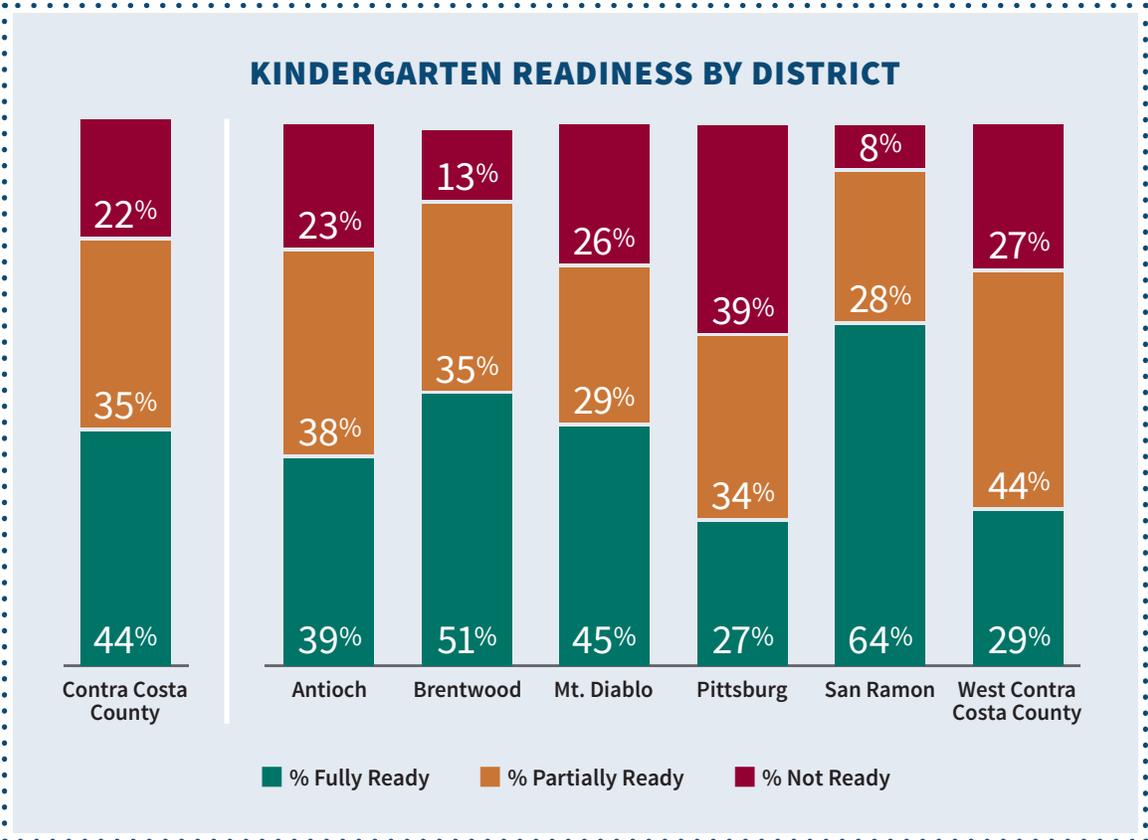**56**%

Less than $50K   **$50K +**

[5] See Insight Center Self-Sufficiency Standard Tool for California. https://insightcced.org/tools-metrics/self-sufficiency-standard-tool-for-california/
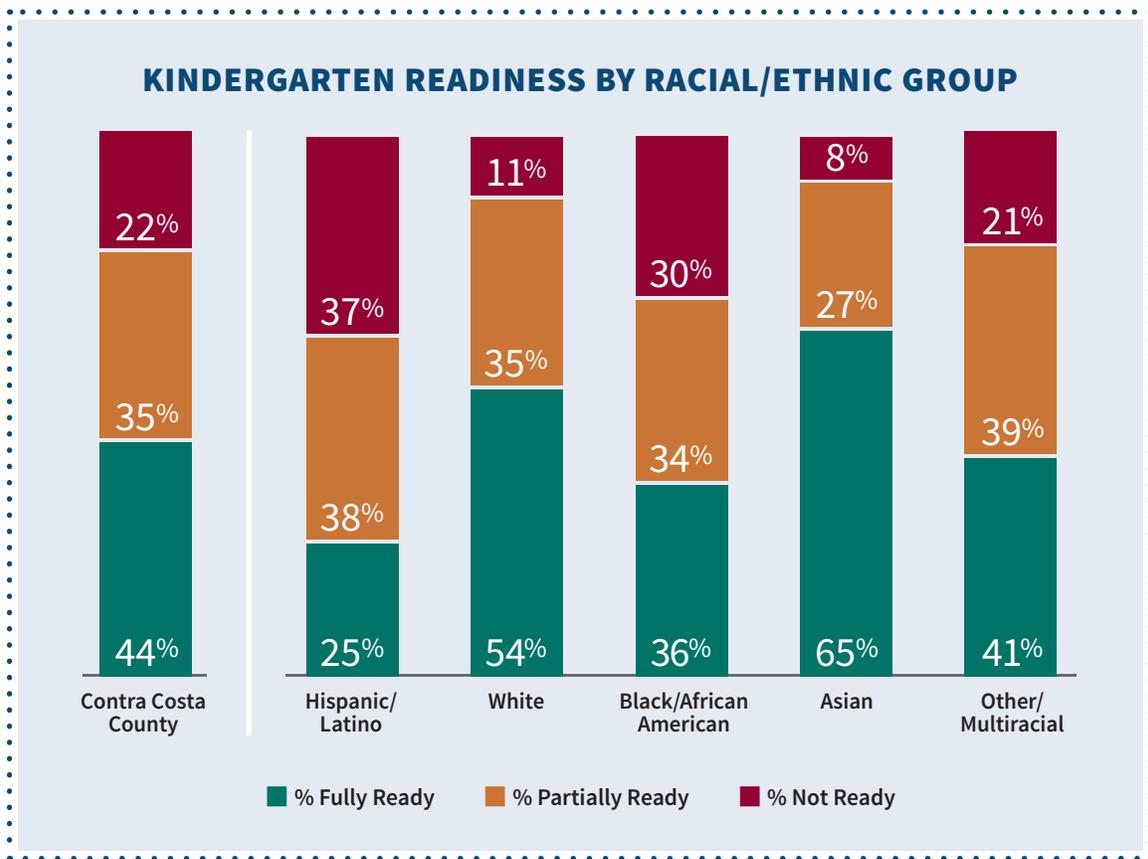
BY DISTRICT

Contra Costa mirrors the rest of the Bay Area in that it is home to very affluent communities as well as areas with dense poverty. Antioch, Pittsburg, and West Contra Costa County, the regions with the highest concentrations of poverty, have the lowest rates of children being "fully ready."

KINDERGARTEN READINESS BY DISTRICT

District	% Fully Ready	% Partially Ready	% Not Ready
Contra Costa County	44%	35%	22%
Antioch	39%	38%	23%
Brentwood	51%	35%	13%
Mt. Diablo	45%	29%	26%
Pittsburg	27%	34%	39%
San Ramon	64%	28%	8%
West Contra Costa County	29%	44%	27%

■ % Fully Ready   ■ % Partially Ready   ■ % Not Ready

BY ETHNICITY

The rates of Latino and African American children who are "not ready" are much higher than for the county overall. Thirty-seven percent of Latino children, and 30% of African American children included in this study were found to be not ready. These findings are echoed in other school readiness assessments done of Bay Area counties as well as national studies of school readiness. A national study found that 27% of Hispanic three- to six-year-olds could recognize all 26 letters of the alphabet, compared with 41% of white children and 44% of black children, for example.[6] Over a third of children who are English learners, the vast majority of whom are Latino, were found to be underprepared for school in this study.

KINGDERGARTEN READINESS BY RACIAL/ETHNIC GROUP

Group	% Fully Ready	% Partially Ready	% Not Ready
Contra Costa County	44%	35%	22%
Hispanic/Latino	25%	38%	37%
White	54%	35%	11%
Black/African American	36%	34%	30%
Asian	65%	27%	8%
Other/Multiracial	41%	39%	21%

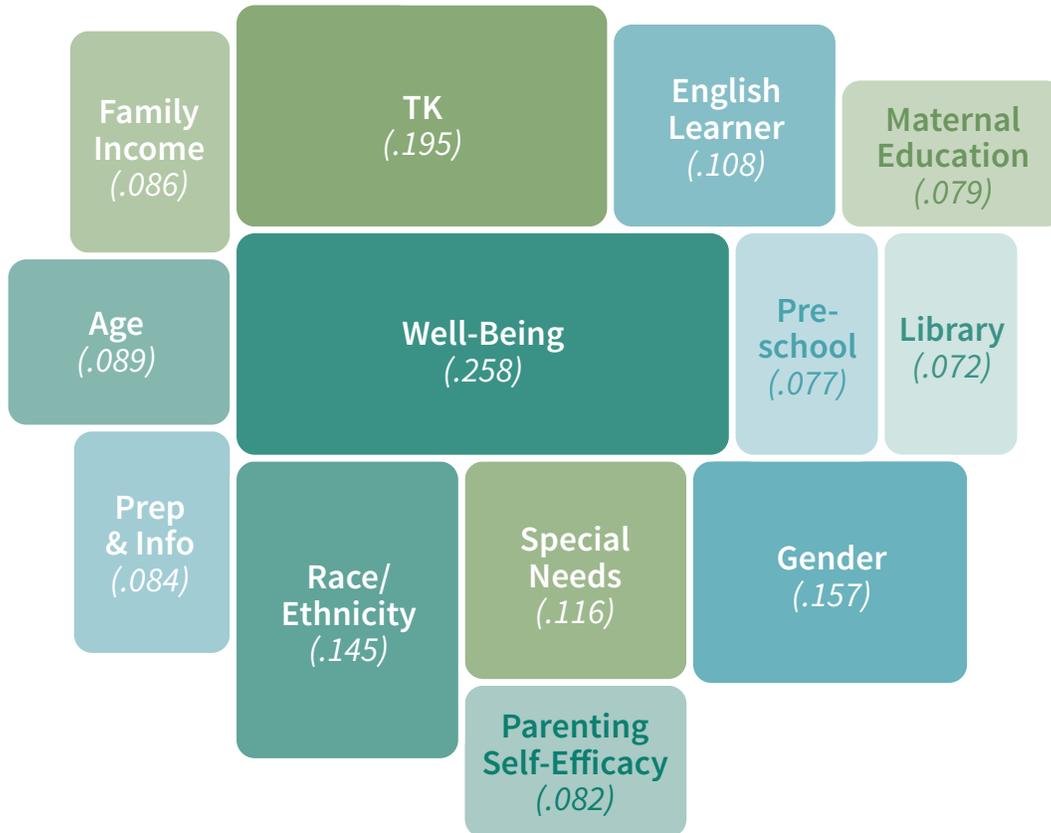- 🟩 % Fully Ready
- 🟧 % Partially Ready
- 🟥 % Not Ready

ASR researchers use a series of statistical tests to determine which factors and characteristics predict whether or not children are ready for school. Understanding these factors can inform school districts and community leaders about how to create learning environments that meet children where they are, and support early childhood services that are most likely to improve school success.

- **The most powerful influencer of kindergarten readiness was the child's well-being.** Those who were perceived by their teachers to be frequently hungry or tired had readiness levels that were lower than their peers without these well-being concerns.

- Beyond the child's physical health, **attending Transitional Kindergarten** (TK) was also very influential in predicting readiness. Experience with other types of licensed preschool also contributed to a child's readiness, but was less influential. Unlike TK, the curriculum and approach across preschool classrooms varies widely, and there is less expectation that a child will attend every day over the course of an academic year. The difference between the effects of these two kinds of early childhood education may be related to those differences.

- Demographic variables played a significant role in predicting readiness. **Race/ethnicity, English learner status, gender, age, and special needs** were significant predictors of readiness. White and Asian children showed higher scores than children in other race/ethnicity groups including Hispanic/Latino, Black/African American and Other/More than one. Being an English Learner decreased the likeliness that a child would be ready for school compared to native English speakers. Girls and older children tended to be more ready relative to boys and younger children. Lastly, children with special needs were less likely to be ready than children without special needs.

- Children from families with **higher income** tended to have higher readiness than children from less affluent families.

- Children whose parents reported that they did more than three **kindergarten preparation activities** or received more than three types of information about kindergarten also had higher readiness scores.

FACTORS ASSOCIATED WITH KINDERGARTEN READINESS: ALL CHILDREN

The numerical values show the relative influence of these factors, based on statistical analysis.

Family Income *(.086)*

TK *(.195)*

English Learner *(.108)*

Maternal Education *(.079)*

Age *(.089)*

Well-Being *(.258)*

Pre-school *(.077)*

Library *(.072)*

Prep & Info *(.084)*

Race/ Ethnicity *(.145)*

Special Needs *(.116)*

Gender *(.157)*

Parenting Self-Efficacy *(.082)*

For each Building Block of kindergarten readiness, the list of factors that most influence kindergarten readiness varies a bit. For all of them, **getting adequate sleep, attending Transitional Kindergarten,** and **learning about kindergarten** in advance help children come to school ready. **TK experience was found to be more helpful for children who are relatively at risk, especially those from low-income families, or whose mothers had low levels of educational attainment, and for English learners.**

• Performance on *Kindergarten Academics*, which measures cognitive skills of children, was more associated with factors such as higher maternal education, attending preschool, or visiting a library.

• *Self-Regulation*, which is indicative of behavioral control and inhibition, was more closely associated with being adequately fed at school, two-parent households, and higher parenting confidence.

• *Social Expression,* which is more indicative of quality social relationships, was also associated with two-parent households and higher parenting confidence, in addition to visiting a library.

See the figure below for more detailed information about which factors were found to influence readiness for each Building Block.
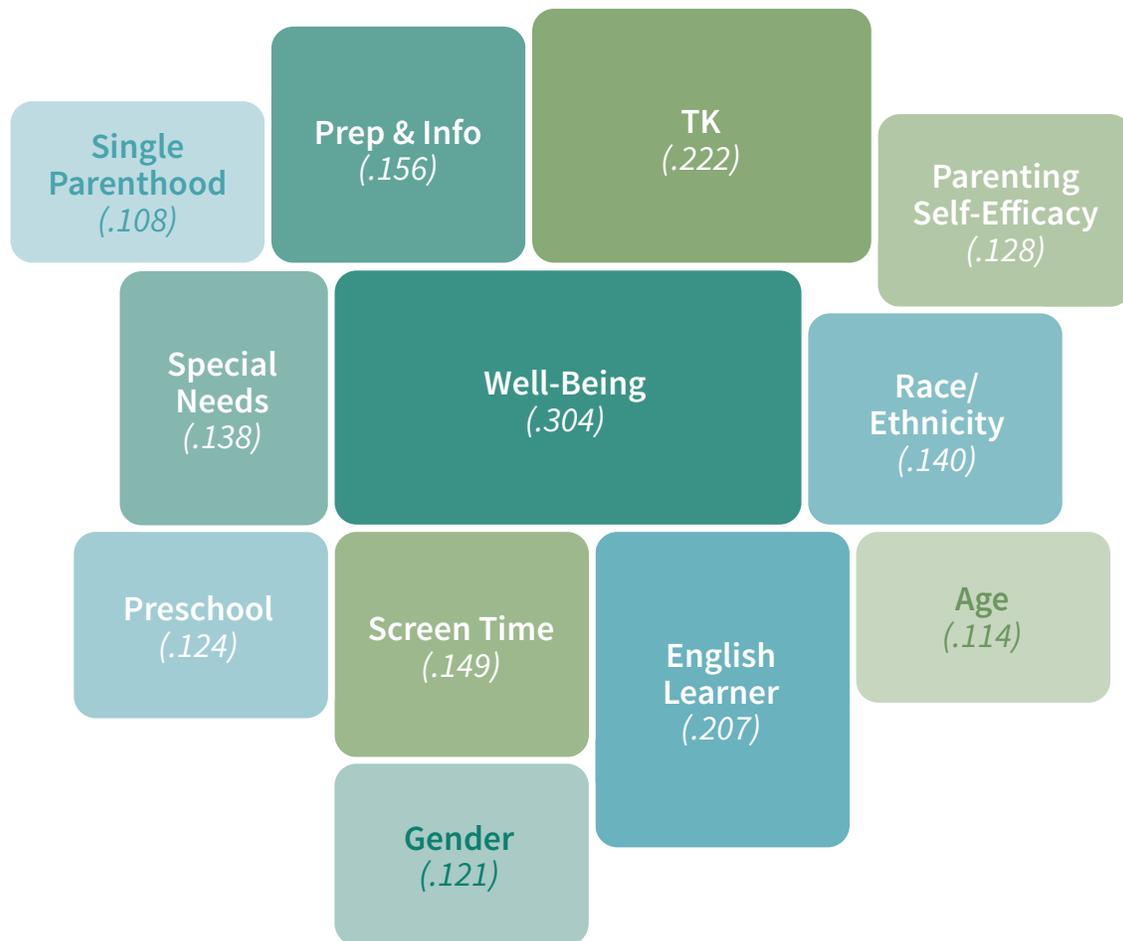
SIGNIFICANT PREDICTORS OF READINESS BY BUILDING BLOCK

		Overall	Kindergarten Academics	Self-Regulation	Social Expression
DEMOGRAPHICS	• Female • Older • White/Asian • No Special Needs • Not an English Learner	✓	✓	✓	✓
FAMILY CHARACTERISTICS	Higher maternal education	✓	✓		
	Higher family income	✓	✓	✓	
	Two-parent household	✓		✓	✓
WELL-BEING	Not hungry	✓		✓	
	Not tired	✓	✓	✓	✓
	Not tardy		✓		
ACTIVITIES & EXTERNAL RESOURCES	Attend TK	✓	✓	✓	✓
	Attend preschool	✓	✓		
	Preparation activities and information about kindergarten	✓	✓	✓	✓
	Parenting confidence	✓		✓	✓
	Visit library with child	✓	✓		✓

Among low-income children, the factors that affect readiness are somewhat different. Understanding which factors are most influential for children who are living below the self-sufficiency standard may be most important for designing programs or policies to close the achievement gap. For these children, demographic factors had a smaller impact on kindergarten readiness, whereas engagement in supportive activities, child well-being, and participating in TK had a larger effect. **This suggests that for children in low-income households, early educational resources have a particularly pronounced impact on school readiness.**

FACTORS ASSOCIATED WITH KINDERGARTEN READINESS: CONTRA COSTA FAMILIES EARNING LESS THAN $50,000

The numerical values show the relative influence of these factors, based on statistical analysis.

Single Parenthood *(.108)*

Prep & Info *(.156)*

TK *(.222)*

Parenting Self-Efficacy *(.128)*

Special Needs *(.138)*

Well-Being *(.304)*

Race/ Ethnicity *(.140)*

Preschool *(.124)*

Screen Time *(.149)*

English Learner *(.207)*

Age *(.114)*

Gender *(.121)*

V. How Do We Improve School Readiness?

The results of this study suggest that there are barriers to school readiness that can be mitigated with the help of programs and services. The data indicates that children who are well-fed, well-rested, visit a library with a caregiver, attend preschool or TK, or have parents who are confident and knowledgeable about parenting are more prepared to enter kindergarten ready to learn. **TK emerges as particularly beneficial to children with low family income**, less maternal education, or status as an English-learner. Preschool attendance was found to have **two kinds of effects on a child's readiness:** children learn skills and socialization from the school setting, and in addition, parents of children in preschool were more likely to get involved with school preparation activities.

Based on these findings, a few interventions emerge as having the most potential to improve children's school readiness:

- **Increased access to preschool and Transitional Kindergarten:** Improving access to quality preschool or early education experiences would likely have the largest impact on readiness levels of children in the county given the multiple ways it improves school readiness and the impact it has, particularly among children with low income.

- **Parenting support services:** Helping parents feel confident and connected to their community is a significant part of kindergarten readiness. Services like intensive family therapy, developmental playgroups for vulnerable children, and evidence-based parenting classes can help parents in a variety of ways, including boosting parenting confidence, as well as impart knowledge about the importance of preparing children for the transition to kindergarten.

- **Early literacy activities:** The availability of early literacy activities provided by libraries and other programs remain important resources for families as well.

VI. Conclusion and Recommendations

First 5 Contra Costa sponsored this research to help schools understand the set of skills and challenges that young children come to their doors with; to use this knowledge to best serve those children and their families; and ultimately ensure that all children meet educational milestones.

The findings are intended to speak to other stakeholders, as well. The overall lack of readiness among children in Contra Costa indicated by this research, though not dissimilar to neighboring counties, is still unacceptable. It will require the focus, creativity, and investment of all levels of governance to enrich the services available to families in our community so that all children have the best chances of success in school. The recommendations below offer tested ideas about how school districts, cities, and the county could play a larger and more impactful role in improving children's kindergarten readiness.

SCHOOL DISTRICTS

• *Expand access to and quality of early childhood education.* School districts can directly impact access to high-quality early learning programs by establishing or expanding Head Start, state-funded preschool and Transitional Kindergarten programs. All early childhood education programs that operate as part of the school district should be enrolled in Contra Costa's Quality Rating and Improvement System, Quality Matters. Quality Matters works with teachers and program directors to continually improve the quality of care through coaching, stipends, grants, and other supports.

• *Foster partnerships between early childhood and kindergarten educators.* Districts could improve collaboration and communication between kindergarten and early childhood teachers by coordinating classroom visits and other opportunities to learn from one another. In addition, by working with state preschool and Head Start programs, districts can assign unique identifiers to students before they enter kindergarten, so that information about child attendance and other indicators of performance can be tracked over time.

• *Employ a dedicated Early Learning Coordinator.* Early Learning Coordinators could ensure that children from birth through third grade are supported, and improve the connection of classroom experiences and curricula from year to year. Moreover, this position would help districts and schools stay connected with community resources that improve kindergarten readiness, such as the Help Me Grow system, libraries, the food bank, health clinics, and other local efforts and tools.

• *Include early childhood programs in LCAPs.* Districts should build family and community support programs into their Local Control Action Plans (LCAPs) to reflect the importance of those activities to a child's readiness to learn.

CITIES

- *Expand access to early childhood education with new facilities.* Cities can assess the accessibility of quality early education programs in their communities, and the facilities available to house programs. In addition, they could encourage the creation of new early education programs by working with developers and community partners to ensure that there are sufficient facilities to meet the need.

- *Outreach to families about early childhood programs.* Cities should partner with CocoKids and First 5 Contra Costa to implement effective and innovative ways of messaging to families about how to sign up for early learning programs, especially subsidized programs. Outreach should be targeted and culturally appropriate.

- *Build and improve the spaces that strengthen families.* Cities should ensure that families have safe, welcoming and enriching parks, family resource centers, and recreation programs in their neighborhoods that encourage curiosity and experiential learning.

CONTRA COSTA COUNTY

- *Prioritize children.* The County is the largest single provider of early learning programs in Contra Costa, and maintains additional investments supporting safety net, mental health and child welfare programs that all benefit children, yet there is more to be done. The County should prioritize increasing the funding and improving the effectiveness of these and other services to ensure that all eligible children are served at the highest level of quality.

- *Expand early childhood education programs.* The County should expand its system of Head Start and State Preschool programs to meet demand and reduce waiting lists. Providing high quality early education to the children who can benefit the most is the single most important step towards closing gaps in equity, opportunity and achievement for all children.

- *Invest in early literacy programming.* Libraries play a central role in many of the activities and external resources that were shown to significantly affect children's readiness for kindergarten. County libraries should expand their outreach to young families and early literacy activities in all the communities they serve.

- *Increase investment in early mental health services.* Programs that strengthen a child's social-emotional resiliency directly improve his or her ability to thrive at school. The County should draw down all available local, state and federal funds to support an effective system of children's mental health services that emphasizes the preventive advantage of serving children and their families as early as possible.

APPENDIX A: Participation by School District

A total of 1,154 students from 55 classrooms in 46 schools from 10 school districts participated in the 2017 study. Within each district, schools were randomly selected within strata defined by poverty (i.e., participation in the Federal Lunch Program) and 3rd grade reading proficiency rates. One additional classroom at nine of the selected schools was also selected due to their close proximity to a First 5 Center and/or a Quality Matters QRIS childcare program. Teachers in the selected classrooms completed the KOF within the first few weeks of the 2017/18 school year. In addition, a total of 936 parents completed the Parent Information Form (PIF; 81% return rate).

Participating School Districts	Number of classrooms	Number of schools	Number of Children
Mt. Diablo	14	12	284
San Ramon Valley	10	10	211
West Contra Costa	9	7	170
Antioch	8	6	193
Pittsburg	5	3	100
Brentwood	4	3	93
Lafayette	2	2	41
John Swett	1	1	23
Moraga	1	1	23
Orinda	1	1	16
TOTAL	55	46	1,154

APPENDIX B: Percent of Children in Each Category who are Ready, Partially Ready, or Not Ready

Factor	Category	% Fully Ready within Category	% Partially Ready within Category	% Not Ready within Category
GENDER	Female	51%	32%	16%
	Male	35%	38%	27%
AGE	Under 5.5 years old	32%	40%	28%
	5.5 years or older	51%	32%	17%
RACE/ ETHNICITY	Hispanic/Latino	25%	38%	37%
	White	54%	35%	11%
	Asian	65%	27%	8%
	Black/African American	36%	34%	30%
	Other/Multiracial	41%	39%	21%
ENGLISH LEARNER	English Learner	19%	45%	36%
	Not English Learner	50%	33%	17%
SPECIAL NEEDS	Special Needs	31%	22%	46%
	No Special Needs	43%	36%	20%
MATERNAL EDUCATION	Mother Has HS Diploma or Less	24%	39%	37%
	Mother Has Some College or More	53%	35%	13%
FAMILY INCOME	$0–$14,999	24%	41%	35%
	$15,000–$34,999	23%	42%	35%
	$35,000–$49,999	30%	41%	29%
	$50,000–$74,999	40%	38%	23%
	$75,000–$99,999	47%	39%	14%
	$100,000+	62%	30%	8%
FAMILY STRUCTURE	Single Parent Household	24%	42%	34%
	Dual Parent Household	49%	35%	16%
CHILD APPEARED HUNGRY	Rarely or Almost Never	45%	35%	20%
	On Some Days	30%	38%	31%
	On Most Days	10%	33%	57%
	Just About Every Day	0%	20%	80%
CHILD APPEARED TIRED IN CLASS	Rarely or Almost Never	47%	34%	19%
	On Some Days	20%	47%	33%
	On Most Days	12%	33%	56%
	Just About Every Day	0%	14%	86%
FORMAL ECE IN PRIOR YEAR[a]	Center-Based Preschool	44%	36%	20%
	Transitional Kindergarten	65%	27%	8%
	Licensed Family Child Care Home	25%	49%	20%
	None	23%	34%	37%
ACTIVITY WITH CHILD	Visited a Library with Child	56%	33%	12%
	Did Not Visit a Library with Child	35%	39%	27%

APPENDIX B: *Continued*

Factor	Category	% Fully Ready within Category	% Partially Ready within Category	% Not Ready within Category
KINDERGARTEN PREPARATION[b]	More Than 3 Types of Preparation Activities	49%	36%	16%
	3 or Fewer Types of Preparation Activities	34%	35%	31%
KINDERGARTEN INFORMATION[b]	More Than 3 Types of Information on Kindergarten	47%	36%	17%
	3 or Fewer Types of Information on Kindergarten	35%	36%	29%
PARENTING SELF-EFFICACY	Above average level of parental self-efficacy to manage child behavior (>3.45)	51%	35%	15%
	Below average level of parental self-efficacy to manage child behavior (<=3.45)	35%	37%	26%

N=891-1,154. Source: Kindergarten Observation Form (2017) Parenting Information Form (2017).
[a]Some caregivers reported more than one ECE type in the last year.