

Assessing School Readiness

In San Mateo County - 2002

RESULTS FROM THE 2002 SCHOOL READINESS ASSESSMENT PROJECT
San Mateo County, California

Prepared by Applied Survey Research for
The Peninsula Partnership for Children, Youth and Families
2003

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California
2003

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Table of Contents

I. Acknowledgements	5
II. Executive Summary	7
III. Introduction	12
The Importance of School Readiness	12
Readiness Assessment in San Mateo County — Project Background	14
Purpose of the School Readiness Assessment	15
Recap of the 2001 School Readiness Assessment and Findings	15
IV. Methodology	17
Research Design	17
Instrument and Administration	18
Sample Selection	21
Implementation	22
Analysis	23
V. Findings	26
Profile of Observed Students	26
Findings by Individual Readiness Skill	29
Findings by National Education Goal Panel Readiness Area	30
1. Physical Well-Being & Motor Development	30
2. Social & Emotional Development	30
3. Approaches Toward Learning	31
4. Communication & Language Usage	32
5. Cognition & General Knowledge	32
Findings for All Readiness Skills Combined	33
Findings for Children in First 5 School Readiness Initiative Areas	36
VI. Discussion	40
References	42
About the Researcher	44
Appendix	45
Appendix 1: Kindergarten Observation Form	46
Appendix 2: Overall Frequencies	49
Appendix 3: Mean Readiness Scores By Item, NEGP Category and Overall	59
Appendix 4: First 5 School Readiness Initiative (SRI) Oversample — Mean Readiness Scores of “SRI” Students By Item, NEGP Category and Overall	61

Table of Figures

Figure A:	Percentage of Observed Students <i>In Progress</i> or <i>Proficient</i> in Key Readiness Skills, 2002	8
Figure B:	Mean Readiness Score of Observed Students per NEGP Readiness Area, 2002	9
Figure C:	Overall Mean Adjusted Readiness Score by Key Characteristics of Observed Students, 2002	9
Figure D:	Overall Mean Readiness Score, 2001 and 2002	9
Figure 1:	2002 Improvements in the Scaled Response Options of Four Indicators	20
Figure 2:	Summary of Modifications to 2002 School Readiness Indicators	20
Figure 3:	Ethnic Composition of Observed Students Compared to Overall Kindergarten Population, 2001 and 2002	26
Figure 4:	Percentage of Students Eligible for Free and Reduced Cost Lunch – Observed Students, Schools and Districts, October 2001 and 2002	27
Figure 5:	Reported Formal Early Education Experience of Observed Students, 2001 and 2002	28
Figure 6:	Percentage of Observed Students <i>In Progress</i> or <i>Proficient</i> in Key Readiness Skills, 2002	29
Figure 7:	Proficiency in the Area of <i>Physical Well-Being & Motor Development</i>	30
Figure 8:	Proficiency in the Area of <i>Social & Emotional Development</i>	31
Figure 9:	Proficiency in the Area of <i>Approaches Toward Learning</i>	31
Figure 10:	Proficiency in the Area of <i>Communication & Language Usage</i>	32
Figure 11:	Proficiency in the Area of <i>Cognition & General Knowledge</i>	32
Figure 12:	Mean Readiness Score of Observed Students per NEGP Readiness Area, 2002	33
Figure 13:	Overall Mean Adjusted Readiness Score by Key Characteristics of Observed Students, 2002	34
Figure 14:	Overall Mean Readiness Score, 2001 and 2002	35
Figure 15:	Sampled SRI Classrooms Drawn from County Sample and SRI Oversample, 2002	36
Figure 16:	Percentage of Observed SRI Students with Early Education Experiences, Compared to Non-SRI students, 2002	37
Figure 17:	Percentage of Observed SRI Students <i>In Progress</i> or <i>Proficient</i> in Key Readiness Skills, Compared to Non-SRI Students, 2002	38
Figure 18:	Mean Readiness Score per NEGP Readiness Area, Observed SRI Students Compared to Non-SRI Students, 2002	39

I. Acknowledgements

This second year of the School Readiness Assessment Project would not have been possible without the help of many people. As with all of our research projects, we begin with a preliminary design. The implementation of that design is influenced by several factors — the topical area, the number of partners, the relationship between partners, the number and nature of the target population from whom data is collected, as well as the political backdrop against which the findings will be reflected. There are few studies in which all of the influencing factors were as congruous as they were with the School Readiness Assessment Project. In particular, Applied Survey Research would like to acknowledge the invaluable support of the following:

- ❑ **Peninsula Community Foundation** for funding this initiative. We also thank **First 5 San Mateo County** for providing additional funds, which enabled us to increase our sample size and to provide monetary incentives to participating teachers.
- ❑ The **Peninsula Partnership** team, including Sterling Speirn, Jennifer Sedbrook, Erica Wood, Manuel Santamaria, Jeanne Cuffey Tatum, JoAnna Caywood, and Lisa Alvarez, for their outstanding support.
- ❑ Nancy Frank (First 5 San Mateo County), for the research perspective she contributed to the refinement of the Kindergarten Observation Form.
- ❑ The **School Readiness Task Force**, convened by the Peninsula Partnership, for careful and sensitive attention to the purposes, nuances and integrity of the assessment process: Jeanie McLoughlin, Kristen Anderson, Nirmala Dillman, Barbara Applegate, Merrily King, Laura Keeley, Peter Burchyns, Madaline Shearer, Ali Borjian, Vivian Eto, Joanie Helgeson, Mary Hansell, and Jeanine Asche.
- ❑ The **San Mateo County Office of Education**, including Dr. John Mehl, Peter Burchyns, Jeannie Goodwine, and Jeanie McLoughlin.
- ❑ The **Superintendents** and **Principals** of participating school districts for providing ASR with an entrée into each of the sampled schools, teachers and students, and for their careful review and feedback during the development of the evaluation instruments. These districts are:
 1. Cabrillo Unified
 2. La Honda-Pescadero Unified
 3. Laguna Salada Union Elementary
 4. Jefferson Elementary
 5. Ravenswood City
 6. Redwood City Elementary
 7. San Mateo-Foster City Elementary
 8. South San Francisco Unified
- ❑ The **Kindergarten Teachers**, for their important role in assessing students' school readiness. These teachers are listed on the following page:

Cabrillo Unified School District	
Farallone View Elementary	Peggy Rothenberg
Hatch (Alvin S.) Elementary	Kathleen Wall
Jefferson Elementary School District	
Colma Elementary	Ellen Tomasello
Franklin Delano Roosevelt Elementary	Julie Franklin-Sahajian
Woodrow Wilson Elementary	Julie Borushok
La Honda-Pescadero Unified School District	
Pescadero Elementary	Millie Jackman
Laguna Salada Elementary School District	
Oceanshore Elementary	Jennifer Mitchell
Vallemar Elementary	Diane Hofletz
Ravenswood City School District	
Belle Haven Elementary	Sally Spicer
Belle Haven Elementary	Fatima Ladron de Guevarra
Green Oaks Academy	Lisa Rosales
Edison-Brentwood Academy	Natalie Tercero
Edison-Brentwood Academy	Alicia Lee
James Flood Elementary	Jose Ibarra
Willow Oaks Elementary	Ann Tregoning
Willow Oaks Elementary	Stacey Lee
Redwood City Elementary School District	
Adelante Spanish Immersion	Carlos Salcido
Clifford Elementary	Paula Taylor
Fair Oaks Elementary	Barbara Mahoney
Henry Ford Elementary	Amy Barstad
Garfield Charter	Karin Bryson
Garfield Charter	Lori Roman
Hawes Elementary	Julietta Efigenio
Hoover Elementary	Jeanett Seranno
Hoover Elementary	Melinda Delgado
Selby Lane Elementary	Martha Wright
John Gill Elementary	Laura Baldini
San Mateo-Foster City Elementary School District	
Beresford Elementary	Wendy Gilbert
Foster City Elementary	Suzanne Craiglow
George Hall Elementary	Kathleen Wilson-Lee
Laurel Elementary	Kim Crawford
North Shoreview Elementary	Jeanne Schwartz
Park Elementary	Kimberly Amoroso
Turnbull Learning Academy	Brett Tankersley
South San Francisco Unified School District	
Buri Buri Elementary	Sally Samuels
Ponderosa Elementary	Fran Penna
Spruce Elementary	Connie Pitcock
Sunshine Gardens Elementary	Nicole Luman

- **Pioneers from other Readiness Assessment Efforts**, such as David Murphy, Vermont Agency of Human Services, for their guidance, lessons and techniques learned along the way.

II. Executive Summary

In 2001, the Peninsula Partnership for Children, Youth and Families commissioned the School Readiness Assessment Pilot Initiative Project to assess local children's readiness for kindergarten. Applied Survey Research (ASR), a nonprofit social research firm, was hired to help identify readiness indicators, develop an assessment tool, and manage the assessment process.

Working with the Peninsula Partnership, ASR convened a broad-based group of early education, school district and parent stakeholders to identify the purposes of an assessment process. The group decided that readiness assessment should be used to monitor progress at the county level, facilitate the transition between early education and elementary school, assist schools in developing or adjusting curricula or teaching approaches based on children's competencies, highlight effective early education efforts, and provide insight into how to support parents as their children's first teachers. Further, key stakeholders believed that the school readiness assessment should be conducted in an authentic manner as to not intimidate students, and should not be used to identify individual students for placement or tracking purposes. The stakeholder group also helped identify indicators within the National Education Goals Panel (NEGP) framework of readiness that were appropriate and meaningful to the county's population.

The research team then designed an observation-based tool called the Kindergarten Observation Form, with which teachers could assess their individual students on 19 school readiness skills or "items." Students' proficiency on each item was scored using a four-point scale. The tool also captured key demographic variables that have been shown to be associated with children's development, such as experience in curriculum-based early education,¹ age, gender, ethnicity, presence of special needs, English Learner status, and socio-economic status.

In 2001, the assessment was successfully carried out with 527 students in eight school districts of San Mateo County, yielding the first broad insight into the school readiness of the county's children.² Following the assessment, the instrument was reviewed and modified slightly to enhance interrater reliability³ and the validity of four items. In 2002, ASR was retained to repeat the assessment process with a randomly-selected sample of classrooms across the same eight districts, the kindergarten populations of which represented 69% of the kindergarten students countywide (2002-03). The 2002 assessment was carried out with a "core" county sample of students as well as an oversample. The core county sample consisted of observations of 553 students, a sample large enough to ensure 95% confidence that the findings reflected what would be found in the eight-district kindergarten population by +/- 4%. An oversample of 153 students was drawn to establish a baseline level of readiness in the neighborhoods of 11 schools where First 5 San Mateo County's School Readiness Initiative is being rolled out. Key findings from the core county sample of the 2002 School Readiness Assessment include the following:

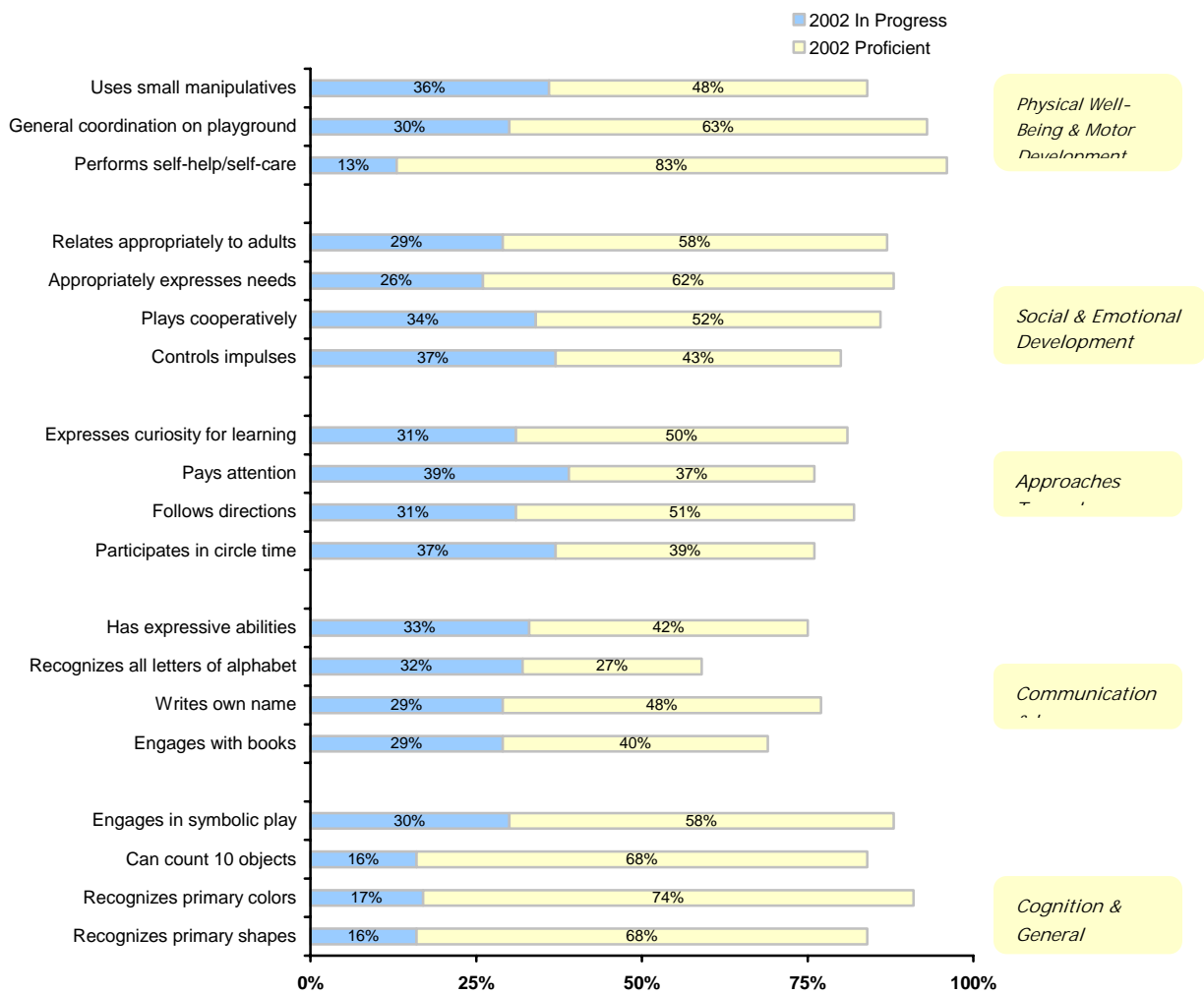
¹ Researchers such as Greg Duncan, Jeanne Brooks-Gunn, and W. Steven Barnett have compiled the results of experimental and non-experimental studies, and have found ample evidence that early child-focused, center-based programs can improve children's short-term cognitive development, and in some cases, long-term academic achievement and positive social adjustment behavior.

² The 2001 report is available from the Peninsula Partnership (650-358-9369) or Applied Survey Research (408-944-0606).

³ Interrater reliability is a measure of the agreement between two observers assessing the same subject or student.

1. Sampled students closely mirrored the general kindergarten population in the eight school districts. Nearly half (47%) of the students sampled were Latino, as compared to 46% of the kindergarten students overall in the eight districts. Further, 49% of sampled students were classified by their schools as English Learners, as compared to 46% of the general kindergarten population.⁴ Finally, 46% of the sample for which data were available was eligible for free or reduced cost lunch, as compared to 45% of students in the eight districts. Regarding early education, teachers reported that 62% of students in the study had prior experience in a formal, curriculum-based preschool, as well as other formal early learning programs, such as Raising a Reader® (32%), Kickoff to Kindergarten (20%), and Head Start (11%).
2. Children’s proficiency in 19 key readiness skill items was assessed by their teachers using a four-point scale of proficiency. The figure below presents the percentage of the students who were observed as *In Progress* or *Proficient* in the various skill areas.

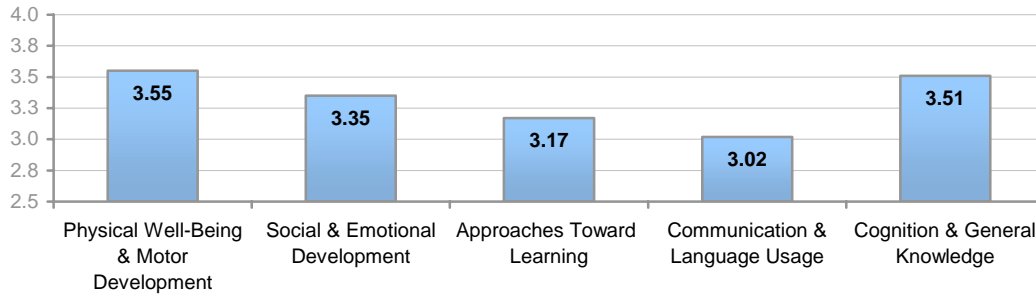
Figure A — Percentage of Observed Students *In Progress* or *Proficient* in Key Readiness Skills, 2002



⁴ Based on 2001-2002 data as 2002-2003 data were not yet available at time of writing.

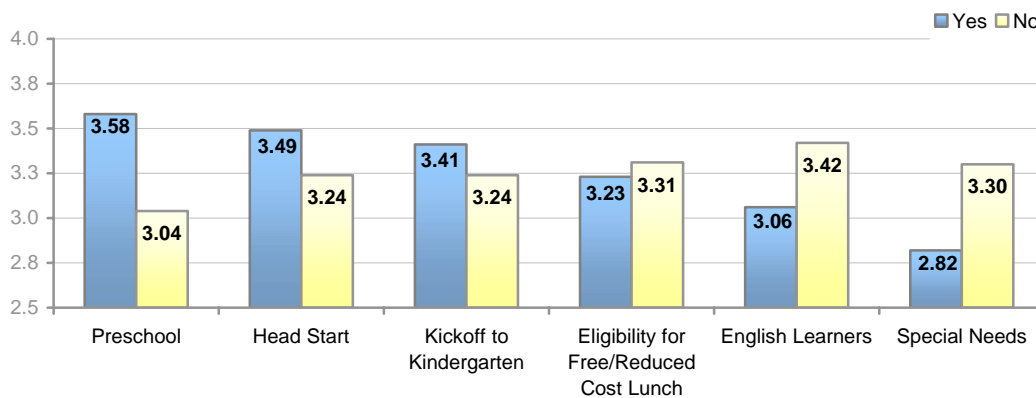
- Students' proficiencies in the various skills were also converted to average or "mean" scores. Mean scores for each of the 19 items were combined for an overall mean readiness score of **3.30** out of a possible score of **4.00**. How did readiness vary by National Education Goals Panel area? As seen below, students had the highest mean readiness score in the area of Physical Well-Being & Motor Development (**3.55**), followed closely by Cognition & General Knowledge (**3.51**), while students had the lowest mean readiness score in the area of Communication & Language Usage (**3.02**).

Figure B — Mean Readiness Score of Observed Students per NEGP Readiness Area, 2002



- What factors were most associated with children's readiness for school? The researchers found that eligibility for free and reduced cost lunch, presence of special needs, English Learner status, age, gender, and participation in the Kickoff to Kindergarten program, Head Start, and formal curriculum-based preschool all have a relationship to children's readiness scores. In children's lives, however, many of these factors co-occur. Therefore, to test the relationship of each variable above with school readiness scores, holding constant the effect that the other variables above might have on such relationships, an analysis of covariance (ANCOVA) was conducted on the smaller sub-sample of children for whom all such data were available (n=185). While some of the findings are statistically significant, please note that they cannot be generalized to the entire sample of 553 children, because the manner in which the sample was reduced (based on data availability) was non-random.

Figure C — Overall Mean Adjusted Readiness Score by Key Characteristics of Observed Students, 2002



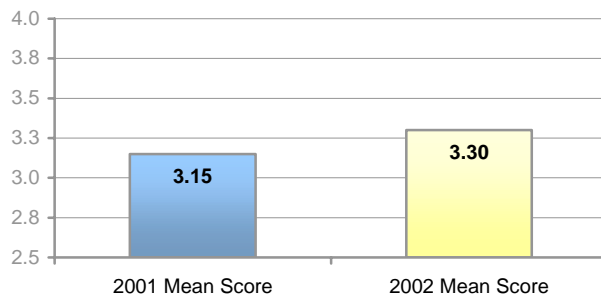
After controlling for the variable background experiences for which there were data, children who had participated in preschool, Head Start, and Kickoff to Kindergarten were found to have significantly higher readiness scores ($p < .05$) than children who had not participated in such programs.

When their variable backgrounds were adjusted for, children who were from low-income families (eligible for free and reduced cost lunch) did not have significantly lower scores than their higher-income peers, indicating that most of the effect of income on children's readiness is explained by their variable access to preschool, English language proficiency, or access to the other early intervention supports controlled for in the analysis. Finally, even after adjusting for disparities in background or socio-economic status, English Learners were found to have significantly lower readiness scores than their English proficient peers. This finding indicates that there may be other factors in those young children's lives that are having an effect on their readiness scores but cannot be accounted for by this study.

While the differences between some groups in the sub-sample were statistically significant ($p < .05$), these findings cannot be generalized to the entire sample of 553 children because the manner in which the sample was reduced (based on data availability) was non-random. Therefore, provided socio-economic data become available for all districts in the forthcoming 2003 assessment, the analysis will be repeated to see if such findings are replicated across the full sample.

5. How did the 2002 results vary from the 2001 pilot study? In 2002, the overall mean score across all readiness items and across all students was **3.30**, an increase from 2001's mean score of **3.15**.

Figure D – Overall Mean Readiness Score, 2001 and 2002



Given that there were no changes to the sampling procedure or teacher training methods, and only minor changes to improve the reliability of the instrument, Applied Survey Research investigated possible causes for the increase. There was no change in the distribution of scores — in both years, the readiness scores were normally distributed. Another aspect analyzed was whether the demographic characteristics of the children sampled varied from year to year, due to sampling error. However, this analysis was constrained by the fact that socio-economic data (free and reduced cost lunch eligibility) were missing for nearly 200 students in 2002; these “unknown” students had higher readiness scores than the students for whom data were available, yet due to the lack of individual-level data, their socio-economic status could not be weighted to accurately reflect the averages in their two districts. Other explanations for the increase may lie in the factors for which data cannot be captured by the assessment. For instance, several factors, such as **preschool**, **English Learner** and **free and reduced cost lunch** eligibility status, have been shown by the 2001 and 2002 Readiness Assessment efforts, and other efforts, to predict children's readiness for school; a regression analysis revealed that in 2002, these and other variables indeed explained 40% of the variability in readiness scores ($R^2 = .40$). Conversely, however, the finding indicates that 60% of the variability in

scores *cannot* be explained by the limited data available through the assessment. To control for the variable demographic characteristics of students between the two years for which we could, an analysis of covariance (ANCOVA) was conducted. The results indicated that even after adjusting for these variable characteristics, a small but significant increase was still observed between 2001 and 2002 readiness scores. This indicates that some of the increase is due to other factors that could not be captured by the assessment instrument, such as the school setting, teacher variability, or factors in the lives students and their families. ASR will look forward to future assessment results to further explore the sources of variance in students' readiness scores.

With the exception of the slight increase in overall readiness scores from 2001 to 2002, ASR found that the general results were similar from 2001 to 2002, including the patterns of competency across items, and NEGP categories of items, and characteristics that were found to be predictive of readiness scores.

The School Readiness Assessment Project continues to be implemented in a way that supports the principles, practices and uses set forth for it in 2001 by the community of San Mateo County stakeholders, including parents, educators, service providers and policy makers.

ASR hopes that these data will truly be useful in planning early education and elementary school enhancements to help ensure that all children may enter school ready to learn and be able to fully benefit from their education.

III. Introduction

In 2001, the first large scale data regarding the readiness of San Mateo County's children to enter elementary school were collected and released, marking the culmination of more than a year of intensive preparatory research and consensus-building among county stakeholders. The details of this work, and the data findings, are presented in the report Assessing School Readiness in San Mateo County: Results from the 2001 School Readiness Assessment Pilot Initiative.⁵ However, to provide context for the present report, the background of the research effort is summarized below.

The Importance of School Readiness — The Research Context

A growing body of experimental research has demonstrated that children's social and cognitive readiness for school acts as a "springboard" for later success in school.⁶ Yet, as aptly summarized in the hallmark publication *Neurons to neighborhoods: the science of early childhood development*, children's readiness for school is also a summative indicator of the degree to which they've had nurturing, stable relationships with parents and caregivers, positive socialization with peers, and opportunities for early cognitive stimulation and learning.

What specific factors promote children's readiness for school? Each child's development is the result of a complex interplay of family, environmental and societal risk and protective factors that together, comprise a unique repertoire of assets and skills to help him or her transition to and succeed in school.⁷ These factors include **prenatal care, parent-child interaction and maternal attachment, child nutrition, and early learning environments.**⁸ Family background factors include mother's education level, family income, single parent status, employment status, adolescent parents, and maternal mental health (depression).^{9 10 11 12} Community or environmental factors include neighborhood poverty, exposure to toxins, resources available in the community, ease of access to services, community level cohesion and norms about children's behavior.¹³ Sameroff and others have shown that when several risk factors are present, they compound to place "heavy developmental burdens" on children.^{14 15 16}

⁵ Report available from the Peninsula Partnership (650-358-9369) or Applied Survey Research (408-944-0606).

⁶ Brooks-Gunn, J. (2000).

⁷ Brooks-Gunn, J. (2000).

⁸ Martinez, M.E. (2000).

⁹ Martinez, M.E. (2000).

¹⁰ Brooks-Gunn, J. (2000).

¹¹ "Maternal depression compromises mother's ability to provide warm, nurturing, responsive verbal stimulation and consistent behavioral regulation." In one study, 42% of low-income mothers had depressive symptoms. Cited in Research Triangle Institute (1999). *Factors in Child Development. Part 1: Personal Characteristics and Parental Behavior.*

¹² Sameroff, A.J. and Fiese, B.H. (1990).

¹³ Brooks-Gunn, J. (2000).

¹⁴ Sameroff, A.J. and Fiese, B.H. (1990).

¹⁵ National Research Council and Institute of Medicine (2000).

¹⁶ Kids Count (2000).

Research has also shown that children do not have equal access to this “repertoire” of assets.^{17 18} For instance, in *Neurons to neighborhoods*, the authors state that:

“Striking disparities in what children know and can do are evident well before they enter kindergarten. These differences are strongly associated with social and economic circumstances, and they are predictive of subsequent academic performance. Redressing these disparities is critical, both for children whose life opportunities are at stake and for a society whose goals demand that children be prepared to begin school, achieve academic success, and ultimately sustain economic independence and engage constructively with others as adult citizens.”¹⁹

The reasons for these disparities are well-documented: low-income families have decreased access to the critical ingredients for child development, and have more risk factors than higher income families.²⁰ These risk factors include reduced access to prenatal care, higher incidence of low birth weight children, reduced access to early education opportunities, impaired maternal-child attachment, maternal depression, and poorer nutrition – all factors that have been demonstrated to have a negative impact on the social and cognitive development of children.^{21 22 23 24 25 26} One theory for the association between income and child development is that low-income families have reduced economic resources to provide for children’s development (Human Capital theory),²⁷ and a second theory holds that impaired family processes (Family Stress model) are responsible for the effect of poverty on child development.²⁸ It is quite likely that both theories are correct, in that the two factors have a reciprocal, compounding relationship.

The purpose of presenting these findings is not to perpetuate stereotypes of “poor people,” but rather, in order to effectively intervene, we must open the “black box” of poverty to gain an accurate understanding of the realities that low-income families face. Therefore, one of the primary goals of early childhood intervention programs should be to diminish the socio-economic effects on low-income children’s social and cognitive development so that they may enter school on a “more equal footing with more affluent peers.”²⁹

During the first few years of school, teachers and administrators should also be prepared to provide extra attention to children with diverse needs in order to close the gap between students, and ensure that all children can fully benefit from their education. Drawing from research conducted by the National Center for Early Development & Learning and the National Education Goals Panel, California First 5 has consequently surmised that schools’ readiness for children is central to the success of their School Readiness Initiative. In their view, schools’ readiness for children includes their ability to support transitions to kindergarten, engage parents as partners in the

¹⁷ Brooks-Gunn, J. (2000).

¹⁸ Martinez, M.E. (2000).

¹⁹ National Research Council and Institute of Medicine (2000).

²⁰ Kids Count (2000).

²¹ Martinez, M.E. (2000).

²² Duncan, G and Magnusson, K. (2002).

²³ Centers for Disease Control and Prevention (1999).

²⁴ National Research Council and Institute of Medicine (2000).

²⁵ Neisser, U., and Boodoo, G. et al. (1996).

²⁶ Brooks-Gunn, J. (2000).

²⁷ Brooks-Gunn, J, Yeung, W.J., and Linver, M. (August 2000).

²⁸ Brooks-Gunn, J. (2000).

²⁹ Brooks-Gunn, J. (2000).

educational process, create linkages with the community to support students and families, provide scientifically-based instruction, and utilize valid, reliable assessments to improve student learning.³⁰

In short, compelled by the importance of school readiness, in 1990 the National Education Goals Panel established a goal that by the year 2000, all children would enter school ready to learn. Its declaration prompted an extension of the readiness research from experimental domains out to real world settings. Several state and national survey research studies were carried out during the 1990s to see what readiness dimensions and measures were important to teachers and to capture the extent to which children were ready for school, vis a vis those measures. Indeed, in one study, a sample of 7,000 teachers estimated that only 65% of their students were ready for school; in another study, only 63% of the 2,000 parents sampled reported that their children were rated highly by their teachers on readiness measures.³¹

Readiness Assessment in San Mateo County — Project Background

Working against this backdrop of increasing research interest in school readiness — and policy interest in readiness enhancement — several local stakeholders helped develop and implement the San Mateo School Readiness Assessment Pilot Initiative. For instance, the Peninsula Partnership for Children, Youth and Families, a collaborative effort between Peninsula Community Foundation and San Mateo County to promote school readiness and academic success, developed the Kickoff to Kindergarten Program (KTK) to enhance the readiness of children who are English Learners and/or have not had access to preschool. In addition to the Partnership, a number of private and public stakeholders have been focusing on school readiness including Raising a Reader® (a program of the Center For Venture Philanthropy, an initiative of Peninsula Community Foundation), Pre to Three, San Mateo County Office of Education, First 5 San Mateo County (formerly known as the San Mateo County Children and Families First Commission, or colloquially, “Prop 10”) and the San Mateo County Human Services Agency.

With the support of the above partners, the Partnership contracted with Applied Survey Research (ASR), a nonprofit social research firm, to conduct a “best practice” review of promising readiness assessment tools and methodologies in use at the local, state and national levels.³² One of the most important outcomes of the effort was not the inventory of tools, but rather the realization that even though the National Education Goals Panel provided a general framework for thinking about school readiness (right), the specific measures of school readiness needed to be defined locally. Further,

NATIONAL EDUCATION GOALS PANEL Definition of School Readiness:

- **Readiness of children** for the social and academic institution of school
 - Physical Well-Being & Motor Development
 - Social & Emotional Development
 - Approaches Toward Learning
 - Communication & Language

³⁰ UCLA Center for Healthier Children, Families and Communities (2002).

³¹ Brooks-Gunn, J. (2000).

³² Report available from the Peninsula Partnership (650-358-9369) or Applied Survey Research (408-944-0606).

given the potential negative implications of readiness assessment for students, families, teachers, or schools, ASR recommended that any school readiness assessment effort in San Mateo County needed to be conducted within the parameters, principles and purposes identified by the effort's stakeholders.

Purpose of the School Readiness Assessment

In spring 2001, the Peninsula Partnership and ASR embarked on a broad-based community input phase in 2001 to specifically define the purposes, uses and principles of school readiness assessment in San Mateo County. In summary, the community input sessions revealed that the desired purpose of the assessment was to:

1. Monitor county trends and help evaluate programs and services in order to make policy decisions concerning three- to five-year-olds;
2. Spotlight areas in which parents could focus in helping prepare their own children for school;
3. Enhance early intervention efforts, such as summer transitional programs and early literacy programs;
4. Improve preschool and kindergarten curricula to help children transition to school; and
5. Strengthen the relationship between elementary schools and preschool/early childhood educators.

However, the community of stakeholders felt strongly that a school readiness assessment of children should be conducted in an authentic (uninvasive) manner so as not to intimidate students, should not be used to hold back, place, or track individual children, and should not be used in a manner that would identify individual students or their teachers.³³

Recap of the 2001 School Readiness Assessment and Findings

ASR worked with eight school districts to draw a random sample of classrooms/teachers, and subsequently trained teachers on the method and instruments to be used in the assessment. Teachers, who were considered the “make or break” ingredient of the initiative’s implementation, were cooperative with the effort, and all 28 sampled teachers completed and submitted their assessments to ASR. In all, 527 kindergarten students were observed and assessed for the Initiative. There were no noteworthy implementation challenges uncovered during the 2001 pilot assessment.

Data from the Kindergarten Observation Forms were analyzed with a variety of statistical procedures (descriptive statistics, mean scores, cross tabulations and multiple regression). The results revealed that students appeared to be the most “ready” in the NEGP areas of Cognition & General Knowledge, and Physical Well-Being & Motor Development, and the least ready in the area of Communication & Language Usage. Regression analyses on the

³³ With the small, ungeneralizable sample sizes at the school and district levels, ASR has not shared school level data, and each district has only been provided aggregate data for its own district. Increased sample sizes would allow for greater generalizability and, therefore, utility at local levels.

available data revealed that the variables of socio-economic status, formal curriculum-based preschool, and English language proficiency were the strongest predictors of readiness scores. Overall, the San Mateo County findings were similar to those found by the readiness assessments of the States of Oregon and Vermont, particularly with regard to the importance of preschool.

The 2001 results were summarized in a comprehensive report and, over the course of 2002, shared in print and presentation format with school districts. In addition, results were shared with a variety of private and public organizations concerned with early education and school readiness, such as First 5 San Mateo County, Raising a Reader®, Child Care Coordinating Council of San Mateo County, the Universal Preschool Initiative spearheaded by First 5, and several school districts.

Spurred by the success of the first year, and by increasing needs for readiness data, the Peninsula Partnership and First 5 San Mateo County decided in 2002 to sponsor the school readiness assessment a second time. Indeed, by this time, state and national interest in school readiness had increased considerably: California First 5 launched its School Readiness Initiative to fund community-based services for family and children in low-performing areas of counties, and a national Readiness Indicators Initiative was launched across 17 states — including California — sponsored by the David and Lucile Packard Foundation, Ewing Marion Kauffman Foundation and the Ford Foundation (www.gettingready.org).

Against this backdrop, the implementation and findings of the 2002 School Readiness Assessment Project are described in the following chapters.

IV. Methodology

The primary purpose of the 2002 school readiness assessment — to generate county-level data on children’s readiness for school — remained unchanged from 2001, and, therefore, the methodology remained consistent from year to year. However, an additional use for the data emerged, and that was to provide baseline data regarding the level of readiness in the areas of the county where First 5 would be rolling out its community-based School Readiness Initiative. To serve both of those purposes, Applied Survey Research (ASR) was again retained to implement a second year of readiness assessment in San Mateo County.

As in 2001, a small group of key stakeholders worked closely with ASR to oversee the implementation of the 2002 School Readiness Assessment Project. This group consisted of representatives from the Peninsula Partnership, the County Office of Education, the evaluator from First 5, and ASR. (Following the 2002 assessment, the group was reconvened as the School Readiness Task Force, and additional members were added.)

The methodology used in the 2001 School Readiness Assessment Pilot Initiative revealed only minor areas for refinement. The following sections describe that methodology and any changes made to it for the 2002 assessment.

Research Design

In 2001, several factors were taken into consideration when selecting the most appropriate research design for the Pilot Initiative: 1) the community’s desired use for assessment; 2) the primary consumers of the assessment data; 3) best practice assessment methods used in other areas of the state or country; 4) the method that would provide the most accurate (valid) and consistent (reliable) information with the least classroom disruption; and 5) the Assessment Project’s available resources (including time) to implement the method.

With these factors in mind, an **ex post facto** research design was selected, as there was no particular treatment being evaluated and, therefore, no control group needed. One-time student assessments were conducted within one month of entering kindergarten. Given the research and school district resources available, **teacher observation** was selected as the most appropriate, valid, and reliable method of assessment for several reasons. The first was that teachers would be in a better position than outside observers to assess their students — whose behavior can change from day to day — drawing from the knowledge gained through three to four weeks of daily interactions. A second reason was that teacher observation would be less obtrusive and, therefore, less intimidating for students than assessment by outside observers. Further, teachers are entrusted by the school system to be children’s “assessors” in other respects such as grading, and therefore it was presumed that they are aware of the need for assessments to be carried out in a fair manner. The caveat of teacher observations is that there is some risk of natural variability between teacher observers or of bias. To minimize variability, the assessment tool included measurable indicators (measures), a clearly-defined response scale, and assessment instructions. To further guard against teacher bias, the research team emphasized during teacher training that there would be no incentive for teachers to over- or under-rate their students, as teachers’ performance was not being evaluated in any way, and results were not being released at the individual child, teacher, or school level. In

sum, the readiness assessment team felt that the risk of teacher bias was outweighed by the validity benefits of their being the primary assessors in the effort

Where teacher-child interaction was necessary to complete assessment items, ASR and the project advisors decided that teachers should use *passive response* rather than *on-demand* testing techniques in order to reduce anxiety for students during assessments (particularly those not fully comfortable speaking English), thereby enhancing the reliability and validity of skill assessment.³⁴ For the 2002 assessment, there were no changes to the general research design used in 2001.

Instrument and Administration

To aid in the design of an appropriate tool, ASR reviewed many state or national-level instruments used for observing children's readiness, such as:

- ❑ The Work Sampling System (Rebus, Inc.)
- ❑ The Lollipop Test (Humanics Psychological Test Corporation)
- ❑ Kindergarten Teacher Survey on Student Readiness (US Department of Education)
- ❑ Early Childhood Longitudinal Study (US Department of Education)
- ❑ National Survey of Kindergarten Teachers (Carnegie Foundation)
- ❑ 2000 Kindergarten Survey (Oregon Department of Education)
- ❑ School Readiness Assessment 2001 (Vermont Agency Of Human Services/Department of Education)
- ❑ Desired Results Developmental Profile, California Department of Education

From this review, and in consideration of the research design and stakeholder parameters, an observation-based teacher assessment tool called the 2001 Kindergarten Observation Form was designed. For the purpose of informing interventions in the early education and school community, the assessment results were to be aggregated and presented only at the county level. However, the instrument needed to be sensitive enough to detect and summarize patterns across different types of students. Therefore, the unit of assessment was the student, not the class, and the form was designed for assessment of individual students.

Each form included fields to capture students' basic demographic information: first, to ensure that the study sample mirrored the diversity of the general kindergarten population across the eight districts, and second, to capture key demographic variables that have been shown by other research to be associated with children's development, such as experience in curriculum-based early education settings,³⁵ age, gender, ethnicity, presence of

³⁴ An example of an *on-demand* assessment technique is "What color crayon is this?" An example of *passive response* assessment technique is "Can you please hand me the blue crayon?"

³⁵ Researchers such as Greg Duncan, Jeanne Brooks-Gunn, and W. Steven Barnett have compiled the results of experimental and non-experimental studies, and have found ample evidence that early child-focused, center-based programs can improve children's short-term cognitive development, and in some cases, long-term academic achievement and positive social adjustment behavior. Brooks-Gunn's 2000 paper *Do you believe in magic? What we can expect from early childhood intervention programs* reviewed numerous research reports, as did Duncan's 2002 paper with K. Magnussen *Parent vs. child intervention strategies for promoting children's well-being*, and Barnett's 1995 article

special needs, and English Learner status. English Learner students have been designated as such by their school districts because they have a primary language other than English, and “on the basis of oral language assessment procedures, have been determined to lack clearly defined English language skills necessary to succeed in the school’s regular instructional programs.” The English Learner variable is important because English Learner children may not have had access to key readiness-enhancing resources or their families may face other social or economic barriers (hence, the early interventions such as Kickoff to Kindergarten targeted at English Learners), and therefore they may be at a disadvantage when they enter the school system in which bilingual support is difficult to obtain. It should be noted that the researcher’s use of English Learner status as a demographic variable does not imply that children should not also remain proficient in their primary language.

Given the demonstrated association between family income and children’s social and cognitive development (see previous citations), the assessment team also sought to capture data on the socio-economic status of children observed. The best proxy for socio-economic status available within the school system is children’s eligibility for free and reduced cost lunch, a program made possible by the US Department of Agriculture. According to federal eligibility guidelines, children in a four-person family that earns less than \$23,530 a year (\$1,961 per month) are eligible for free lunch. Those in a four-person family that earns less than \$33,485 a year (\$2,791 per month) are eligible for reduced cost lunch. Children whose families receive other public benefits, such as CalWORKS, are automatically eligible for free and reduced cost lunch.

Finally, there are other demographic characteristics that ideally would have been included in the assessment, such as parent education level or specific type of child care setting, but the range of variables included in the assessment were limited to the information available to teachers, and by the amount, type and accessibility of information collected by schools.

The research with students was designed to adhere to the highest federal research standards as well as California Education Code 49076.b.5 and 49074.³⁶ For instance, student’s names were not indicated on the form; instead, the researchers used child identifiers, such as initials, birthdate, ethnicity, and district ID. These identifiers enabled the research team to communicate about particular assessment forms with teachers if there was missing or illegible information, without compromising students’ anonymity in the study. Finally, because student names were not used and never known to the researcher, and because no child or school level results were revealed, parental consent was not necessary for students’ inclusion in the study.

A participatory process was used in 2001 to identify the particular readiness items to be assessed. Using the broader National Education Goals Panel framework of readiness as a template, ASR and the Peninsula Partnership led key stakeholders through a process of operationalizing the concept of *school readiness* into measurable skills appropriate to San Mateo County’s diverse population. These 20 skills became the specific items of readiness to be assessed, and reflected a range from minimum competencies, such as *Performs basic self-help/self-care tasks*, to higher-level competencies that help provide a baseline for teachers at the beginning of the year, such as *Recognizes letters of*

Long term effects of early childhood programs on cognitive and social outcomes, appearing in *Future of Children’s Long Term Outcomes of Early Childhood Programs*, Vol. 5, No.3 – Winter 1995.

³⁶Full text of the California Education code may be viewed at <http://caselaw.lp.findlaw.com/cacodes/edc/49073-49079.html>.

the alphabet. To enhance reliability of the items, the wording of items was standardized with indicators that had been used in similar school readiness assessments around the country. The Kindergarten Observation Form required teachers to observe and score each child according to their level of proficiency in each of the measures. Response options included (1) *Not Yet*, (2) *Beginning*, (3) *In Progress*, and (4) *Proficient*. An additional option of *Don't Know/Not Observed* was provided as well.

As the 2001 assessment was intended to pilot the instrument, ASR reviewed the effectiveness of the 2001 Kindergarten Observation Form and the administration procedures to determine whether any changes were necessary. In one year-round kindergarten class, ASR conducted a test of interrater reliability to measure the degree of agreement between two teachers assessing the same students. Across the same class of students, there was not a statistically significant difference between the overall readiness scores derived from the assessments of the two teachers. The Cohen's Kappa coefficient of agreement between the two teachers was .38, with some variance in the individual items. In particular, variation occurred in how the two observers rated proficiency levels between (3) *In Progress* or (4) *Proficient*. Therefore, in 2002, ASR improved the definition of the four levels of proficiency, and made the changes to the indicators to reduce scoring variability.

Figure 1 — 2002 Improvements in the Scaled Response Options of Four Indicators

BEGINNING 2	IN PROGRESS 3	PROFICIENT 4
1 - 12 letters	13 - 25 letters	All 26 letters
1 - 5 objects	6 - 9 objects	All 10 objects
1 - 4 colors	5 - 7 colors	All 8 colors
1 shape	2 shapes	All 3 shapes

As shown in Figure 1 above, levels of proficiency were provided for each response option: for instance, a student who could not count out any objects received a score of (1) *Not Yet*. A student who could count out up to five objects received (2) *Beginning*, up to 9 objects- (3) *In Progress*, and up to 10 objects- (4) *Proficient*. In this manner, three other indicators were also better defined, as seen in Figure 1 above. One item was deleted. These and other minor changes to the 2002 Kindergarten Observation Form are summarized below.

Figure 2 — Summary of Modifications to 2002 School Readiness Indicators

	2001	2002 changes
Physical Well-Being & Motor Development	Use of small manipulatives, such as crayons, paintbrush, buttons, zippers, etc.	No change
	Has general coordination on playground (kicking balls, running, climbing)	No change
	Performs basic self-help/self-care tasks (toileting, eating, washing hands)	No change
Social & Emotional Development	Relates appropriately to adults other than parent/caregiver (converses with, seeks help from)	No change
	Appropriately expresses needs and wants verbally in primary language	No change

	2001	2002 changes
	Works and plays cooperatively with peers (takes turns and shares)	No change
	Controls impulses and self-regulates (is not disruptive of others or class)	No change
Approaches Toward Learning	Expresses curiosity and eagerness for learning (tries new activities, asks questions)	No change
	Stays focused/pays attention during activities	No change
	Follows one- to two-step directions	No change
	Participates successfully in circle time (listens, focuses, sits still, participates)	No change
Communication & Language Usage	Has expressive abilities (tells about a story or experience in response to a prompt)	No change
	Knows the letters of the alphabet	Recognizes the letters of the alphabet: (note: may be CAPs, lowercase, or combination). Also, changed response options — See Figure 1
	Writes own name	Writes own name (first name, spelled and written correctly)
	Engages with books (knows where a book starts, associates print with storyline, pretends to read)	No change
Cognition & General Knowledge	Engages in symbolic/imaginative play with self or peers (plays house, fireman)	No change
	Understands that numbers represent quantity (" <i>Please give Maria five crayons; please hand Celia 10</i> ")	Deleted — merged with indicator below.
	Can count 10 objects correctly	Can count 10 objects correctly (" <i>Please give Maria five crayons; please hand Celia 10</i> "). Changed response options — See Figure 1
	Recognizes primary colors (Crayola Basic eight)	Changed response options — See Figure 1
	Recognizes primary shapes (circle, triangle, square)	Changed response options — See Figure 1

In summary, the Kindergarten Observation Form is a newly-designed instrument and has not yet been extensively tested for validity or reliability. However, the 2001 and 2002 assessments have provided early evidence into the validity of the Observation Form, including the similarity in results from year to year, the consistent patterns observed between and across NEGP readiness constructs from year to year, and the emergence of the same readiness predictors that have been demonstrated in other research efforts, such as preschool, English proficiency, and socio-economic status, and the similarity of results to those found in Oregon and Vermont. In subsequent years of the assessment, ASR will continue to conduct reliability and validity checks of the assessment tool and process.

Sample Selection

The next step of the assessment phase involved selecting a sample of students to be observed. The Assessment Project area included eight school districts: Cabrillo Unified, La Honda-Pescadero Unified, Laguna Salada Union Elementary, Jefferson Elementary, Ravenswood City, Redwood City Elementary, San Mateo-Foster City Elementary, and South San Francisco Unified. At the time of sampling (Spring 2002), there were 4,720 kindergarten students enrolled in these districts. To have 95% confidence that the sampled students were representative of their

overall kindergarten populations, with a margin of error of 4%, the study needed to sample **533** students, or approximately 27 classrooms.

Drawing on the 2001-02 school enrollment data, ASR used a multi-stage sampling strategy to determine the proportional representation of students, and therefore classes, at each district site. Classes were then randomly selected from each of the districts, with year-round schools being excluded from the sampling frame (for instance, the fourth class from *x* school in *y* district). Principals were then notified and asked to pick teachers based on the alphabetical ranking of their last names: if the fourth class was needed in *x* school, the principals were asked to pick the fourth teacher according to alphabetical rank of their last names. In all, 29 classes were selected, two more than the requisite 27, in order to safeguard the sample size in case of attrition.

In addition, an oversample of nine classes was drawn to help provide baseline readiness data on students in the 11 schools targeted for First 5's School Readiness Initiative. In total, 38 teachers (classes) were selected for participation in the assessment. Three schools representing four classes opted not to participate, and replacement classes had to be randomly drawn in other schools.

Implementation

In August 2002, ASR conducted several trainings to orient the 38 core and oversample teachers. A small stipend of \$30 was provided to teachers for their time. As the assessment is largely observation-based, teachers were asked to complete their assessments drawing upon their knowledge and observations of children during the first few weeks of school. However, there were a few items in the assessment for which scoring required the teacher to have verbal interactions with their students:

- (13) Appropriately expresses needs and wants verbally in primary language
- (18) Follows one- to two-step directions
- (20) Has expressive abilities (tells about a story in response to a prompt)
- (21) Recognizes the letters of the alphabet
- (25) Can count 10 objects correctly (*"Please give Maria five crayons; please hand Celia 10"*)
- (26) Recognizes primary colors (Crayola Basic eight)
- (27) Recognizes primary shapes (circle, triangle, square)

For reasons described previously, to conduct their assessments of skill #21, #25, #26, and #27, teachers were asked to use passive response techniques (*"Please give Maria five crayons; please hand Celia 10"*) rather than on-demand testing (*"How many objects do I have in my hand?"*). If teachers could not communicate with their English Learner students well enough to make an assessment of the seven skills above, either directly or through an intermediary (classroom aide or parent), they were asked to check *Don't Know/Not Observed* on such items. Consequently, there were more skills marked *Don't Know/Not Observed* or left blank for English Learner students than there were for

their classmates.³⁷ Finally, to avoid the chance of bias, teachers were not informed about the results from the previous year, or that the demographic elements required on the assessment form would be analyzed to search for readiness patterns or predictors. Also, to ensure that there would be no incentive for teachers to over- or under-rate their students, they were reminded that no teacher- or school-level results would be released by the researcher.

Teachers subsequently carried out their observations three to four weeks after their classes had started, each taking about one week to complete his/her observations. Completed Observation Forms were returned to ASR using pre-addressed, stamped envelopes. Nearly all teachers submitted their packets in a timely fashion; only a few were delayed in returning their packets. One teacher withdrew from the study too late into the school year for a replacement teacher to be sought.

In all, Observation Forms were received on behalf of 37 classes, or **553** students in the core sample, and **153** in the oversample, for a total of **706** students. Based on Fall 2002-03 kindergarten enrollment data, there were 4,720 kindergarten students, for which the sample of 553 was sufficient to provide for statistical generalizability, and an even smaller margin of error (3.92%) than the initial 4% planned.

Analysis

Data were entered into SPSS (Statistical Package for the Social Sciences). Following entry, the data were cleaned using selected techniques to enhance data integrity. For instance, duplicate ID numbers were screened and in the few cases where they were found, ASR contacted the submitting teacher and, used the student identifiers (initials, birthdate and ethnicity) to verify whether the form was a duplicate or one of the student ID numbers was incorrect.

ASR also obtained data from school districts regarding students' eligibility status for free and reduced cost lunch, as a proxy for students' socio-economic status. To obtain such data, ASR submitted the list of students (indicated by their identifiers) to each school district. Personnel at the school districts retrieved and indicated students' eligibility status for each ID by marking "yes" or "no" on a prepared form, which was then returned to ASR. Two districts chose not to provide such information. These eligibility data were merged with the master data file, and the overall eligibility of the county sample was calculated.

The next procedure used for preparing the data was weighting. Weighting was conducted in order to maintain the representativeness of the sample with regard to Fall 2002 district-by-district enrollment figures, which differed slightly from the 2001-02 enrollment from which the sample was originally drawn. Also, sampled students may have been less or more likely to be eligible for free and reduced cost lunch than their school average. Based on these two factors, weights were calculated for each observed student, and applied to the data, resulting in a weighted sample matching the distribution of the overall 2002-03 kindergarten enrollment and free and reduced cost lunch eligibility. Data from the two districts that were unable to provide free and reduced cost lunch eligibility

³⁷ Further, of the 266 children who were English Learners, there were only 14 children with whom teachers said they could not communicate well enough with the child to complete items on the assessment. The assessments of the 14 children were checked to ensure that teachers did not provide a response.

data could not be adjusted for socio-economic representativeness (they were given a weight of 1) and were adjusted only for geographic distribution. For the purposes of comparison with 2001 data, the researchers excluded the two districts with missing data and prepared additional readiness estimates for 2001 and 2002; these estimates will be noted as such in *V. Findings*.

Having cleaned and weighted the data, frequency and percent tables were prepared. For purposes of this report, all percentages discussed exclude responses of *Don't Know/Not Observed*.

A mean or average score was also generated for each of the indicators, excluding blank responses or responses of *Don't Know/Not Observed*. Students' mean scores were also grouped for several indicators within each National Education Goals Panel readiness category. In the calculation of these category means, students' scores were included only if they had scores for a majority of the indicators within that category. Finally, an overall mean score was calculated for all students across all indicators.

In the case where mean scores were compared, such as readiness scores of 2001 students versus 2002 students, those means were tested using **paired-samples t-tests**; the p values are indicated throughout the report where comparisons are discussed. Appendix 3 presents the mean scores per item, as well as the standard deviation of the scores per item, and the associated confidence intervals.

After preparing the mean scores for the 2002 data, ASR compared the overall mean readiness score in 2002 to 2001, and detected a difference. To identify probable sources of the increase, ASR proceeded to conduct a number of statistical analyses.

First, to determine which characteristics were associated with increased scores during the program, a **correlation analysis** was prepared for both 2001 and 2002 data. From this analysis, ASR determined that there were several variables associated with school readiness scores, some with stronger relationships than others between the two years of data. The results of this analysis are described in the findings section.

Second, to analyze which variables had the strongest predictive relationship in 2002 with school readiness scores, a **stepwise multiple regression analysis** was conducted.³⁸ Specifically, the regression analysis determines which demographic characteristics, or combination of characteristics, are predictors of students' mean readiness scores. Variables included in the regression analysis were: age, ethnicity, eligibility for free and reduced cost lunch, presence of special needs, English Learner status, and participation in curriculum-based preschool, Head Start, Raising a Reader®, and Kickoff to Kindergarten programs. As not all students had complete data for these variables, the sample size for the regression analysis decreased to 185 students. The marked decrease was due to the fact that free and reduced cost lunch data were missing for the nearly 200 children that attended school in the two districts that opted not to submit such data. It is important to note that the margin of error may be increased as

³⁸ Stepwise multiple regression is used to determine which variables can be used to predict scores, and specifically, which combination of variables offer the best prediction of scores. In stepwise multiple regression, the statistical software selects predictor variables for inclusion in the analysis in the order of the amount of prediction that each variable is able to offer: the variable with the greatest amount of prediction is selected first, followed by subsequent variable(s) that have the greatest further predictive power, after consideration of the previously included variable(s).

the sample size is reduced, and because of the non-random nature in which it was reduced (i.e., filtering out students who did not have complete data), the regression results on the sample of 185 cannot be generalized to the entire sample of 553 children. However, the coefficients produced by the regression model were found to be statistically significant ($p < .05$).

In an effort to understand how each of the child characteristics in the above model were associated with school readiness scores, an analysis of covariance (**ANCOVA**) was conducted for each of the following variables: eligibility for free and reduced cost lunch, presence of special needs, English Learner status, and participation in curriculum-based preschool, Head Start, Raising a Reader®, and Kickoff to Kindergarten programs. The ANCOVA adjusted for varying demographic characteristics between two variables or cohorts being compared (i.e., the characteristics of children who participated in Head Start vs. those who didn't), thereby holding constant the effect of each of the other variables in the model. After the adjustment, if no difference in readiness scores remained, then it is reasonable to assume that the difference observed was due to the effect of the variable demographic characteristics between the two groups. As with the regression analysis, the ANCOVA could only be prepared for the 185 children for whom all data were available. While the statistical significance ($p < .05$) of the comparisons in adjusted mean scores is noted, the findings cannot be generalized to the entire sample of 553 children.

Finally, in an effort to capture shifting patterns within the entire samples of 2001 and 2002, a second ANCOVA was conducted. In the current report, the ANCOVA addressed 2001 and 2002 differences in preschool, then English Learner status, and finally, eligibility for free and reduced cost lunch across the two cohorts. The results of this analysis are described in the findings section.

V. Findings

Profile of Observed Students

Like many of its Bay Area neighbors, San Mateo County is one of contrasts. The affluence of the county is reflected in the fact that in 2002, the area had one of the highest median family incomes in the country – \$86,100 (Department of Housing and Urban Development, 2002). However, general income figures like these mask the fact that over the mountain ranges and beyond the affluent suburbs lie portions of the county that are remote and underserved. For instance, coastside communities such as Half Moon Bay are largely unincorporated, limiting the amount of tax revenue and services available, yet find themselves providing bedroom communities for higher salaried individuals who work over the hill in the urban areas of the peninsula. In other areas, such as Menlo Park and East Palo Alto, wealthy communities share urban landscapes with low-income communities. Further, many cities such as Daly City and South San Francisco have large immigrant populations seldom seen elsewhere in the state, such as those of Pacific Island and Middle Eastern descent. All areas of the Peninsula have been greatly impacted by the dramatic decline of the area’s technology sector and the resulting layoffs. In short, the county’s diversity spans ethnic, linguistic, social and economic lines. The following figures portray how the students observed through the Assessment Project reflected this diversity, as well as their overall readiness to enter area schools.

In the fall of 2002, ASR coordinated the systematic observation of 553 of the 4,720 kindergarten students in eight San Mateo County school districts. According to study results, the students who were observed for this Assessment Project reflected the ethnic, linguistic and socio-economic diversity of the county, and were very similar to the students observed in the 2001 assessment. Figure 3 below illustrates the ethnic breakdown of the 2002 students compared to the general kindergarten student population in the same eight school districts, and to the 2001 sample.

Figure 3 — Ethnic Composition of Observed Students Compared to Overall Kindergarten Population, 2001 and 2002

	2001 % of Kindergarten Students Observed	2001 % of Kindergarten Population in Sampled Districts	2002 % of Kindergarten Students Observed	2002 % of Kindergarten Population in Sampled Districts
Latino	43	47	47	46
Caucasian (White)	27	26	26	24
Asian/Pacific Islander	16	21	15	22
African-American	3	4	5	4
Multi-Ethnic/Unknown	12	2	7	3
Total students	527	4,713	552	4,720

Source: California Basic Educational Demographic System, 2002.

Further, 49% of the students observed in the 2002 Assessment Project were designated as English Learners, as compared with 46% of the kindergarten students in the eight districts overall. English Learners have been designated as such by their school districts, meaning that they have a primary language other than English, and “on the basis of oral language assessment procedures, have been determined to lack clearly defined English language skills necessary to succeed in the school’s regular instructional programs.”³⁹ The high proportion of English Learners coming into kindergarten may have large implications for the school’s readiness to serve them.

Also important for understanding the representativeness of the Assessment Project’s sample is the income level of the students’ families. However, teachers did not have such data available to them. Therefore, students’ eligibility for free and reduced cost lunch was used as a proxy for their socio-economic status.⁴⁰ Figure 4 below illustrates the percentage of sampled students in 2001 and 2002 who were eligible for free or reduced cost lunch as compared to the average of the 29 schools and 8 districts in which the observations were conducted. In 2002, eligibility data were not available for students in two of the districts. Therefore, for the sake of comparison, a second 2001 estimate was prepared, excluding those two districts. Whether full or partial sample of districts, these data indicate the students observed closely reflect the economic diversity found throughout eight of the county’s districts.

Figure 4 — Percentage of Students Eligible for Free and Reduced Cost lunch - Observed Students, Schools and Districts, October 2001 and 2002

	2001 *	2001 **	2002 **
	%	%	%
All students observed	39	47	46
All students in sampled schools	40	46	52
All students in sampled districts	36	42	45

Source: San Mateo County Office of Education, CalWORKS/Free & Reduced Price Meals Report Summary, 2002.

* Includes all eight districts.

** Excludes San Mateo-Foster City and Laguna Salada districts, for which data were not available in 2002.

The Assessment Project also sought to account for the prior early educational experiences of the students observed. The Kindergarten Observation Form required teachers to note students’ experiences in various interventions. However, it must be noted that quantification of the range or quality of experiences is constrained by the limited information available to teachers, so teachers made their reports based on family history information in district enrollment forms or talks with parents themselves. In cases where they were unsure, they were asked to mark *Don’t Know/Not Observed*. (Please see **VI. Discussion** for more attention to the lack of data regarding children’s early education experiences.)

On each assessment form, teachers noted whether or not students had prior experience in a formalized, curriculum-based education setting, which may be found in center-based day care settings or in academic preschools. For the

³⁹ California Department of Education, 2002.

⁴⁰ Free or reduced cost lunches are funded by the US Department of Agriculture and are available for families who are income-eligible. The percentage of students eligible is calculated for the portion of the sample for which those data were available. While other percentages shown in the report reflect data that have been weighted for district and socio-economic representativeness, these percentages reflect data that have only been weighted for district representativeness.

purposes of this assessment, “formal, curriculum-based preschool” does not include licensed day care centers and family child care homes UNLESS those programs have a curriculum-based program. Teachers were also asked to note whether or not students had participated in other formalized education programs, such as Head Start, Raising a Reader®, a county-wide “red book bag” early literacy program for low-income families, or Kickoff to Kindergarten (formerly called the Summer Transitional Kindergarten Readiness Program), a program targeted at children who are either English Learners or who have not had access to preschool, or both. Of the three programs, reported enrollment by teachers could be verified only for graduates of the Kickoff to Kindergarten program.⁴¹ Figure 5 below shows the types of early education experiences of the sampled students for whom data were available (please note that students may have had more than one experience). As seen in Figure 5, a higher proportion of students had preschool experience in 2002 than in 2001.

Figure 5 — Reported Formal Early Education Experience of Observed Students, 2001 and 2002

Early Education Type	2001 % of Kindergarten Students Observed	2002 % of Kindergarten Students Observed
Formal, curriculum-based preschool	47	62
Kickoff to Kindergarten Program	23	20
Raising a Reader®	24	32
Head Start	9	11

Note: Percentages do not include responses of *Don't Know/Not Observed*.

The fourth set of demographic characteristics was related to parents’ efforts to send their children to school ready to learn. In community input sessions, parent’s efforts to send their children to school well-rested and well-fed emerged as a top indicator. Teachers in the sampled classrooms reported that 94% of their students generally came to school well-rested, while 96% came to school well-fed, as compared to 94% and 97% in 2001, respectively.

Finally, the presence of special needs can impact children’s readiness for school. In 2001, 42 of the 453 (9%) children for whom data were available were reported to have special needs, as seen by the fact that the students had Individualized Education Plans (IEP), had Special Needs Status, or were not yet formally designated but demonstrated obvious learning challenges. However, there were fewer children in 2002 observed to have special needs — just 28 of the 539 students (5%) for whom data were available were reported to have such needs.

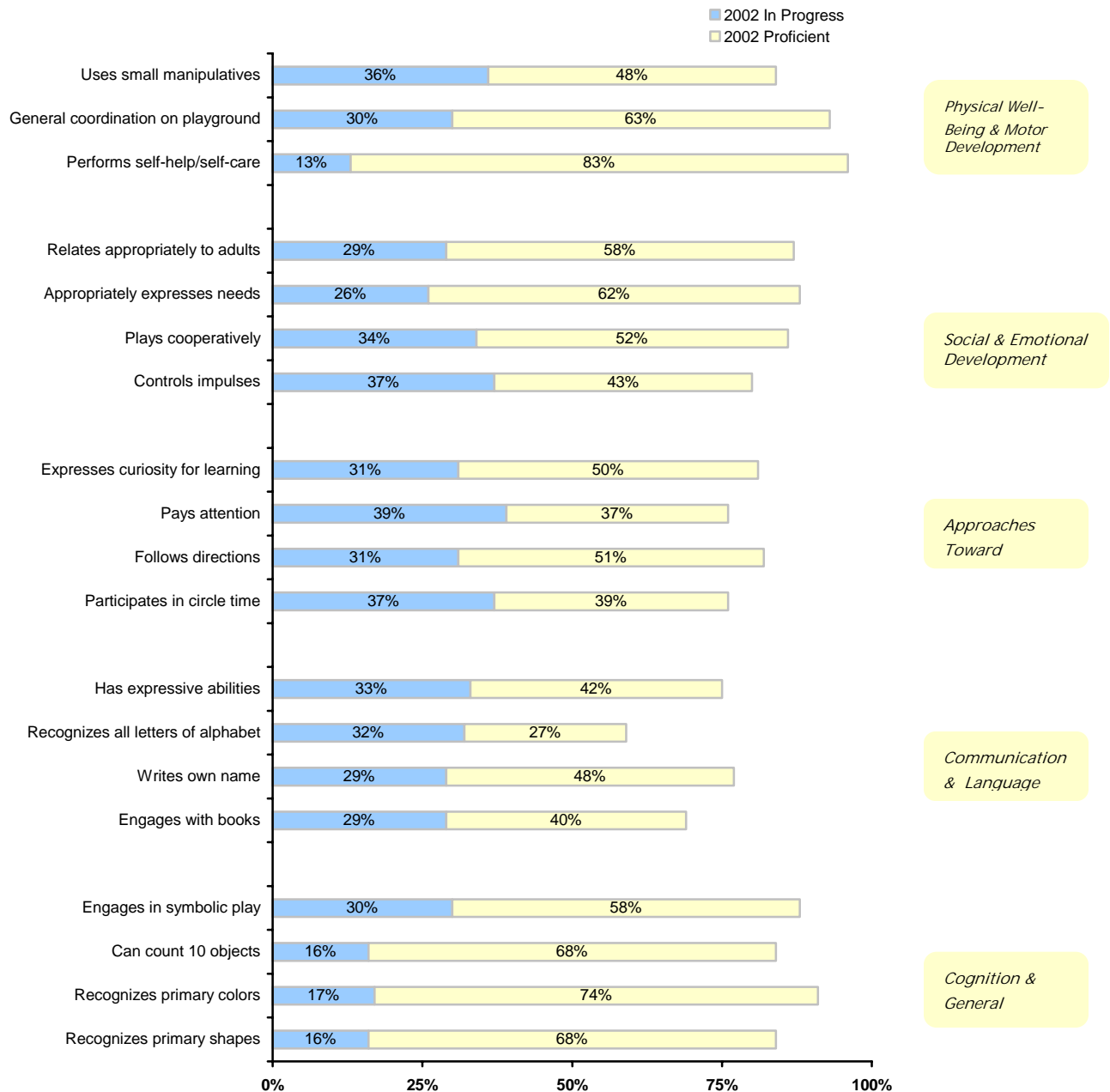
The following section describes findings regarding students’ level of readiness in individual skills within the five National Education Goals Panel areas. Students’ individual scores have also been combined for all 19 items to create overall mean scores, and then compared and contrasted by various student demographics.

⁴¹ Participation was verified by comparing and matching identifiers of observed students (birthdate, initials) with the same identifiers of students who had actually participated in that program. To protect students’ anonymity in the process, program staff converted participant names into initials before provided such data to ASR.

Findings by Individual Readiness Skill

As mentioned previously, the proficiency of students was individually observed by their teachers vis a vis 19 readiness skills. Teachers scored their students using a four-point scale of proficiency: (1) *Not Yet*, (2) *Beginning*, (3) *In Progress*, and (4) *Proficient*. A response option of *Don't Know/Not Observed* was also available. Figure 6 below presents the percentage of the sampled kindergarten students who were observed to be *In Progress* or *Proficient* in the various skill areas, clustered by National Education Goals Panel readiness area.

Figure 6 — Percentage of Observed Students *In Progress* or *Proficient* in Key Readiness Skills, 2002



Note: Percentages do not include responses of *Don't Know/Not Observed*.

As seen in Figure 6 above, the five skill areas in which the greatest percentage of students were observed by their teachers to be *In Progress* or *Proficient* were:

1. Performs basic self-help/self-care — 96%
2. Has general coordination on playground — 93%
3. Recognizes primary colors — 91%
4. Appropriately expresses needs — 88%
5. Engages in symbolic play — 88%

Findings by National Education Goals Panel Readiness Area

Also seen in Figure 6, students' level of readiness appears to vary by the five National Education Goals Panel readiness areas. Therefore, to gain further insight into students' readiness in each of these NEGP areas, the following section examines how students' proficiency is distributed within each of the skills, as well as the average or mean readiness score for each of the skills. Please see Appendix 3 for standard deviations and confidence intervals of each item.

NEGP Area 1 — Physical Well-Being & Motor Development

In the first NEGP area of Physical Well-Being & Motor Development, Figure 7 below illustrates that the skill in which the greatest percentage were proficient was *Performing self-help/self-care tasks*, such as toileting and washing hands (83%). Students were least proficient in their ability to *Use small manipulatives* (48%). The combined mean score for all students and all items within this NEGP area was **3.55**, the highest of all five areas.

Figure 7 — Proficiency in the Area of *Physical Well-Being & Motor Development*

Readiness Skills	Level of Proficiency				Mean Score
	Not Yet 1	Beginning 2	In Progress 3	Proficient 4	
Performs basic self-help/self-care tasks	1%	4%	13%	83%	3.78
Has general coordination on playground	0%	6%	30%	63%	3.56
Able to use a variety of small manipulatives	1%	15%	36%	48%	3.31
All items combined					3.55

Note: Percentages do not include responses of *Don't Know/Not Observed*.

NEGP Area 2 — Social & Emotional Development

For skills included in the second NEGP readiness area of Social & Emotional Development, Figure 8 below illustrates that there was not the variation in proficiency that was observed in the first NEGP area. Given their ethnic and linguistic diversity, it is important that students are able to appropriately communicate their needs and wants through verbal or nonverbal means to their teacher and their classmates. It is encouraging to note that despite the language diversity of students, 62% of students were observed by their teachers as being able to *Appropriately express their needs and wants* in their own primary language. (If they did not speak a child's primary

language, teachers were asked not to provide an assessment score for skills such as this that required verbal interaction.) The skill in which the smallest percentage of students were proficient was the ability to *Control impulses and self-regulate* (43%). The combined mean score for all items within this NEGP area was **3.35**.

Figure 8 — Proficiency in the Area of *Social & Emotional Development*

Readiness Skills	Level of Proficiency				Mean Score
	Not Yet 1	Beginning 2	In Progress 3	Proficient 4	
Appropriately expresses needs and thoughts (in primary language)	3%	9%	26%	62%	3.48
Relates appropriately to adults other than parent / caregiver	2%	12%	29%	58%	3.42
Works and plays cooperatively with peers	1%	13%	34%	52%	3.37
Controls impulses and self-regulates	6%	15%	37%	43%	3.16
All items combined					3.35

Note: Percentages do not include responses of *Don't Know/Not Observed*.

NEGP Area 3 — *Approaches Toward Learning*

Students' level of proficiency in the third NEGP readiness area of Approaches Toward Learning is highlighted in Figure 9 below. Compared to the first two NEGP readiness areas, students appeared to have slightly lower levels of proficiency in this area. The skill in which the greatest share of students were assessed as *Proficient* was *Follows one- to two-step directions* (51%), followed closely by *Expresses curiosity and eagerness for learning* (50%). The area in this category in which local students appeared to be the least skilled was *Stays focused/Pays attention*, with only 37% of students assessed as being proficient. The combined mean score for all students and all items within this NEGP readiness area was **3.17**.

Figure 9 — Proficiency in the Area of *Approaches Toward Learning*

Readiness Skills	Level of Proficiency				Mean Score
	Not Yet 1	Beginning 2	In Progress 3	Proficient 4	
Follows one- to two-step directions	4%	14%	31%	51%	3.29
Expresses curiosity and eagerness for learning	5%	14%	31%	50%	3.25
Participates successfully in circle time	7%	17%	37%	39%	3.08
Stays focused/Pays attentions during activities	7%	17%	39%	37%	3.06
All items combined					3.17

Note: Percentages do not include responses of *Don't Know/Not Observed*.

NEGP Area 4 — *Communication & Language Usage*

In the fourth NEGP readiness area, the skill in which the greatest percentage of students were observed as being *Proficient* was the ability to *Write own name* (48%). It should be noted that the fourth skill in this NEGP readiness area, *Recognizes all letters of the alphabet*, was added to the Kindergarten Observation Form as one of the more challenging indicators, designed to help teachers in planning their curricula based on the competencies of their incoming students. Twenty-seven percent of observed students knew all 26 letters of the alphabet, and 32% knew 13 to 25 letters. The combined score for all students and all items within this NEGP readiness area was **3.02**, the lowest of all five NEGP areas.

Figure 10 — Proficiency in the Area of *Communication & Language Usage*

Readiness Skills	Level of Proficiency				Mean Score
	Not Yet 1	Beginning 2	In Progress 3	Proficient 4	
Writes own name	8%	15%	29%	48%	3.17
Has expressive abilities	8%	18%	33%	42%	3.09
Engages with books	5%	25%	29%	40%	3.04
Recognizes letters of the alphabet	13%	28%	32%	27%	2.74
All items combined					3.02

Note: Percentages do not include responses of *Don't Know/Not Observed*.

NEGP Area 5 — *Cognition & General Knowledge*

In the fifth NEGP readiness area, the skill in which the greatest percentage of students were observed as being *Proficient* was the ability to *Recognizes primary colors* (74%). Of the four indicators, children were observed as being the least proficient in their ability to *Engage in symbolic play with self or peers* (58%). The combined mean score for all students and all items within this NEGP readiness area was **3.51**.

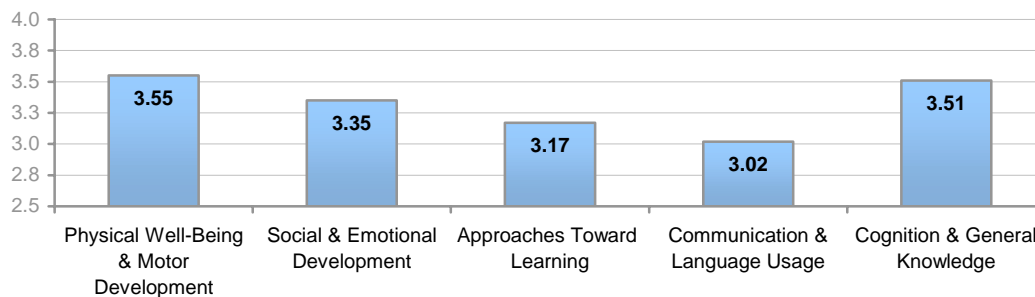
Figure 11 — Proficiency in the Area of *Cognition & General Knowledge*

Readiness Skills	Level of Proficiency				Average Score
	Not Yet 1	Beginning 2	In Progress 3	Proficient 4	
Recognizes primary colors	1%	8%	17%	74%	3.65
Recognizes primary shapes	3%	13%	16%	68%	3.48
Can count 10 objects correctly	6%	11%	16%	68%	3.46
Engages in symbolic play with self or peers	3%	10%	30%	58%	3.43
All items combined					3.51

Note: Percentages do not include responses of *Don't Know/Not Observed*.

The previous figures have highlighted the range of students' proficiencies with regard to school readiness indicators. What was the combined level of proficiency in each of the NEGP readiness areas? Figure 12 below summarizes students' overall mean readiness score per area. Physical Well-Being & Motor Development was the area in which students had the highest overall readiness score (**3.55**), while such scores were lowest in the area of Communication & Language Usage (**3.02**).

Figure 12 — Mean Readiness Score of Observed Students per NEGP Readiness Area, 2002



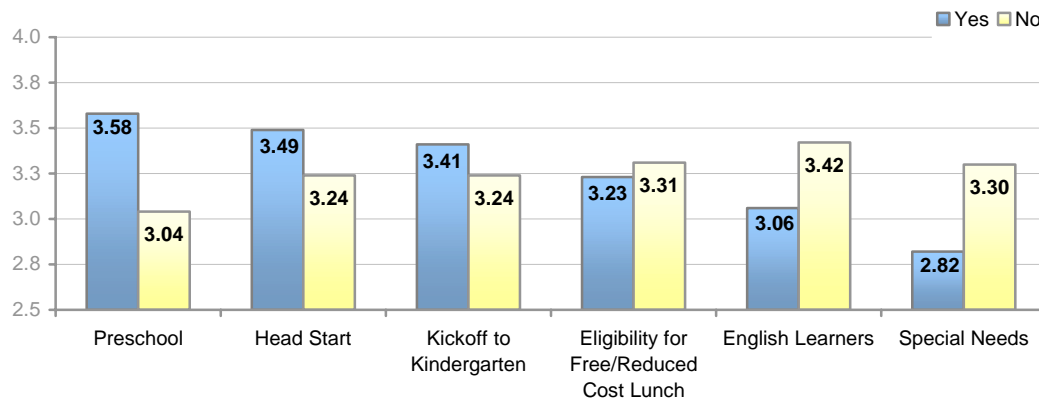
Findings for All Readiness Skills Combined

A fourth method of summarizing the level of readiness of the 553 sampled students was to combine all mean scores for all 19 skills, thereby creating an “index” of readiness. Based on a scale of (1) *Not Yet Proficient* to (4) *Proficient*, the total mean score for all students, across all readiness skills, was **3.30**.

What factors were most associated with children's readiness for school? Using a variety of statistical procedures, the researchers found that eligibility for free and reduced cost lunch, presence of special needs, English Learner status, age, gender, and participation in the Kickoff to Kindergarten program, Head Start, and formal curriculum-based preschool all had relationships to children's readiness scores. In children's lives, however, many of these factors co-occur. Therefore, to test the relationship of each variable above with school readiness scores, holding constant the effect of the other variables, an analysis of covariance (ANCOVA) was conducted on the sub-sample of children for whom all such data were available (n=185).

With the following “adjusted” readiness scores (Figure 13), the analysis revealed how key demographic factors or early interventions are expressed in children's readiness for school, after controlling for other key factors. It is important to note that while the differences between some groups in the sub-sample are statistically significant ($p < .05$), as will be noted, these findings cannot be generalized to the entire sample of 553 children, because the manner in which the sample was reduced (based on data availability) was non-random.

Figure 13 — Overall Mean Adjusted Readiness Score by Key Characteristics of Observed Students, 2002



After controlling for the variable background experiences for which there were data, children who had participated in preschool, Head Start, and Kickoff to Kindergarten were found to have significantly higher readiness scores ($p < .05$) than children who had not participated in such programs.

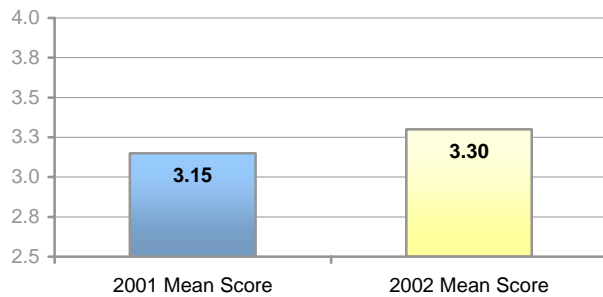
When their variable backgrounds were adjusted for, children who were from low-income families (eligible for free and reduced cost lunch) did not have significantly lower scores than their higher-income peers, indicating that most of the difference observed between the scores of low- and high-income children is explained by differences in access to preschool, other early intervention supports, and demographic variables controlled for in the analysis such as English language proficiency. After adjusting for disparities in background or socio-economic status, English Learners were found to have significantly lower readiness scores than their English proficient peers. This finding indicates that there may be other factors in those young children's lives which are having an effect on their observed readiness for school but cannot be accounted for by this study.

Finally, as stated before, while the differences between some groups in the subsample are statistically significant ($p < .05$), these findings cannot be generalized to the entire sample of 553 children. The analysis will therefore be repeated on the 2003 readiness sample to see if such findings are replicated.

The above analysis has shown how certain key characteristics are associated with school readiness scores. The researchers sought to understand the predictive power of all of the variables available for explaining school readiness scores. For the data on a sub-sample of children who had all data fields available ($n=185$), a regression analysis revealed that the variables captured by the 2002 assessment explained **40%** of the variability in readiness scores ($R^2 = .40$), a moderately strong coefficient. Conversely, however, the finding indicates that **60%** of the variability in scores cannot be explained by the limited data available through the assessment.

How did the 2002 results vary from the 2001 pilot study? It is important to emphasize that the 2001 results were from a pilot instrument and process, and though there were only minor changes to the instrument, the results from the two years should be interpreted accordingly. In 2002, the overall mean score across all readiness items and across all students was **3.30**, an increase from 2001's mean score of **3.15**. The increase is statistically significant.

Figure 14 — Overall Mean Readiness Score, 2001 and 2002



Given that there were no changes to the sampling procedure or teacher training methods, and only minor changes to improve the reliability of the instrument, Applied Survey Research conducted various statistical techniques to investigate possible sources of the increase. The first aspect examined was whether or not there was a change in the distribution of scores. In both years, the readiness scores were normally distributed. (Please see Appendix 3 for standard deviations per item.)

The second aspect analyzed was whether the demographic characteristics of the children sampled varied from year to year, due to sampling error. However, this analysis was hampered by the fact that socio-economic data (free and reduced cost lunch eligibility) were missing for nearly 200 students in 2002; these “unknown” students had higher readiness scores than the students for whom data were available, yet due to the lack of individual-level data, their socio-economic status could not be weighted to accurately reflect the averages in their two districts. With that caveat noted, the 2001 and 2002 mean scores were calculated for the districts whose students had all necessary fields of data available in both years (data had to be re-weighted to reflect the new geographic distribution of the sample). This analysis revealed that there was still a difference in the overall readiness scores between the 2001 and 2002 students.

The researchers then analyzed whether there were any changes in the relationships between key variables and readiness scores from year to year. A **correlation** analysis was prepared for both 2001 and 2002 data which revealed that within the full sample of 2002 students (n=553), a strong positive correlation was detected between curriculum-based preschool and school readiness scores (.345), significant at the .001 level; yet in 2001, the correlation between those two variables was just .167 ($p = .001$). ASR noted that preschool experience was more prevalent in the 2002 sample, and that the absolute number of children eligible for free and reduced cost lunch, another predictor, was much smaller than in 2001, due to the lack of data from two districts. Therefore, to control for the varying demographic characteristics across students between the two years, an analysis of covariance was conducted. The results indicated that even after adjusting for these variable characteristics — therefore holding their effect constant — a small but significant increase was still observed between 2001 and 2002 readiness scores.

In summary, ASR’s regression and ANCOVA analyses led the researchers to conclude that the difference in the 2001 and 2002 scores cannot be explained entirely by the variables available via the Kindergarten Observation Form. In other words, the assessment tool is limited in its ability to capture data on all factors affecting young children’s readiness for school. Indeed, 60% of the variability in children’s school readiness scores could not be

explained by the limited amount of demographic and early education information available to the researchers. It is quite possible that unknown effects within that “60%” are responsible for the increase in readiness scores from 2001 to 2002. ASR will look forward to future assessment results to further explore the sources of variance in students’ readiness scores, as this information helps parents, early educators and schools pinpoint areas for intervention.

Findings for Children in First 5 School Readiness Initiative Areas

As mentioned previously, First 5 San Mateo County is rolling out its School Readiness Initiative (SRI) in neighborhoods feeding into 11 local elementary schools that were designated by the state as being “high need:” Adelante Spanish Immersion, Belle Haven, East Palo Alto Charter, Edison-Brentwood, Garfield Charter, Green Oaks (Cesar Chavez), Hawes, Hoover, Taft, Turnbull and Willow Oaks. First 5 approached the School Readiness Assessment team to collect data on an oversample of students in those schools. In year 1 (2002), these data will serve as baseline, characterizing the demographic make-up of the students in the target area, as well as their level of school readiness in particular skills and across all skills. In subsequent years, the assessment will again be conducted on an oversample of children from the target area to provide a meta-level evaluation of the impact of First 5’s SRI project on enhancing local children’s readiness for school.

Based on the 2001-2002 kindergarten population in the 11 SRI schools, a sample size of 271 was needed in order to generalize findings to those schools at the 95% confidence level with a 5% margin of error. Some of the students in the core sample attended SRI schools, yielding only a portion of the requisite sample. Therefore, an oversample of **153** students was drawn to gain the sample size needed. During implementation however, two of the 11 SRI schools chose not to participate, and replacement classes within the other nine SRI schools had to be drawn. Therefore, the modified population size of nine schools required a sample size of 257 for findings to be generalizable. The actual number of “SRI students” observed in the core and oversample combined– 250 – provides a margin of error of 5.11%.

Figure 15 — Sampled SRI Classrooms Drawn from County Sample and SRI Oversample, 2002

District and SRI School	County Sample SRI Classes	Oversample SRI Classes	Total SRI Students Observed
Ravenswood City School District			
Belle Haven Elementary		X	19
Green Oaks Academy		X	20
Edison-Brentwood Academy	X	X	39
Willow Oaks Elementary	X	X	40
Redwood City Elementary School District			
Adelante Spanish Immersion	X		19
Garfield Charter	X	X	35
Hawes Elementary		X	20
Hoover Elementary		X X	38
San Mateo-Foster City Elementary School District			
Turnbull Learning Academy	X		20
Total Number of Children Observed	97	153	250

As illustrated in Figure 15 above, SRI students were found in both the core county sample and the oversample. For purposes of comparison, however, data on the SRI children were separated from those from the non-SRI children by subtracting the five SRI schools from the county core sample and adding them to the eight SRI classes in the oversample. As such, the comparisons discussed subsequently reflect similarities and differences between the non-SRI core sample (456 students) and the higher-need SRI population (250 students).

Compared to the non-SRI students sampled, the SRI students were overwhelmingly Latino (39% to 84%, respectively), English Learners (41% to 85%, respectively), and low-income, as seen by their eligibility for free and reduced cost lunch (43% to 77%, respectively).

With regard to early educational experiences, Figure 16 below illustrates that SRI students were not as likely as their non-SRI counterparts to have had formal curriculum-based preschool or to have participated in the Kickoff to Kindergarten program, though the difference was not statistically significant. However, the two cohorts appeared equally likely to have participated in Raising a Reader®, and SRI students were more likely to have participated in the Kickoff to Kindergarten Program and Head Start.

Figure 16 — Percentage of Observed SRI Students with Early Education Experiences, Compared to Non-SRI Students, 2002

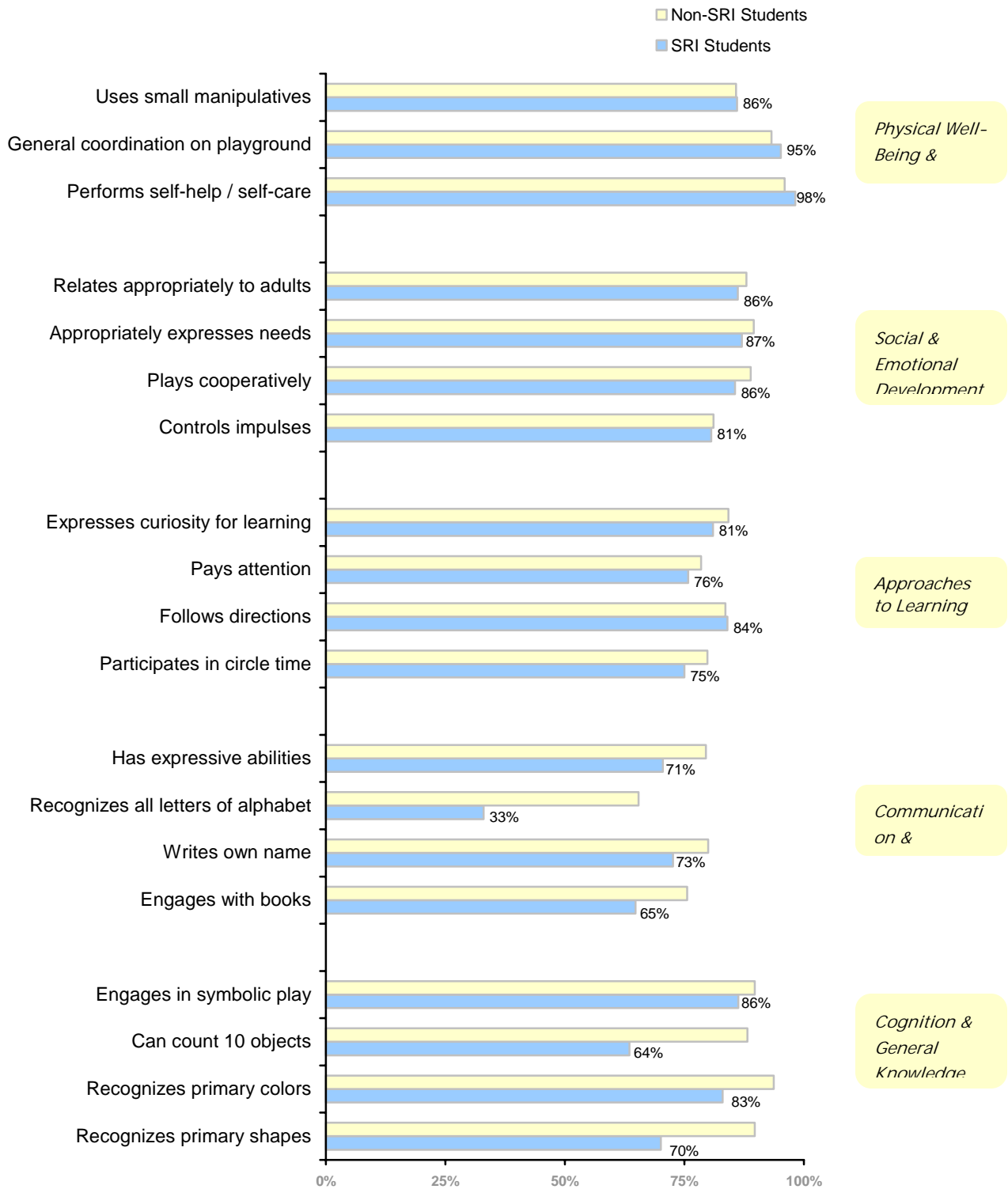
Early Education Type	2002 % of Observed SRI Students	2002 % of Observed Non-SRI Students	Significance
Formal, curriculum-based preschool ⁴²	58	67	Not signif.
Kickoff to Kindergarten Program	11	19	P. < .05
Raising a Reader®	29	27	Not signif.
Head Start	17	9	Not signif.

Finally, compared to non-SRI students, the SRI students were equally likely to be sent to school well-fed (97% and 95%, respectively) and well-rested (96% and 95%, respectively).

On individual readiness items, Figure 17 below compares the similarities and differences between the SRI students and non-SRI students. These figures have not been adjusted for demographic differences between the two groups.

⁴² Formal, curriculum-based preschool does not include licensed day care centers and family child care homes UNLESS those programs have a curriculum-based program. Teachers responded to this question using the information available to them.

Figure 17 — Percentage of Observed SRI Students *In Progress* or *Proficient* in Key Readiness Skills, Compared to Non-SRI Students, 2002



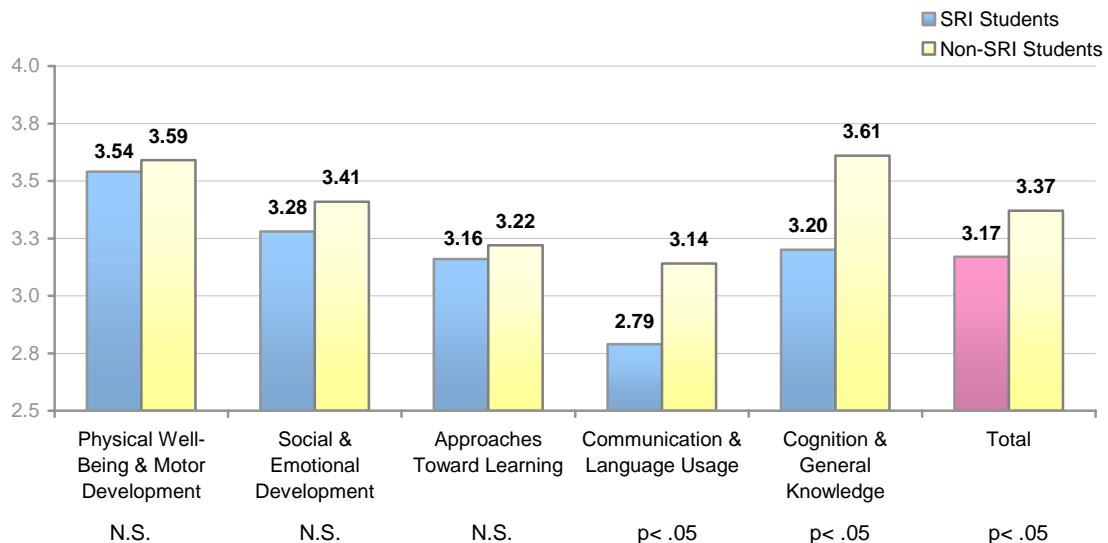
The data presented in Figure 17 above reveals that in the first three NEGP areas of Physical Well-Being & Motor Development, Social & Emotional Development, and Approaches Toward Learning, the skills of children entering kindergarten in the nine SRI schools resemble those of their non-SRI peers in other areas of the county.

However, in the last two areas of Communication & Language Usage, and Cognition & General Knowledge, the percentage of SRI children with proficiency in those skill areas is markedly less than the skills of their counterparts in other areas of the county. Statistically significant differences were observed ($p < .05$) between the skill levels of SRI children and non-SRI children in the following areas:

- Recognizes letters of the alphabet
- Engages with books
- Can count 10 objects correctly
- Recognizes primary colors
- Recognizes primary colors

Figure 18 below compares the overall mean scores of SRI students with non-SRI students in each of the NEGP readiness categories and across all categories (overall).

Figure 18 — Mean Readiness Score per NEGP Readiness Area, Observed SRI Students Compared to Non-SRI Students, 2002



As seen in Figure 18 above, the overall mean readiness scores of SRI students are generally lower than those of non-SRI students. The differences between the two groups in the areas of Physical Well-Being & Motor Development, Social and Emotional Development and Approaches Toward Learning were not statistically significant. However, the SRI students had significantly lower readiness scores than their counterparts in the dimensions of Communication & Language Usage and Cognition & General Knowledge, pointing to possible areas for future SRI intervention. Finally, the overall readiness score of SRI students (**3.17**) was significantly lower than the overall readiness score of the children not in the SRI areas of the county (**3.37**).

VI. Discussion

The School Readiness Assessment Project is the first of its kind in San Mateo County. As such, there were many valuable lessons that can contribute to future assessment efforts.

- ❑ **Define how ready is “ready”:** The School Readiness Task Force convened in 2002 agrees on the areas or indicators being measured to assess readiness, but they are working to agree about how much proficiency is “enough” within some of the indicators. It must be noted that within each NEGP area, there are some indicators that were selected by the project’s stakeholders as “minimums” because the skills were deemed essential for children to have as they transition into the school environment. However, other higher-level indicators within the same area were selected because they represented predictors of later success in kindergarten, or because they were skills that would be developed early in the kindergarten year; the assessment of such skills at entry to kindergarten was intended to provide a baseline useful for shaping kindergarten instruction. Together, the two different kinds of indicators provide a graduated snapshot of children’s readiness for schools. Within some indicators, nearly all children do well; in others, only about half of the children were assessed to be *In Progress* or *Proficient*. The School Readiness Task Force recognizes that county children may never reach 100% proficiency in these areas — and the results should not be taken as such — but rather by discriminating between proficiencies, the research findings pose important opportunities for intervention, especially where there are significant disparities between groups of children based on demographic characteristics. To mark the progress of county interventions in boosting readiness, the SRTF may want to consider establishing short- and long-term proficiency targets within each of the indicators.

- ❑ **Seek opportunities for intervention:** In the overall county sample, the NEGP area of readiness in which students had the lowest NEGP area of proficiency was Communication & Language Usage. Recalling the purpose of the assessment — to highlight areas for intervention for the early care community, parents and schools — perhaps these findings will stimulate dialogue and/or intervention. A related finding was that the children in the First 5 School Readiness Initiative (SRI) areas had lower baseline scores in the areas of Communication & Language Usage and Cognition & General Knowledge than their peers in the higher income areas of the county. The SRI project may wish to target early interventions in these readiness areas, and monitor changes in these areas over time vis a vis the indicators measured here.

- ❑ **Continue providing valuable secondary data:** The breadth and quality of data collected are contingent upon the information available to teachers when they make their assessments, and on school districts’ ability to provide vital secondary data, such as students’ eligibility for free and reduced cost lunch. Because of the influence of socio-economic status on school readiness, free and reduced cost lunch eligibility data are critical to help us ensure that the sample reflects the general kindergarten population from which it was drawn, and is vital to uncovering relationships and covariance between the factors that are associated with school readiness. Therefore, obtaining these data for all districts will continue to be important to the study. Further, information-sharing regarding early education experience between

providers, parents and elementary schools would enrich teachers' understanding of children's background experiences, help them tailor instruction accordingly, and would enable a more accurate quantification of such experience in this and other assessments. Simple measures such as the triplicate forms used by Redwood City Child Development centers or asking additional questions of parents during kindergarten enrollment can fill the information gap.

- **Recognize the assessment's limited powers of explanation:** Despite the length of the Kindergarten Observation Form — just two pages in length — the variables captured by the form explain a great deal of the variance in school readiness scores (40%), a strong coefficient as far as regression modeling is concerned. Yet, conversely, 60% of the variance in scores cannot be explained with the data available to the assessment project, and has to do with the many other factors present in young children's lives. These same "unknowns" may be driving some of the increase in scores from 2001 to 2002. Therefore, the results of the 2002 School Readiness Assessment remind us that while some aspects associated with readiness for school can be quantified — and the assessment must continue to pursue that quantification — other aspects, such as parent-child relationship, family stability or the quality of relationships with caregivers are difficult to quantify within the scope of the current assessment project (tools, methods, data availability), yet are no less important as ingredients for preparing San Mateo County children to enter school.

Closing Remarks

The context in which this School Readiness Assessment Project was shaped included both external and internal forces; they were external in terms of the general climate surrounding school readiness assessment (both favorable and unfavorable), and internal in that San Mateo County stakeholders clearly stated, via the Community Input Phase, the parameters in which they would support such assessment.

Within this clearly defined local context, the schools and teachers necessary to implement this Pilot Assessment were extremely cooperative. As a result of their hard work, as well as the hard work of numerous other partners who made the assessment possible, readers can be 95% confident that the assessment data obtained from 553 students can be generalized to the kindergarten populations in the eight school districts and be accurate within a margin of +/- 4%.

There are myriad ways in which these valuable data can be analyzed and used, and this report summarizes only a few ways in which the data can be interpreted. The researchers hope that the fruits of the effort expended by all groups involved in the Assessment Project are put to use; indeed, these data are valuable only insofar as they are useful.

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About the Researcher

ASR is a nonprofit, social research firm dedicated to helping people build better communities by creating meaningful evaluative and assessment data, facilitating information-based planning, and developing custom strategies. Incorporated in 1981, the firm has over twenty years of experience working with public and private agencies, health and human service organizations, city and county offices, school districts, institutions of higher learning, and charitable foundations. Through community assessments, program evaluations, and related studies, ASR provides the information that communities need for effective strategic planning and community interventions.

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Appendix

Appendix 1: Kindergarten Observation Form	46
Appendix 2: Overall Frequencies	49
Appendix 3: Mean Readiness Scores By Item, NEGP Category and Overall	59
Appendix 4: First 5 School Readiness Initiative (SRI) Oversample — Mean Readiness Scores of “SRI” Students By Item, NEGP Category and Overall	61

Appendix 1

Kindergarten Observation Form

Kindergarten Observation Form 2002

A Project of the Peninsula Partnership for Children, Youth and Families, San Mateo County Office of Education, and San Mateo County Children and Families First Commission



Instructions

This form is intended for you to observe the various skills and attributes your students possess at entrance to your kindergarten class. This information will be vital to curricular enhancements in schools as well as early learning programs. Absolutely no individual child's information will be released by the researchers.

Complete one Observation Form per child during the third week of classroom activities. This is to ensure that the child has had a chance to adjust to the typical classroom structure and has had the opportunity to demonstrate observable skills and behaviors. Children should be observed in as natural a setting as possible within their daily activities.

To complete the Observation Form, please follow these steps:

1. Please complete the child's demographic information at right.
2. After completing the child's demographic information, turn this page over and complete the skill and attribute checklist.
3. After you have completed both sides of this form, please send all completed forms together (stamped envelope provided) for processing to Applied Survey Research, P.O. Box 1927, Watsonville, CA., 95077.

If you have any questions about the observation process, please call Lisa or Meg at Applied Survey Research at 831-728-1356.

Thank you for your participation!

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Child Demographic Information

1. Teacher's last name: _____	2. School name: _____
3a. Child's initials: _____	3b. Child's Sex: <i>Male</i> <i>Female</i>
3c. Child's mother's first name: _____	
3d. Child's District ID number: _____	
4. Child's date of birth: Month _____ Day _____ Year _____	
5. Today's date: Month _____ Day _____	
5a. Start date of instruction: Month _____ Day _____	
6. Has this child participated in any of the following educational programs:	
- A formal, curriculum-based <u>preschool</u> program?	Yes No Info not avail.
- Head Start?	Yes No Info not avail.
- Pre toThree? <i>(Home visiting program for mothers and infants eligible for Medi-Cal)</i>	Yes No Info not avail.
- Raising a Reader? <i>("Red Book Bag program")</i>	Yes No Info not avail.
- Summer Transitional Program? <i>("Pre-K program")</i>	Yes No Info not avail.
7a. Does this child generally come to school well-rested?	Yes No Info not avail.
7b. Does this child generally come to school well-fed?	Yes No Info not avail.
7c. Does this child have any <u>special needs</u> , as identified by Special Needs Status or an IEP?	Yes No Info not avail.
- If yes, please specify: _____	
7d. Is this child an <u>English Learner</u> ?	Yes No Info not avail.
- If yes, are you able to communicate with the child enough to complete items #13, 18, 20, 21, 25, 26, and 27 of this observation form?	Yes No
8. Child's Primary Ethnicity:	
<input type="checkbox"/> Latino	<input type="checkbox"/> Caucasian <i>(including Arabic / Middle Eastern)</i>
<input type="checkbox"/> Asian	<input type="checkbox"/> Multi-ethnic
<input type="checkbox"/> Native-American	<input type="checkbox"/> Other (specify): _____
<input type="checkbox"/> Pacific Islander	<input type="checkbox"/> Don't know
<input type="checkbox"/> African-American	

→
Please Turn The Page

Kindergarten Observation Form 2002

Proficient: Demonstrates skill, knowledge, behavior consistently and competently; **performs independently**
In Progress: Demonstrates skill, knowledge, behavior occasionally and somewhat competently; has room for improvement, needs minor or **occasional assistance**
Beginning: Child is just beginning to demonstrate skill, knowledge, behavior; needs significant or **frequent assistance**
Not Yet: Child does not demonstrate skill, knowledge, or behavior yet; **cannot perform without assistance**

<i>How would you rate this child's skill, knowledge and behaviors in terms of the following:</i>		NOT YET 1	BEGINNING 2	IN PROGRESS 3	PROFICIENT 4	Don't know/ Not observed	Comments / Notes
Physical Well - Being & Motor Development	9. Use of small manipulatives such as crayons, paintbrush, buttons, zippers, etc.						
	10. Has general coordination on playground (kicking balls, running, climbing)						
	11. Performs basic self -help / self-care tasks (toileting, eating, washing hands)						
Social & Emotional Development	12. Relates appropriately to adults other than parent / caregiver (converses with, seeks help from)						
	13. Appropriately expresses needs and wants verbally in primary language						
	14. Works and plays cooperatively with peers (takes turns and shares)						
	15. Controls impulses and self -regulates (is not disruptive of others or class)						
Approaches Toward Learning	16. Expresses curiosity and eagerness for learning (tries new activities, asks questions)						
	17. Stays focused / pays attention during activities						
	18. Follows one - to two-step directions						
	19. Participates successfully in circle time (listens, focuses, sits still, participates)						
Communication & Language Usage	20. Has expressive abilities (tells about a story or experience in response to a prompt)						
	21. Recognizes the letters of the alphabet (note: may be CAPs, lowercase or combination)	None	1 – 12 letters	13 – 25 letters	All 26 letters		
	22. Writes own name (spelling and writing all letters correctly)						
	23. Engages with books (knows where a book starts, associates print with storyline, pretends to read)						
Cognition & General Knowledge	24. Engages in symbolic / imaginative play with self or peers (plays house, fireman)						
	25. Can count 10 objects correctly (*Please give Maria five crayons; please hand Celia 10*)	None	1 – 5 objects	6 – 9 objects	All 10 objects		
	26. Recognizes primary colors (Crayola basic 8)	None	1 – 4 colors	5 – 7 colors	All 8 colors		
	27. Recognizes primary shapes (circle, triangle, square)	None	1 shape	2 shapes	All 3 shapes		

Appendix 2

Overall Frequencies

Note: Results are weighted by district and by free and reduced cost lunch status (by district, where applicable), and exclude answers of *Don't Know/Not Observed*.

1. District

Response	Frequency	Percent
Cabrillo	34	6.1
Jefferson	84	15.3
La Honda	4	0.8
Laguna Salada	40	7.2
Ravenswood	65	11.8
Redwood City	114	20.6
San Mateo	130	23.5
South San Francisco	82	14.8
Total	553	100.0

2. School

Response	Frequency	Percent
Adelante Spanish Immersion School	16	2.9
Alvin S. Hatch Elementary	16	2.9
Beresford Elementary	16	2.9
Buri Buri Elementary	21	3.8
Clifford Elementary	15	2.7
Colma Elementary	30	5.4
Edison-Brentwood Academy — class 1	18	3.3
Fair Oaks Elementary	17	3.1
Farallone View Elementary	18	3.2
Foster City Elementary	19	3.5
Franklin Delano Roosevelt Elementary	29	5.2
Garfield Charter Elementary	16	2.9
George Hall Elementary	20	3.6
Henry Ford Elementary	17	3.1
James Flood Elementary	24	4.3
John Gill School	17	3.1
Laurel Elementary	19	3.5
North Shoreview Elementary	20	3.6
Oceanshore Elementary (Sharp Park)	20	3.6
Park Elementary	15	2.7
Pescadero Elementary	4	0.8
Ponderosa Elementary	21	3.8
Selby Lane Elementary	16	2.9
Spruce Elementary	20	3.6

2. School (continued)

Sunshine Gardens Elementary	20	3.6
Turnbull Learning Academy	20	3.6
Vallemar Elementary	20	3.6
Willow Oaks Elementary — class 1	23	4.2
Woodrow Wilson Elementary	25	4.6
Total	553	100.0

3b. Gender of child

Response	Frequency	Percent
Male	279	51.1
Female	267	48.9
Total	546	100.0

6. Has this child participated in any of the following educational programs?

6a. A formal, curriculum-based preschool program

Response	Frequency	Percent
Yes	286	61.6
No	178	38.4
Total	463	100.0

6b. Head Start

Response	Frequency	Percent
Yes	42	11.2
No	328	88.8
Total	370	100.0

6c. Pre to Three (Home visiting program for mothers and infants eligible for Medi-Cal)

Response	Frequency	Percent
Yes	1	0.3
No	341	99.7
Total	342	100.0

6. Has this child participated in any of the following educational programs? (continued)

6d. Raising a Reader® (“Red Book Bag program”)

Response	Frequency	Percent
Yes	121	31.8
No	260	68.2
Total	381	100.0

6e. Summer Transitional Program (Pre-K program) – from official enrollment records

Response	Frequency	Percent
Yes	111	20.1
No	442	79.9
Total	553	100.0

7a. Does this child generally come to school well-rested?

Response	Frequency	Percent
Yes	518	94.4
No	30	5.6
Total	548	100.0

7b. Does this child generally come to school well-fed?

Response	Frequency	Percent
Yes	500	96.0
No	21	4.0
Total	520	100.0

7c. Does this child have any special needs, as identified by Special Needs Status or an IEP?

Response	Frequency	Percent
Yes	28	5.2
No	511	94.8
Total	539	100.0

7d. Is this child an English Learner?

Response	Frequency	Percent
Yes	266	48.7
No	281	51.3
Total	548	100.0

8. What is the child's primary ethnicity?

Response	Frequency	Percent
Latino	260	47.1
Caucasian (includes Arabic / Middle Eastern)	142	25.8
Asian	45	8.1
Pacific Islander	37	6.7
African-American	26	4.7
Native-American	1	0.2
Multi-ethnic	35	6.3
Don't know	6	1.1
Total	552	100.0

Child eligible for free or reduced cost lunch *

Response	Frequency	Percent
Yes	158	44.8
No	194	55.2
Total	352	100.0

* weighted by district only

Physical Well-Being & Motor Development

9. Use of small manipulatives, such as crayons, paintbrush, buttons, zippers, etc.

Response	Frequency	Percent
Not Yet (1)	8	1.4
Beginning (2)	80	14.7
In Progress (3)	195	35.9
Proficient (4)	261	48.0
Total	544	100.0
Mean response		3.31

10. Has general coordination on playground (kicking balls, running, climbing)

Response	Frequency	Percent
Not Yet (1)	2	0.3
Beginning (2)	33	6.3
In Progress (3)	159	30.2
Proficient (4)	332	63.2
Total	526	100.0
Mean response		3.56

11. Performs basic self-help/self-care tasks (toileting, eating, washing hands)

Response	Frequency	Percent
Not Yet (1)	3	0.5
Beginning (2)	19	3.5
In Progress (3)	73	13.4
Proficient (4)	447	82.6
Total	541	100.0
Mean response		3.78

Social & Emotional Development

12. Relates appropriately to adults other than parent/caregiver (converses with, seeks help from)

Response	Frequency	Percent
Not Yet (1)	12	2.2
Beginning (2)	63	11.5
In Progress (3)	157	28.8
Proficient (4)	314	57.6
Total	545	100.0
Mean response		3.42

13. Appropriately expresses needs and wants verbally in primary language

Response	Frequency	Percent
Not Yet (1)	14	2.7
Beginning (2)	46	8.6
In Progress (3)	139	26.3
Proficient (4)	330	62.4
Total	529	100.0
Mean response		3.48

14. Works and plays cooperatively with peers (takes turns and shares)

Response	Frequency	Percent
Not Yet (1)	6	1.1
Beginning (2)	69	12.8
In Progress (3)	187	34.4
Proficient (4)	282	51.8
Total	545	100.0
Mean response		3.37

15. Controls impulses and self-regulates (is not disruptive of others or class)

Response	Frequency	Percent
Not Yet (1)	32	5.8
Beginning (2)	80	14.7
In Progress (3)	201	36.9
Proficient (4)	232	42.7
Total	545	100.0
Mean response		3.16

Approaches Toward Learning

16. Expresses curiosity and eagerness for learning (tries new activities, asks questions)

Response	Frequency	Percent
Not Yet (1)	29	5.4
Beginning (2)	76	13.9
In Progress (3)	168	30.9
Proficient (4)	271	49.7
Total	544	100.0
Mean response		3.25

17. Stays focused/pays attention during activities

Response	Frequency	Percent
Not Yet (1)	38	7.0
Beginning (2)	94	17.2
In Progress (3)	211	38.6
Proficient (4)	204	37.3
Total	547	100.0
Mean response		3.06

18. Follows one- to two-step directions

Response	Frequency	Percent
Not Yet (1)	21	3.9
Beginning (2)	76	14.2
In Progress (3)	163	30.5
Proficient (4)	276	51.4
Total	536	100.0
Mean response		3.29

19. Participates successfully in circle time (listens, focuses, sits still, participates)

Response	Frequency	Percent
Not Yet (1)	40	7.4
Beginning (2)	91	16.6
In Progress (3)	202	37.1
Proficient (4)	213	39.0
Total	546	100.0
Mean response		3.08

Communication & Language Usage

20. Has expressive abilities (tells about a story or experience in response to a prompt)

Response	Frequency	Percent
Not Yet (1)	39	7.4
Beginning (2)	94	17.8
In Progress (3)	174	33.1
Proficient (4)	220	41.7
Total	527	100.0
Mean response		3.09

21. Recognizes the letters of the alphabet (note: may be CAPs, lowercase or combination)

Response	Frequency	Percent
None (1)	67	12.6
1 - 12 letters (2)	152	28.4
13 - 25 letters (3)	169	31.7
All 26 letters (4)	146	27.3
Total	533	100.0
Mean response		2.74

22. Writes own name (spelling and writing all letters correctly)

Response	Frequency	Percent
Not Yet (1)	42	7.7
Beginning (2)	84	15.3
In Progress (3)	160	29.2
Proficient (4)	261	47.7
Total	547	100.0
Mean response		3.17

23. Engages with books (knows where a book starts, associates print with storyline, pretends to read)

Response	Frequency	Percent
Not Yet (1)	29	5.3
Beginning (2)	137	25.3
In Progress (3)	157	29.0
Proficient (4)	219	40.3
Total	543	100.0
Mean response		3.04

Cognition & General Knowledge

24. Engages in symbolic/imaginative play with self or peers (plays house, fireman)

Response	Frequency	Percent
Not Yet (1)	13	2.5
Beginning (2)	53	9.7
In Progress (3)	165	30.2
Proficient (4)	315	57.6
Total	546	100.0
Mean response		3.43

25. Can count 10 objects correctly (“Please give Maria five crayons; please hand Celia 10”)

Response	Frequency	Percent
None (1)	31	5.8
1 - 5 objects (2)	57	10.6
6 - 9 objects (3)	85	15.9
All 10 objects (4)	362	67.7
Total	535	100.0
Mean response		3.46

26. Recognizes primary colors (Crayola basic 8)

Response	Frequency	Percent
None (1)	3	0.5
1 - 4 colors (2)	45	8.4
5 - 7 colors (3)	91	16.9
All 8 colors (4)	397	74.1
Total	535	100.0
Mean response		3.65

27. Recognizes primary shapes (circle, triangle, square)

Response	Frequency	Percent
None (1)	18	3.4
1 shape (2)	68	12.8
2 shapes (3)	86	16.1
All 3 shapes (4)	362	67.7
Total	535	100.0
Mean response		3.48

Appendix 3

*Mean Readiness Scores
by Item, NEGP Category
and Overall*

<i>Mean Readiness Scores of Students by Item, NEGP Category and Overall</i>	Number of Respondents	Mean Score	Standard Deviation	95% Confidence Interval
Physical Well-Being & Motor Development	543	3.55	0.54	3.51 - 3.60
Use of small manipulatives, such as crayons, paintbrush, buttons, zippers, etc.	544	3.31	0.77	3.24 - 3.37
Has general coordination on playground (kicking balls, running, climbing)	526	3.56	0.63	3.49 - 3.63
Performs basic self-help/self-care tasks (toileting, eating, washing hands)	541	3.78	0.52	3.74 - 3.82
Social & Emotional Development	544	3.35	0.64	3.30 - 3.41
Relates appropriately to adults other than parent / caregiver (converses with, seeks help from)	545	3.42	0.78	3.35 - 3.48
Appropriately expresses needs and wants verbally in primary language	529	3.48	0.76	3.42 - 3.55
Works and plays cooperatively with peers (takes turns and shares)	545	3.37	0.75	3.30 - 3.43
Controls impulses and self-regulates (is not disruptive of others or class)	545	3.16	0.88	3.09 - 3.24
Approaches Toward Learning	546	3.17	0.80	3.10 - 3.23
Expresses curiosity and eagerness for learning (tries new activities, asks questions)	544	3.25	0.89	3.18 - 3.33
Stays focused/pays attention during activities	547	3.06	0.91	2.99 - 3.14
Follows one- to two-step directions	536	3.29	0.85	3.22 - 3.37
Participates successfully in circle time (listens, focuses, sits still, participates)	546	3.08	0.92	3.00 - 3.15
Communication & Language Usage	533	3.02	0.76	2.96 - 3.09
Has expressive abilities (tells about a story or experience in response to a prompt)	527	3.09	0.94	3.01 - 3.17
Recognizes the letters of the alphabet (note: may be CAPs, lowercase or combination)	533	2.74	1.00	2.65 - 2.82
Writes own name (spelling and writing all letters correctly)	547	3.17	0.96	3.09 - 3.25
Engages with books (knows where a book starts, associates print with storyline, pretends to read)	543	3.04	0.93	2.96 - 3.12
Cognition & General Knowledge	535	3.51	0.60	3.46 - 3.56
Engages in symbolic/imaginative play with self or peers (plays house, fireman)	546	3.43	0.77	3.37 - 3.49
Can count 10 objects correctly (<i>"Please give Maria five crayons; please hand Celia 10"</i>)	535	3.46	0.90	3.38 - 3.53
Recognizes primary colors (Crayola basic 8)	535	3.65	0.65	3.60 - 3.71
Recognizes primary shapes (circle, triangle, square)	535	3.48	0.84	3.41 - 3.56
Overall across all items:	545	3.30	0.59	3.25 - 3.35

Appendix 4

First 5 School Readiness Initiative OVERSAMPLE

Ravenswood, Redwood City and San Mateo Foster City School Districts

Mean Readiness Scores of "SRI" Students by Item, NEGP Category and Overall

<i>Mean Readiness Scores of "SRI" Students by Item, NEGP Category and Overall</i>	Number of Respondents	Mean Score	Standard Deviation	95% Confidence Interval
Physical Well-Being & Motor Development	241	3.54	0.49	3.49 – 3.61
Use of small manipulatives, such as crayons, paintbrush, buttons, zippers, etc.	245	3.27	0.75	3.18 – 3.37
Has general coordination on playground (kicking balls, running, climbing)	236	3.49	0.60	3.42 – 3.57
Performs basic self-help/self-care tasks (toileting, eating, washing hands)	241	3.82	0.43	3.77 – 3.88
Social & Emotional Development	249	3.28	0.59	3.21 – 3.36
Relates appropriately to adults other than parent/caregiver (converses with, seeks help from)	250	3.35	0.73	3.26 – 3.44
Appropriately expresses needs and wants verbally in primary language	246	3.35	0.73	3.26 – 3.45
Works and plays cooperatively with peers (takes turns and shares)	249	3.26	0.70	3.18 – 3.35
Controls impulses and self-regulates (is not disruptive of others or class)	249	3.16	0.79	3.07 – 3.27
Approaches Toward Learning	250	3.16	0.72	3.07 – 3.25
Expresses curiosity and eagerness for learning (tries new activities, asks questions)	250	3.21	0.81	3.11 – 3.31
Stays focused/pays attention during activities	250	3.08	0.81	2.98 – 3.18
Follows one- to two-step directions	246	3.24	0.77	3.15 – 3.35
Participates successfully in circle time (listens, focuses, sits still, participates)	249	3.10	0.82	3.01 – 3.21
Communication & Language Usage	245	2.79	0.74	2.70 – 2.89
Has expressive abilities (tells about a story or experience in response to a prompt)	246	3.02	0.93	2.91 – 3.15
Recognizes the letters of the alphabet (note: may be CAPs, lowercase or combination)	240	2.16	0.82	2.06 – 2.26
Writes own name (spelling and writing all letters correctly)	248	3.05	1.04	2.91 – 3.17
Engages with books (knows where a book starts, associates print with storyline, pretends to read)	248	2.93	0.90	2.82 – 3.05
Cognition & General Knowledge	245	3.20	0.66	3.12 – 3.29
Engages in symbolic/imaginative play with self or peers (plays house, fireman)	243	3.30	0.71	3.21 – 3.39
Can count 10 objects correctly (<i>"Please give Maria five crayons; please hand Celia 10"</i>)	244	2.99	0.99	2.86 – 3.11
Recognizes primary colors (Crayola basic 8)	245	3.38	0.80	3.28 – 3.48
Recognizes primary shapes (circle, triangle, square)	245	3.12	0.99	3.00 – 3.25
Overall across all items:	250	3.17	0.55	3.10 – 3.24