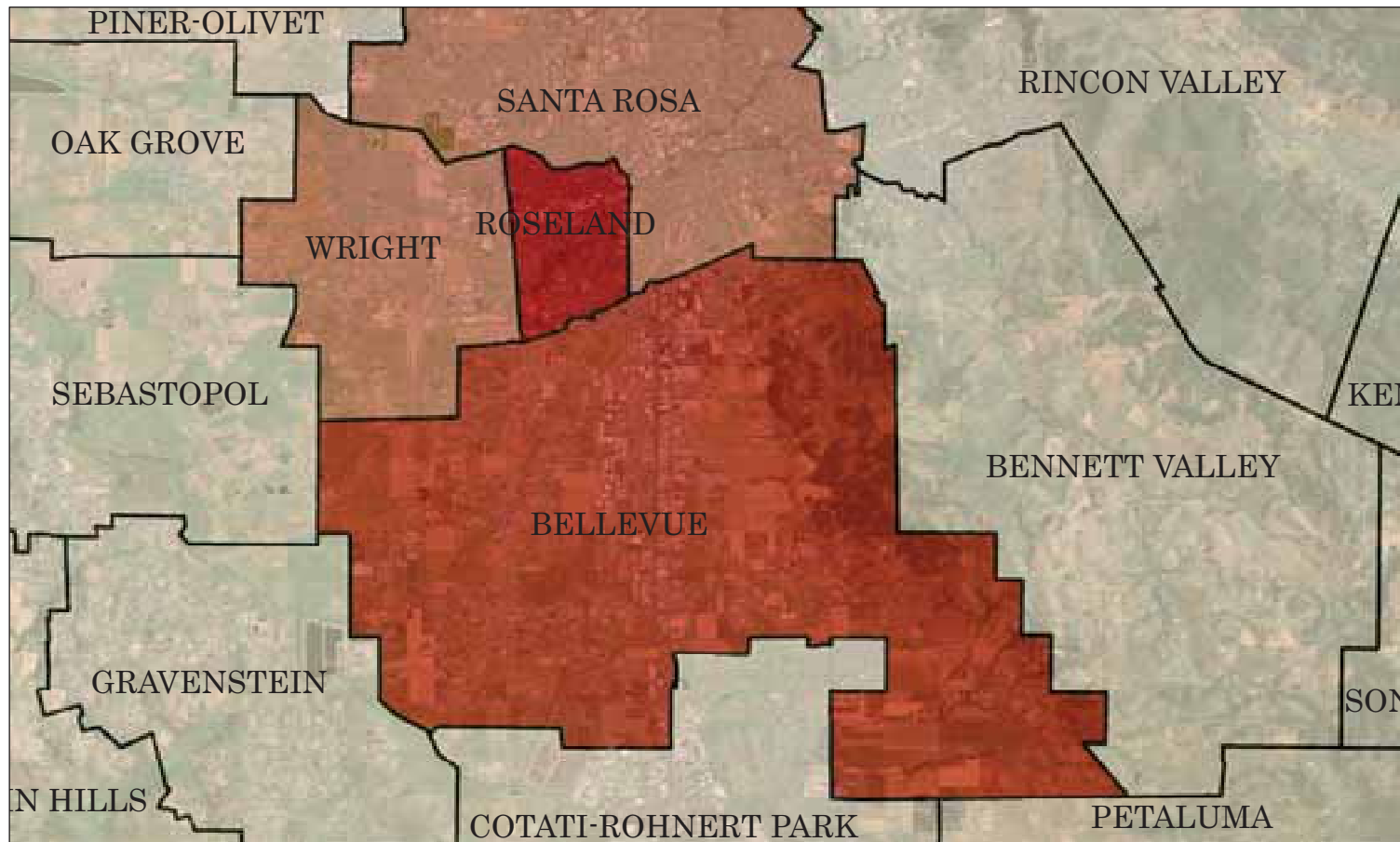


# Sonoma County Communities

## Cumulative Risk and Educational Outcomes



Report by George Malachowski  
Sonoma County Human Services Department  
Information Integration Division  
*technology • data • planning • outreach*

707.565.5817  
August 19, 2011



## Acknowledgments

Several individuals provided invaluable assistance in the creation of this report. Amber McCartney's provided excellent copy editing skills. Ray Hammer gave information on how educational data is collected at the school level. Jenny Mercado and Kristi Marleau furnished insightful statistical peer reviews and helped refine the analytic framework of the report. Marion Deeds and Edwin Ferran served as subject matter experts, giving helpful feedback. Finally, Marla Stuart provided overall guidance and served as a resource on many subjects. Any mistakes are of course the fault of the author. Thank you to everyone who assisted in this report.

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# Executive Summary

This report examines Sonoma County communities and their demographics, cumulative risk, and educational outcomes. In doing so, five conclusions were found:

1. There are significant differences in the demographic composition, amount of risk, and educational outcomes among Sonoma County communities. This was particularly true for the two communities with the highest risk, Roseland and Bellevue. These communities had statistically significant higher level of risk and worse educational outcomes in English/Language Arts testing.
2. This report identifies Roseland and Bellevue as the communities most at risk in Sonoma County. Their proximity and similarities suggest interventions to improve education, health, and economic indicators should be designed for both communities.
3. There is a mixed relationship between cumulative risk and educational outcomes in Sonoma County. The report found a relationship between cumulative risk and English/Language Arts outcomes. Analysis did not find a relationship between cumulative risk and mathematics, suspension, or truancy outcomes.
4. Despite the mixed findings between cumulative risk and educational outcomes found in this report, the concept of a cumulative risk score is a promising way to objectively identify and describe differences in communities. This method may be useful in identifying Sonoma County communities that have higher risk in the areas of health, economic success, or criminal justice.
5. The percent of English Learners in a school district plays a complicated role in the relationship between risk factors and educational outcomes. After controlling for this risk factor, English proficiency outweighs other risk factors that effect educational outcomes and acts as a protective factor. This suggests that English learning may be a good focus for community interventions.

# Introduction

Community Action Partnership of Sonoma County (Community Action) is initiating a multi-agency community building initiative in the Roseland community of Southwest Santa Rosa. The goal of this project is to marshal and focus the resources of several existing collaborative and individual agency projects in a multi-year coordinated effort to positively affect several educational, health, and economic indicators in a substantial way in this community. This effort is informed by successful place-based initiatives around the country and is expected to result in a blueprint for change that can be applied to similar communities in our county and elsewhere.<sup>1</sup>

In this effort, Community Action has developed a work plan to facilitate a 1-year planning process. This report addresses one part of this work plan:

Objective #4: Utilize data to manage program implementation, inform decision-making, engage stakeholders, and measure success.

While this report includes a variety of risk factors, at the request of Community Action, the only outcomes included are related to education of school age children. Data used includes Census data from the American Community Survey (ACS) for 2005-2009, education data for school year 2009-2010, and Human Services Data from 2009-2011.

This report tests two hypotheses:

1. Sonoma County Communities differ in demographics, risk factors, and school age educational outcomes.
2. Cumulative risk is related to worse educational outcomes among Sonoma County communities.

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1. For more information concerning the Roseland project contact Community Action Partnership, 707.527.5097, [www.caponoma.org](http://www.caponoma.org). In January 2008, Santa Rosa Junior College President's Task Force released, "The Roseland Report." This report is a concept paper developed to assess the Santa Rosa Junior College's role in the Roseland community. Part of this process was an investigation of the demographics of the Roseland area, which the paper defines as the zip code 95407. Using data from the 2000 Decennial Census, they found, "This area is characterized by a high density of Latino residents and younger residents. It is also characterized by lower levels of education attainment." Building off the research of the "The Roseland Report," this report examines community demographics, using up-to-date information and using geographic units tied to elementary and unified school districts. It goes beyond this work by using statistical methodology to test differences in communities and by assigning communities a cumulative risk score.

# Literature Review

There is a growing base of literature concerning risk factors and outcomes for education. Sepanski Whipple et al (2010) provide a model to “integrate a conceptual perspective, cumulative risk, into the study of childhood risk exposure and academic achievement.” They argue that both community and school characteristics need to be analyzed to understand the environment that impacts children and their academic achievement. A risk factor that Sepanski Whipple does not address is the impact of children’s health on educational outcomes. Several studies have shown links between health and education. Sonoma County Community Health Needs Assessment 2011 targets childhood obesity, nutrition, and fitness as areas for improvement in Sonoma County. The report explains, “Physical fitness has been linked to higher academic performance, better concentration, and increased confidence and self-esteem.”

Foley et al (2008) provide a compendium of indicators and an overview of the research in this area. They put forth a series of leading, “indicators that provide early signals of progress towards academic achievement . . .” and can be used to make “data-informed decision making.” The authors advocate for the importance of early reading proficiency and pre-algebra/algebra achievement. The authors put special emphasis on early reading skills because studies have shown it is a critical indicator for high school graduation and for the economic success of individuals and communities.

Tables 1 and 2, on pages 4 and 5, show the different risk factors identified in the research that impact educational outcomes.

Table 1: Risk Factors Identified in the Literature

	Authors						
	Ackerman (2006)	Foley (2008)	Gassman-Pines (2006)	Hanson (2004)	Kominski (2001)	Lima (2010)	Sepanski Whipple (2010)
Child Behavior	Prior Behavior, Cognitive Ability					Difficult Temperament	
Community Climate			Location of Residence	School Safety Environment <sup>1</sup>		Community Involvement, Neighborhood Social Climate	Building Quality, Neighborhood Crowding, Neighborhood Poverty, Vacant Buildings
Educational Risks	Maternal Education	Special Education Enrollment	Parent Education			Low Maternal Education <sup>1</sup>	Teacher Mobility, Teacher Inexperience, Student Mobility, Teacher Absences, Single Female Dropouts
Health	Child Illness <sup>1</sup>			Physical Activity <sup>1</sup> , Nutritious Intake <sup>1</sup> , Breakfast <sup>1</sup> , Substance Use <sup>1</sup> , Substance Availability <sup>1</sup>	Disability	Very Low Birth Weight, Parent Medical <sup>1</sup> , Maternal Depression, Smoking <sup>1</sup> , Low Cognitive Ability	
Household Characteristics	Residential Moves <sup>1</sup> , Family/Relationship Instability, Parent-Police Contacts <sup>1</sup> , Separation from Parent <sup>1</sup> , Harsh Parenting, Gender		Age of Youngest Child, Number of Children, Parent Age, Marital Status		Parents Foreign Born, Household Residents	Single Parent <sup>1</sup> , Child-to Adult Ratio High Life Stress <sup>1</sup> , Inter-Partner Violence, Child/Parent Hostility <sup>1</sup> , Harsh Parenting <sup>1</sup> , Parental Monitoring <sup>1</sup> , Parental Eliciting <sup>1</sup> , Parental Affection	Single Female Dropouts, Housing Problems
Race/Language					Language Ability	Race/Language	
Family Poverty	Income-to-needs ratio, Poverty Persistence <sup>1</sup>		Parent Earnings, Welfare Receipt		Parental Employment, Family Income	Economic Disadvantage	

1. The author uses this risk factor as part of a risk index. A risk index is a scale composed of several risk factors created for comparison purposes.

Table 2: Educational Outcomes Identified in Literature

		Authors						
		Ackerman (2006)	Foley (2008)	Gassman-Pines (2006)	Hanson (2004)	Kominski (2001)	Lima (2010)	Sepanski Whipple (2010)
Educational Outcomes	Child Behavior (in School and at home)	Standardized Teacher and Parent Assessment, Child Behavior Problems, Internalizing and Externalizing Behavior <sup>1</sup>	Attendance and Suspension	Child Behavior Problems, Externalizing Behavior <sup>1</sup>			Child Behavior Problems	
	Achievement	Standardized Math Teacher Assessment, Standardized English Teacher Assessment, Preschool Standardized Test	Enrollment in Pre-algebra and Algebra, Early Reading Proficiency, Overage/Under-credited, College Admission Test Scores, Student Engagement, Teacher and Principal Quality	Parent Math Assessment, Parent English Assessment, Child Internalizing and Externalizing Behavior	School-level academic performance based on Stanford Achievement Test (SAT-9) in reading, language, and mathematics		Child Internalizing and Externalizing Behavior <sup>1</sup>	3rd and 5th Grade Math Test, 3rd and 5th Grade English Test

1. Internalizing behavior are things like depressions, anxiety, and withdrawn behavior. Externalizing behavior are things like aggressive and delinquent behavior.



# Methodology

## Definition of Communities in Sonoma County

For this report, communities are defined as the geographic boundaries of the 37 Elementary and Unified School Districts in Sonoma County. The Roseland community, for example, is defined as the geographical boundaries of the Roseland Elementary School District.<sup>1</sup> There are three school districts with students in Sonoma County where districts belong to another county. These communities: Calistoga Unified (Napa), Shoreline Unified (Marin), and Laguna Joint School (Marin) Districts are not included in this analysis because the majority of people in these districts live in other counties. Sonoma County communities and their boundaries are shown in Map 1 on page 7.

## Local Data Sources

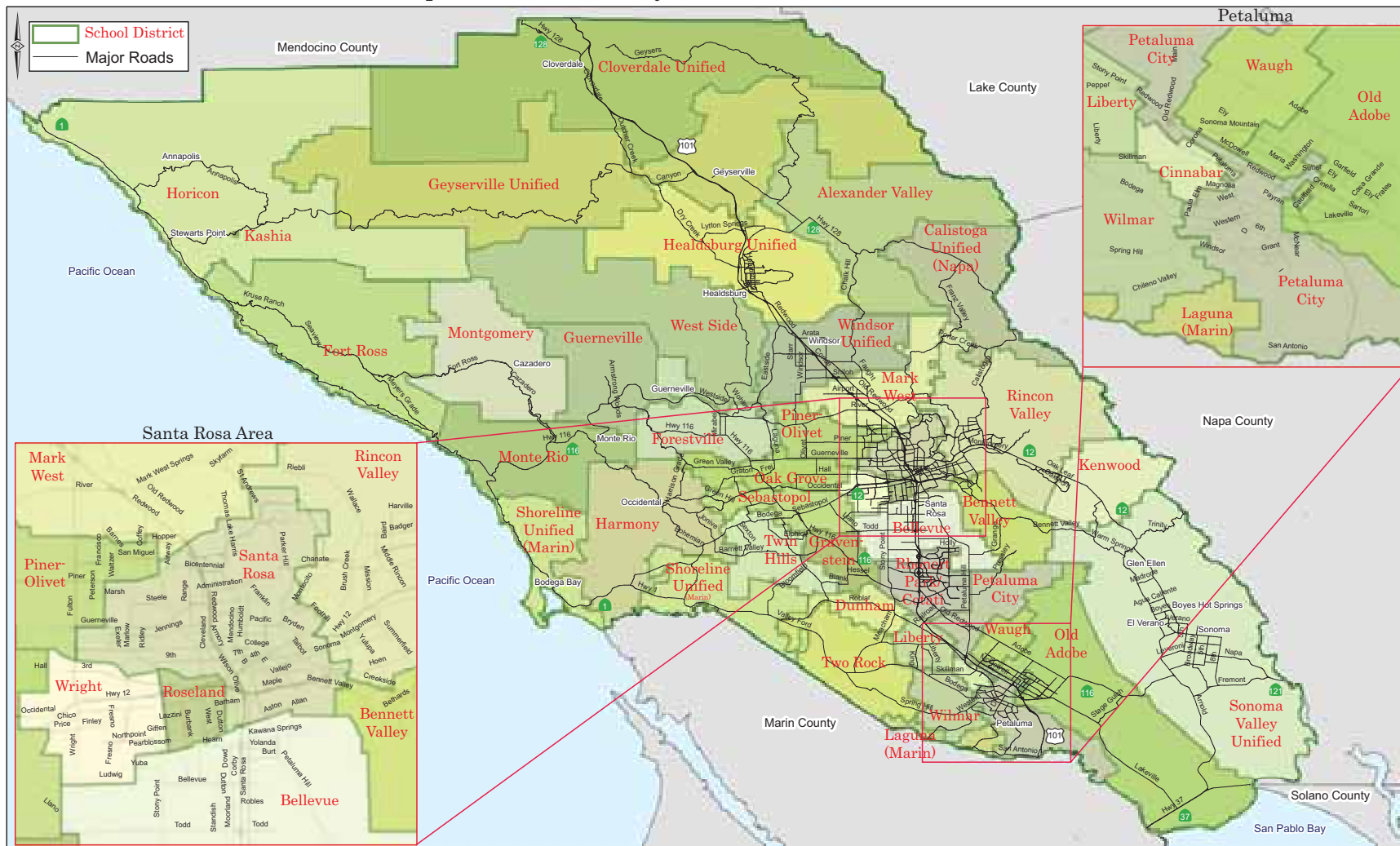
Local Data was collected with the attempt to maximize information about school age children, their families, and their educational outcomes. This report utilizes the Census Bureau’s American Community Survey 5-year Estimates because it gives demographic, social, and economic information for each of the communities and is the most current information available at that geographic level. The report used information from the California Department of Education’s web site to attain data on district staffing, suspension, truancy, and test results from the California STAR and Fitness Tests (CFT). Information was also gathered from Education Data Partnership, which provides fiscal, demographic, and performance data on California’s K-12 Schools. Finally, this report also uses HSD client data to get Child Welfare and CalFresh information. Table 3 shows the data sources utilized.

Table 3: Data Sources

Data Source		Location
ACS	2005-2009 American Community Survey 5-year Estimates	factfinder.census.gov
CBEDS	2009-2010 California Basic Educational Data System (CBEDS) Professional Assignment Information Form	data.cde.ca.gov
CEST	2009-2010 California Department of Education Expulsion, Suspension, and Truancy Information	data.cde.ca.gov
CFT	2009-2010 California Physical Fitness Test Results	data.cde.ca.gov
CST	2009-2010 California STAR Test Results	star.cde.gov
CalWIN	May 2011 CalWIN CalFresh Data Tables	Contact author concerning data
CWS/CMS	2009-2010 Human Services Department Child Welfare Database	Contact author concerning data
ED	2009-2010 Ed-Data Education Data Partnership Database	www.ed-data.k12.ca.us

1. Community Action is especially interested in the community of Roseland. The community of Roseland is not well defined and government and non-government agencies do not have a standard definition. This report looked at several definitions of Roseland with the goal of picking a definition that allowed the most data collection and the best comparisons. This report uses the elementary school district because it allowed the easiest collection of school and demographic data for the Roseland area and allowed for the comparison of this data against other school districts/communities in Sonoma County. Maps of all five options may be found in Appendix A, p. 19.

Map 1: Sonoma County School Districts/Communities



Data from County of Sonoma GIS, available online at [www.sonoma-county.org/prmd/gisdata](http://www.sonoma-county.org/prmd/gisdata).

## Risk Factors and Educational Outcomes

Risk factors and educational outcomes identified in the literature and with locally available data were chosen for analysis. Two examples illustrate this process, parent education and mathematics testing. Multiple researchers used parent education as a risk factor in their studies, particularly maternal education, however, local data is not available. Instead, the whole communities educational attainment is used. Similarly, researchers used mathematics testing as a leading educational outcome. Foley believes pre-algebra/algebra achievement is a leading educational indicator. In Sonoma County, algebra testing is conducted over several grade levels up to high school making aggregation at the community level difficult. Other research utilizes 3rd and 5th grade math test results, which is available locally and is used as an educational outcome in this report.

Table 4: Risk Factors Tested

Risk Factors	
Community Climate	% of Vacant Homes <sup>1</sup> % of Population Unemployed <sup>1</sup> % of Child Population with a Substantiated Child Abuse Allegation (Evidence has been found that supports a conclusion that the child has been abused). <sup>4</sup> % of Population Under 18 <sup>1</sup>
Race/Language	% of Population Hispanic or Latino <sup>1</sup> % of Minority Students in District <sup>2</sup> % of English Learner Students in District <sup>2</sup> % of Population That Speaks Spanish at Home <sup>1</sup> % of Population That Speaks Spanish at Home, Speaks English. Less Than Well <sup>1</sup>
Educational Risk	% of Population with out a Bachelor's Degree or Higher <sup>1</sup> % of Population without a High School Diploma <sup>1</sup> % of Inexperienced Teachers in District (Teachers with less than 5 years teaching) <sup>6</sup> % of Teachers New to a School District (Teachers with less than 2 years in a district) <sup>6</sup>
Health	% of 5th Graders Who Failed California Fitness Test <sup>3</sup> % of 5th Graders with Unhealthy Body Composition (Based on Body Mass Index and % Body Fat) <sup>3</sup>
Household Characteristics	% of Households with More Than 1 Person per Room <sup>1</sup> % of Households with 6 or More People <sup>1</sup> % of Children in Single Mother Families <sup>1</sup>
Family Poverty	% of Students Eligible for Free or Reduced Lunches <sup>2</sup> % of Children Below 185% of Poverty <sup>1</sup> % of Individuals Below 185% of Poverty <sup>1</sup> % of Population Receiving CalFresh <sup>3</sup>

Data Sources 1. ACS, 2. ED, 3. CalWIN, 4. CWS/CMS, 5. CFT 6. CBEDS. For full definitions of risk factors please see Appendix E on p. 27.

Table 5: Educational Outcomes Tested

Educational Outcomes	
Achievement	% Proficient or Above on 3rd Grade STAR Mathematics Test <sup>1</sup> % Proficient or Above on 5th Grade STAR Mathematics Test <sup>1</sup> % Proficient or Above on 3rd Grade STAR English/Language Arts Test <sup>1</sup> % Proficient or Above on 5th Grade STAR English/Language Arts Test <sup>1</sup>
Child Behavior (Education Related)	Suspension Rate <sup>2</sup> Truancy Rate <sup>2</sup>

Data Sources 1. CST, 2. CEST. For full definitions of educational outcomes please see Appendix E on p. 27.

## Statistical Significance

This report uses several methods of analysis, which rely on statistical significance. This includes correlations between risk factors and educational outcomes as well as descriptions of the differences between communities' risk factors and educational outcomes by cumulative risk score. One statistical test examines the relationship between each risk factor and each educational outcome. This test, known as a Pearson's Correlation or ( $r$ ), includes a probability or p-value. The p-value quantifies the probability that there really is no relationship between the risk factor and the outcome. This report uses a significance level (p-value) of .03<sup>2</sup>. In tables, statistical significance ( $p \leq .03$ ) is indicated by a shaded cell. Statistical significance means that there is a 97% likelihood that the relationship between risk factor and educational outcome is true. If the significance level is greater than .03, there is a greater chance that a relationship between the risk factor and educational outcome may not actually exist.

Analysis of Variance (ANOVA) is another test used in the report to compare the risk factors and educational outcomes for communities with different cumulative risk scores. Instead of measuring the probability of a relationship between risk factors and educational outcomes, the p-value for ANOVA quantifies the likelihood that there is a real difference in risk factors and educational outcomes between communities with different cumulative risk scores. The results of this test are shown with graphs and statistical significance is indicated by an asterisk\*.

## Cumulative Risk

Cumulative risk is utilized by many researchers studying child outcomes such as behavior and education. Gassman-Pines and Yoshikawa (2006) have shown that "the more risks children experience the worse their socioemotional and cognitive development." They define risk as, "biological and environmental conditions [factors] that increase the likelihood of later unfavorable outcomes." Sepanski Whipple define cumulative risk as "high exposure to risk on more than one factor." These and other researchers have shown there is a relationship between communities with higher levels of cumulative risk and worse educational achievement.

Local communities are compared using a cumulative risk model based on the model created by Sepanski Whipple. Cumulative risk is a way of understanding different factors in a child's environment and their cumulative relationship to unfavorable outcomes. In this model, risk means high exposure<sup>3</sup> and cumulative risk means high exposure to more than one factor. The model examines the relationship of risk to outcomes by quantifying the degree of exposure to risk in six areas: Community Climate, Health, Household Characteristics, Race/Language, Educational Risk, and Family Poverty.

For Sonoma County communities, 22 risk factors were evaluated. After statistical analysis, risk factors were chosen for reliability,<sup>4</sup> strength, and number of correlations. For the cumulative risk model, seven risk factors were chosen based on the strength and number of correlations with the educational outcomes.

2. The  $p \leq .03$  is an internal standard set by the Human Services Department. The more generally utilized significance level is .05.

3. For the purposes of this report, "high exposure," is defined as more than one standard deviation (SD) above the mean (M) of the factor. For instance, the average Percent of the Population Under 18 for all Sonoma County communities is 20% (M) and the Standard Deviation is 6%. Therefore, high exposure for communities is defined as 26% or higher for the % of Population Under 18 risk factor. The Roseland community has 28% of its population under 18 and would receive a Risk Factor of "1."

4. In order to test the reliability of the factors, a Cronbach's Alpha was run with the 15 risk factors with statistically significant correlations and variations therein. The seven variables chosen had a Cronbach's Alpha of .8. Generally, a value of .7 to .8 is an acceptable value. For more information about reliability tests see: SPSS Base 10.0 Applications Guide, SPSS, Inc., 1999, p.362. Field, Andy, *Discovering Statistics Using SPSS*, SAGE Publications, 2005, p. 673-676

The strength of a relationship between a risk factor and an educational outcome is illustrated as a value between 0 and 1 (r). Table 6 describes how to interpret this value and Table 7 shows these values.<sup>5</sup> Appendix B, on page 20, presents another way to understand these results, showing the determination values (r<sup>2</sup>).

Correlation (r)	Strength of Relationship
-1 to -.5 and .5 to 1	Strong
-.4 to -.5 and .4 to .5	Moderate
-.4 to .4	None or Weak

Table 7: Risk Factor and Educational Outcome Correlations (r)

		Risk Factors																						
		Community Climate				Health		Household Char.		Race/Language				Educational Risk				Family Poverty						
Educational Outcomes		Home Vacancy Rate	Unemployment Rate	% of Child Pop. w/ Subst. Child Abuse	<b>% Pop. Under 18</b>	% Failed 5th Grade	<b>% of 5th Grade w/ Unhealthy Body Comp.</b>	% of Households w/ >1 Person per Room	<b>% of Households w/ 6 or More People</b>	% Children w/ Single Moms	% Hispanic or Latino	<b>% Minority Students</b>	<b>% of English Learners Students</b>	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	<b>% of Pop w/ out a BA or Higher</b>	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New Teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	<b>% of Individuals Below 185% of Poverty</b>	% of Pop. Receiving CalFresh	
	Truancy Rate								.46															
	Suspension Rate															.50							.45	
	3rd STAR Eng.								-.57		-.47	-.53	-.62	-.42		-.44	-.40			-.65	-.51	-.59	-.42	
	3rd STAR Math						-.41			-.44														
	5th STAR Eng.				-.41				-.48		-.48	-.74	-.76	-.41		-.44			.54	-.65	-.45	-.45	-.49	
	5th STAR Math									-.45								.41						

Bolded Risk Factors are included in the Cumulative Risk Scale. Cells with shading have a statistically significant relationship (p ≤ .03). For these cells, there is > 97% probability that the strength of the relationship is real. A negative number indicates a negative relationship, meaning that as a risk value goes up, the educational outcome goes down, or vice versa. All other numbers indicate a positive relationship, meaning that as a risk value goes up the education outcome also increases, or vice versa.

Analysis showed several statistically significant negative correlations between risk factors and educational outcomes. This was particularly true for the 3rd and 5th Grade STAR English/Language Arts test results. Interestingly, there was less connection between the Risk Factors and Truancy Rates which only correlated with the % of Households with 6 or More People. Suspension Rates only correlated with % of Population without a Bachelor’s Degree or Higher and % of Individuals Below 185% of Poverty. Particularly surprising is that 3rd and 5th Grade Math Test results only correlated with the % of Children

5. Statisticians differ on how to categorize “strength” of correlations, however the reports definition falls within common guidelines. For more information visit [www.experiment-resources.com/statistical-correlation.html](http://www.experiment-resources.com/statistical-correlation.html). See Appendix B, page 20 for r<sup>2</sup> or outcome determination values.



with Single Mothers and the % of 5th Graders with an Unhealthy Body Composition. Also of interest is that the % of New Teachers to a District had a positive relationship with 5th Grade STAR Tests, meaning that as the percent of new teachers to a district increased, the number of students who score proficient or higher on the 5th Grade mathematics test increased.

Table 8 shows the seven risk factors chosen for the cumulative risk scale (in bold in Table 7 above) and the risk cut-off values. High exposure is defined as more than one standard deviation (SD) above the mean (M) of the factor. Table 8 shows the risk cut-off values.

Table 8: Risk Factors Chosen and Their Risk Cut-Off Values

	Community Climate	Demographics	Health	Household Char.	Language	Educational Risk	Family Poverty
	% Pop. Under 18	% Minority Students	% of 5th Graders w/ Unhealthy Body Composition	% of Households w/ 6 or More People	% of English Learner Students	% if Pop. w/ No BA	% of Indiv. Below 185% of Poverty
Mean	20%	44%	31%	4%	20%	67%	20%
Standard Deviation	6%	23%	15%	4%	18%	11%	9%
Risk Cut-Off Value	26%	67%	45%	7%	38%	78%	29%

Notes: The mean and standard deviation may not total the Risk Cut-Off due to rounding. In the analysis, both used four digits and the data presented here is rounded for ease of reading

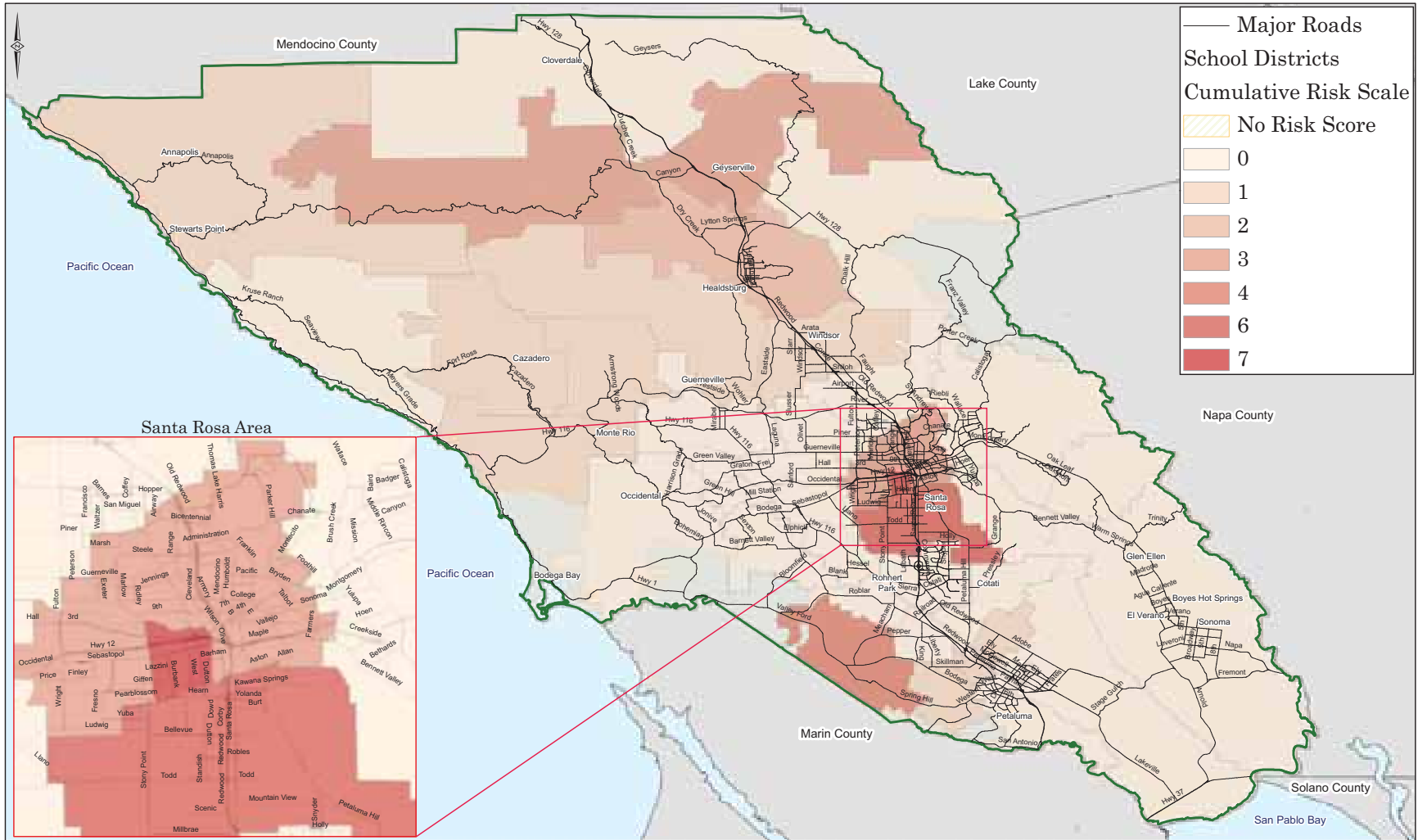
Using the selected factors, a cumulative risk score was calculated. Table 9 shows the communities risk score and Map 2, on page 12, shows where these communities are located.

Table 9: Cumulative Risk Score

	Community																																				
Cum. Risk	Alexander Valley	Bennett Valley	Cloverdale	Cotati-Rohnert Park	Dunham	Forestville	Fort Ross	Harmony	Gravenstein	Kenwood	Liberty	Mark West	Oak Grove	Old Adobe	Petaluma	Piner-Olivet	Rincon Valley	Sebastopol	Sonoma	Twin Hills	Cinnabar	Guerneville	Horicon	Monte Rio	Montgomery	Waugh	West Side	Wilmar	Windsor	Healdsburg	Geyserville	Kashia	Santa Rosa	Wright	Two Rock	Bellevue	Roseland
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	2	3	3	3	3	4	6	7

No community had 5 Risk Factors.

Map 2: Sonoma County Communities' Cumulative Risk Scores

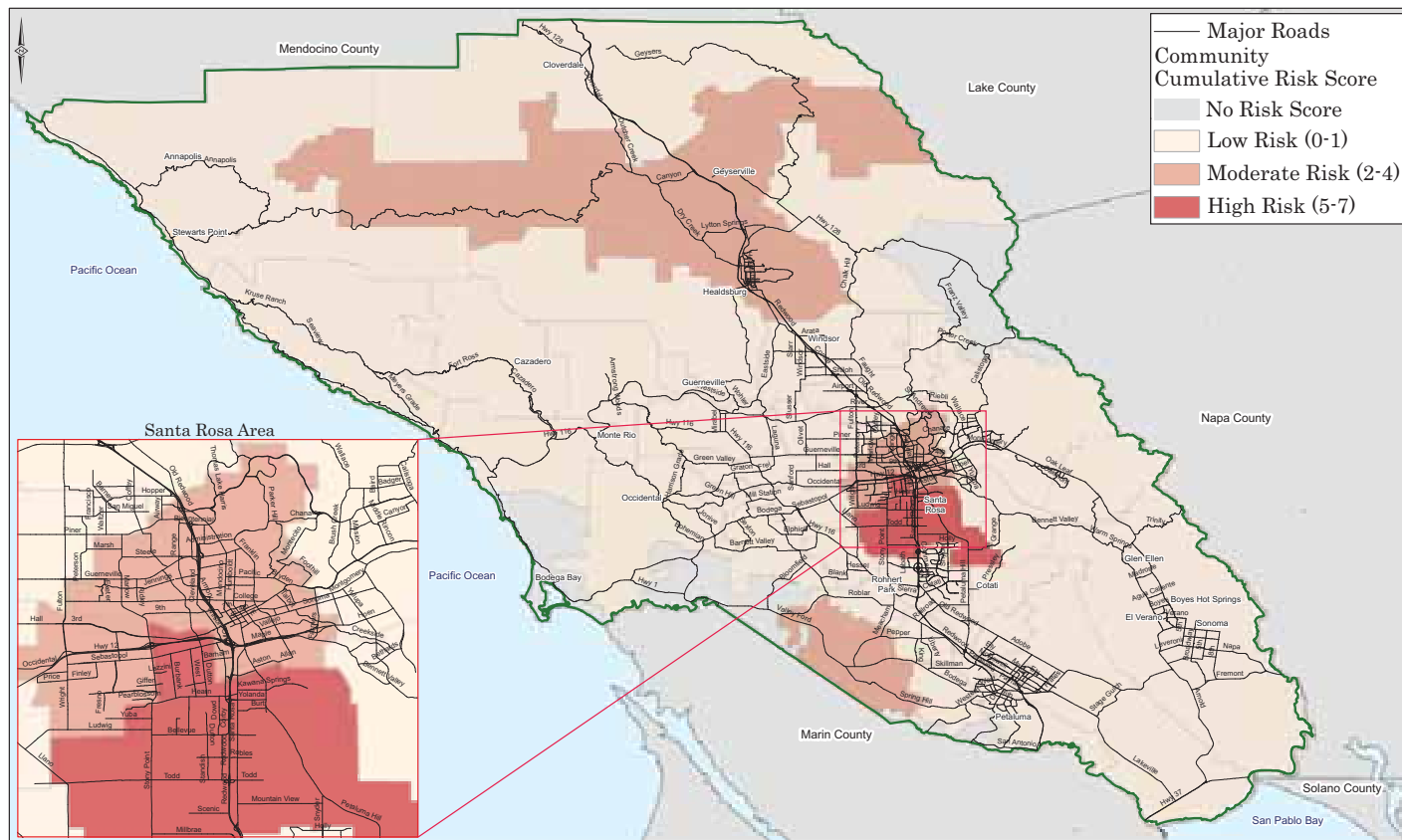


Using the cumulative risk score, communities were grouped into three categories of cumulative risk, which are used in the analysis to compare communities. These groupings were created to enhance analysis of communities and with the goal of reducing the variance within groups and maximizing the variance between groups. Table 10 and Map 3 shows these groupings.

Table 10: Cumulative Risk Groupings

Cumulative Risk Score	Risk Grouping
0-1	Low Risk
2-4	Moderate Risk
5-7	High Risk

Map 3: Sonoma County Community Cumulative Risk Score Groupings



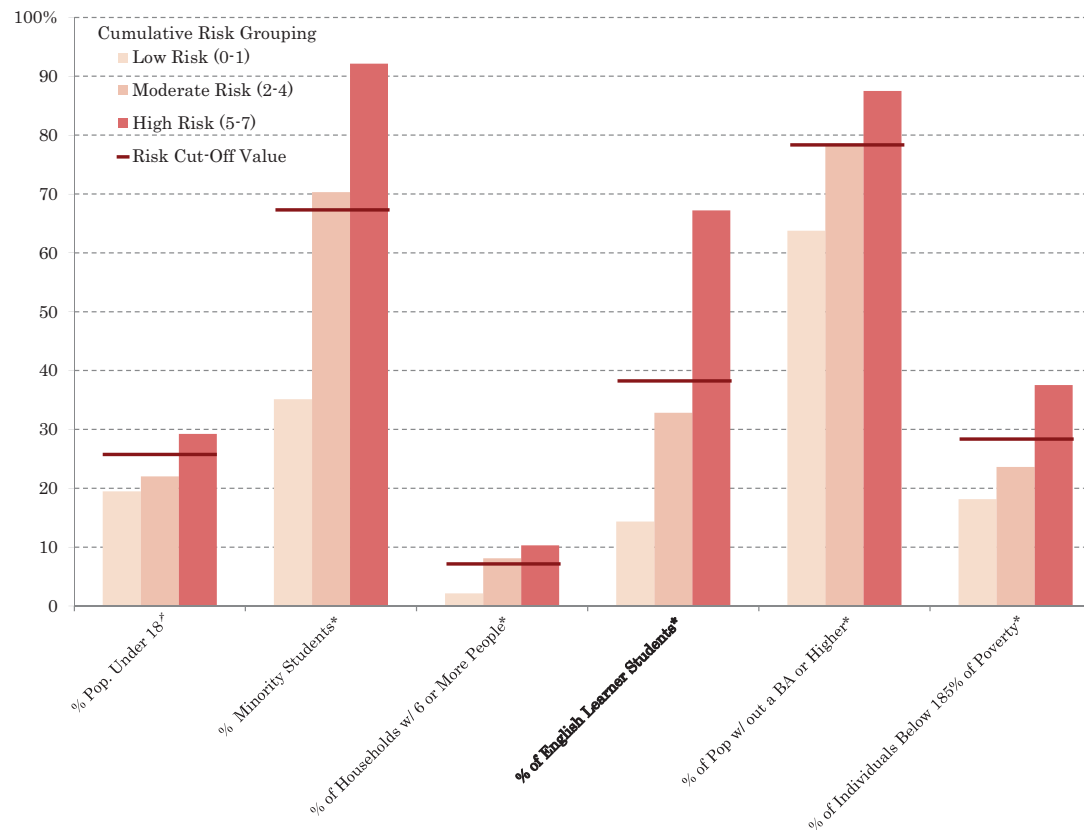


# Results

## Cumulative Risk

For comparison purposes, risk factors are presented into three groupings based on the cumulative risk score, Low Risk (0-1), Moderate Risk (2-4), and High Risk (5-7). The communities with high risk have statistically significant differences from the other groupings in all of their average risk factors except for the percent of 5th Graders with an unhealthy body composition. For a table of complete information, including risk factors not in the cumulative risk scale, see Appendix C, page 21.

Graph 1: Community Risk Factor Demographics by Cumulative Risk Score

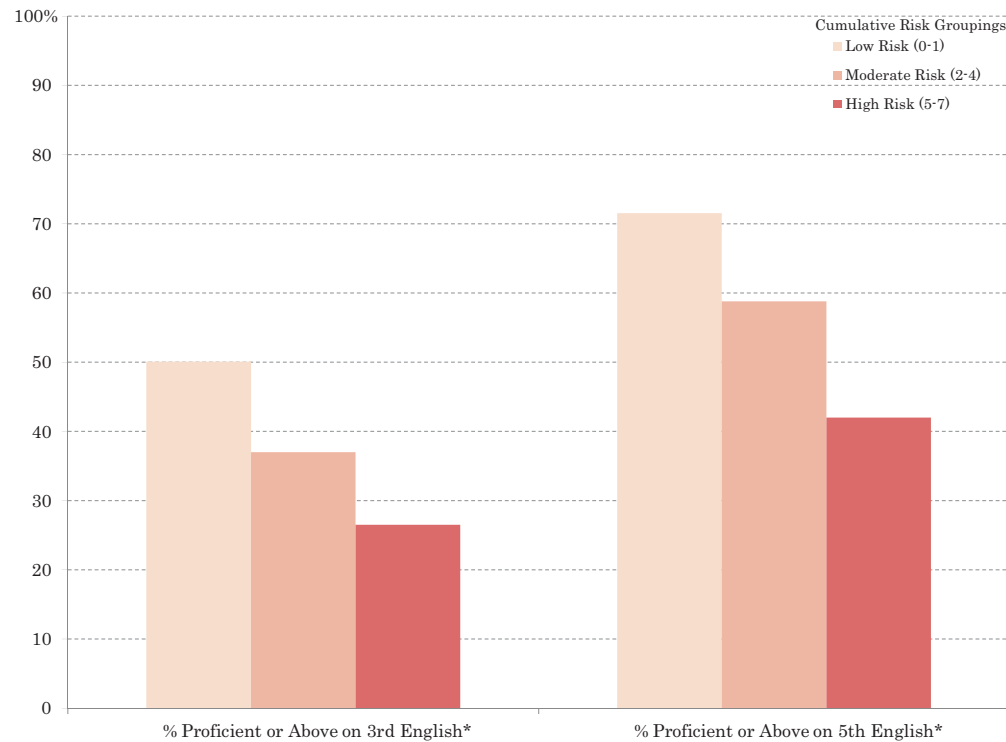


A \* denotes statistically significant differences at the  $p \leq .03$  level.  
 A † denotes statistically significant differences at the  $p \leq .05$  level.  
 See page 11 for definition of risk cut-off values.

## Educational Outcomes

Communities' educational outcomes are also presented by the cumulative risk score groupings. The three risk groupings only showed significant differences in their 3rd and 5th Grade English/Language Arts test results. This result is particularly interesting because other studies have found that communities with higher cumulative risk have statistically worse educational outcomes in more than just English testing. Appendix D on page 24 has a complete list of communities and their educational outcomes.

Graph 2: Educational Outcomes by Cumulative Risk Scale



A \* denotes statistically significant differences at the  $p \leq .03$  level.

## Cumulative Risk and Educational Outcomes

This report's second hypothesis examines the relationship between cumulative risk and educational outcomes. This report had mixed findings in this area. When community's cumulative risk score was correlated to educational outcomes only two of the outcomes had a statistically significant relationship to the cumulative risk score, 3rd and 5th Grade STAR English/Language

Arts test results. The fact that truancy and suspension rates as well as mathematics testing did not correlate is surprising given the results found in other studies in the literature review. Additionally, part of the cumulative risk score is the Percent of English Learner Students in a school district and the Education Code defines and English Learner as, “A student who does not speak English or whose native language is not English and who is not currently able to perform ordinary classroom work in English.”<sup>1</sup> It is only logical that a community with more of these students would perform worse at standardized English testing. After controlling for the percent of English Learner, there was not a statistically significant relationship between the STAR English/Language Arts Test results and cumulative risk.<sup>2</sup>

This result triggered a reexamination of the correlations found in the methodology section. Partial correlations were run for all variable and the risk factor with the greatest effect was the Percent of English Learners. There is a complex relationship between the Percent of English Learners and the other risk factors and the partial correlation test examines how much the effect of one risk factor coincides with another risk factor on educational outcomes. For outcome determination values (r<sup>2</sup>) please see Appendix E on page 26.

Table 11: Risk Factor and Educational Outcome Partial Correlations (r) Controlling for English Learner Students

		Risk Factors																					
		Community Climate				Health		Household Char.			Race/Language				Ed. Risk			Family Poverty					
		Home Vacancy Rate	Unemployment Rate	% of Child Pop. w/ Subst. Child Abuse	<b>% Pop. Under 18</b>	% Failed 5th Grade Failed Ca. Fit. Test	<b>% of 6th Grade w/ Unhealthy Body Comp.</b>	% of Households w/ >1 Person per Room	<b>% of Households w/ 6 or More People</b>	% Children w/ Single Moms	% Hispanic or Latino	<b>% Minority Students</b>	<b>% of English Learner Students</b>	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	<b>% of Pop w/ out a BA or Higher</b>	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	<b>% of Individuals Below 185% of Poverty</b>	% of Pop. Receiving CalFresh
Educational Outcomes	Truancy Rate		-.44					.49				.44											
	Suspension Rate														.44								
	3rd STAR Eng	-.43						-.45											-.48	-.41			
	3rd STAR Math								-.43														
	5th STAR Eng											-.48							-.44				
	5th STAR Math								-.45				.39										

Bolded Risk Factors are included in the Cumulative Risk Scale. Cells with shading have a statistically significant relationship (p ≤ .03). For these cells, there is ≥97% probability that the relationship is real.

The results show only 13 statistically significant relationships between risk factors and educational outcomes when controlling for the percent of English Learner Students. The original examination showed 34 relationships, indicating that the changes in

1 Education Code Section 306(a).

2 The relationship was tested using Analysis of Covariance (ANCOVA).

educational outcomes explained by many risk factors coincide with the effect of the English Learner Students. This result is not wholly unexpected given the definition of an English Learner, someone who has difficulty receiving instruction in English and that many of the statistically significant correlations dealt with proficiency in the English Language. Three risk factors that kept their significance after controlling for English Learners were % of Children with a Single Mothers, % of Households with 6 or more People, and % of Students with Free or Reduced Lunches. Additionally, the % of Children with Single Mothers was the only risk factor that correlated to mathematics testing.

These results underscore the importance of English Language skills and suggests that these skills act as a protective factor in school achievement. Jessor (2008) explains that a protective factor, “enhances the likelihood of positive outcomes and lessens the likelihood of negative consequences from exposure to risk.” Although further analysis must be done to fully understand the impact of English learning on educational outcomes, these findings indicate that students’ English language proficiency outweighs other risk factors that influence educational outcomes.

## **Limitations**

Several limitations may have influenced the results found in this report.

1. This report used risk factors and educational outcomes that could be aggregated at the community/school district level, which had a limiting effect on available risk factors and educational outcomes.
2. This report focused on data from the 2009-2010 school year, multi-year analysis might make relationships more clear.
3. Community level data such as unemployment rate and poverty rates were only available as 5-year estimates.
4. Educational outcome data focused on STAR test results in two grade levels, 3rd and 5th, which for many smaller school districts is a relatively small amount of students. Other standardized tests and results from other grade levels might help clarify the relationships between cumulative risk and educational outcomes.
5. The report focused solely on education outcomes. Other outcomes such as crime, substance abuse, public assistance, or other areas might show clearer relationships.
6. The reports construct meant that variables needed to be assigned to either a risk factor or an outcome, when in reality they could be both, such as % of Substantiated Child Abuse Allegations.

# Conclusions

After examining Sonoma County's communities' risk factors and educational outcomes, five conclusions can be drawn.

**First**, this report confirmed the first hypothesis, that Sonoma County Communities differ in demographics, risk factors, and educational outcomes. Communities showed statistically significant differences based on their cumulative risk groupings. The communities with the highest risk, Roseland and Bellevue had many statistically significant higher risk factors and worse 3rd and 5th grade English achievement. These communities' English/Language Arts Testing results were among the worst in Sonoma County, which is particularly noteworthy because researchers have found that early reading skills highly predict high school graduation rates and affect economic opportunities for students and their communities.

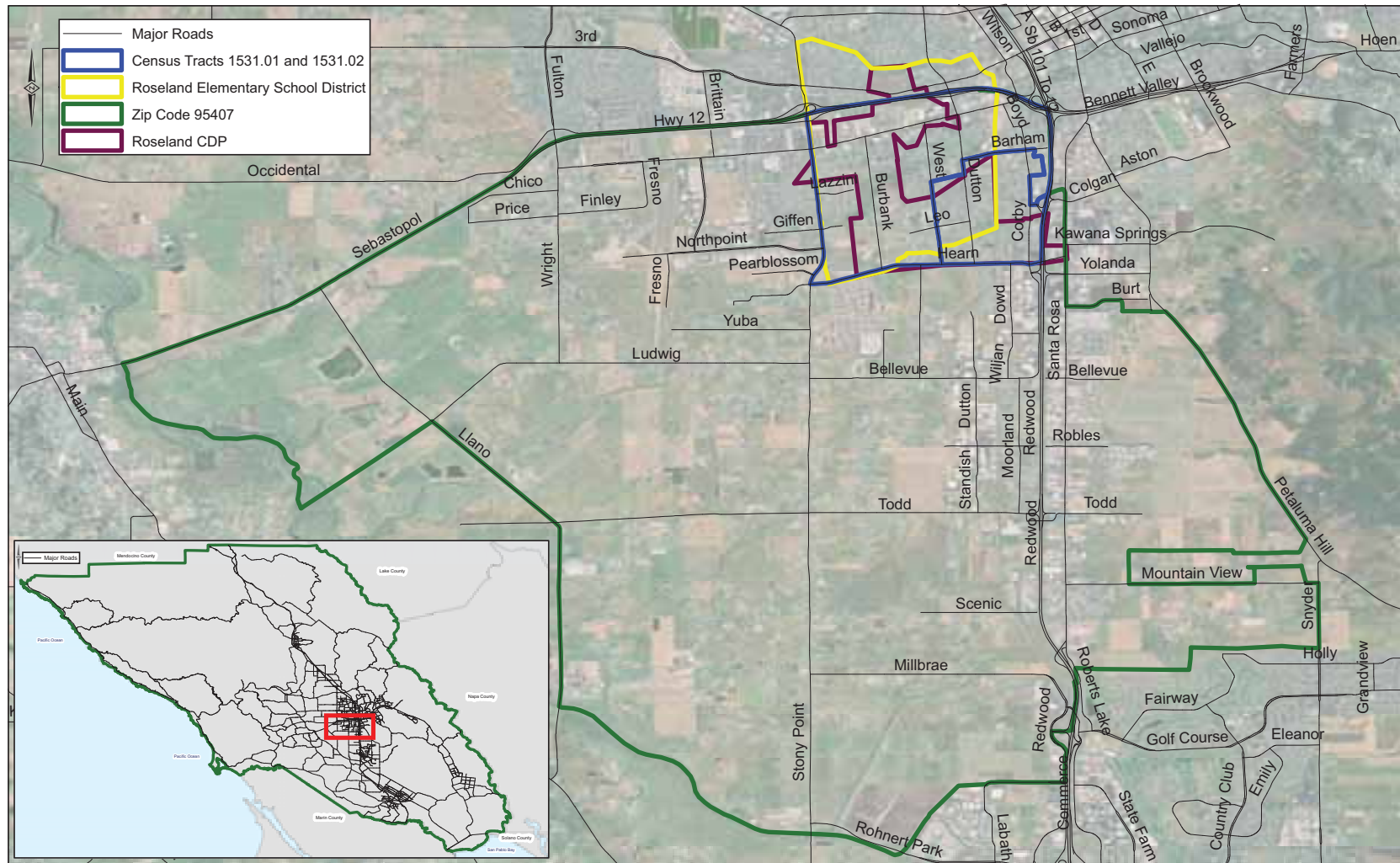
**Second**, this report provides more information about the community of Roseland and the geographic area it encompasses. It may be useful to include the Bellevue community as part of the Roseland project because of their close proximity and similarities. The communities border each other, had the highest cumulative risk scores, and had similar risk factors and educational outcomes. Given the purpose of the Roseland project to positively affect several educational, health, and economic indicators, both the Roseland and Bellevue communities show the highest need in the county and should be considered in planning interventions.

**Third**, this report has mixed findings when examining the second hypothesis, that cumulative risk is related to worse educational outcomes. Cumulative risk was related to worse English/Language Arts outcomes, but it was not related to Suspension, Truancy, or Mathematics outcomes. The lack of relationships with several educational outcomes is interesting because research has shown these relationships exist in other communities. This indicates more research needs to be done to understand the factors that affect suspensions, truancies, English, and mathematics outcomes in Sonoma County.

**Fourth**, notwithstanding the findings in numbers 2 and 3, cumulative risk is still a promising method to objectively identify and describe differences in communities. Using this concept, cumulative risk factors could be used to examine communities, risk factors, and outcomes in areas such as health, economic success, or criminal justice.

**Finally**, a complex relationship was found between the percent of English Learner Students, cumulative risk, and educational outcomes. After controlling for the percent of English Learner Students in a community, the cumulative risk scale did not correlate with any educational outcomes and many individual risk factors lost their statistically significant relationships with educational outcomes. The impact of controlling for English Learners suggests that the ability for students to receive instruction in English acts as a protective factor against the other risk factors tested here. These findings highlights the need for communities to improve the English proficiency of their youth. Further research in this area is indicated, and the California English Language Development Test (CELDT) may prove useful. This test identifies students with limited English proficiency, determines the level of English language proficiency of those students, and assess the progress of limited English-proficient students in acquiring the skills of listening, speaking, reading, and writing in English

# Appendix A: Roseland Community Definitions





# Appendix B: Risk Factor and Educational Outcome Determination

The table on this page reports the percentage of change in one variable that can be explained by a change in another variable ( $r^2$ ). For example, 55% of the change in 5th Grade English STAR test results can be explained by the change in the percent of Minority Students.

Table 7: Risk Factor and Educational Outcome Determination ( $r^2$ ) Values

		Risk Factors																						
		Community Climate				Ch. Health		Household Char.			Race/Language				Ed. Risk				Family Poverty					
Educational Outcomes		Home Vacancy Rate	Unemployment Rate	% of Child Pop. w/ Subst. Child Abuse	<b>% Pop. Under 18</b>	% Failed 5th Grade Failed Ca. Fit. Test	<b>% of 5th Grade w/ Unhealthy Body Comp.</b>	% of Households w/ >1 Person per Room	<b>% of Households w/ 6 or More People</b>	% Children w/ Single Moms	% Hispanic or Latino	<b>% Minority Students</b>	<b>% of English Learner Students</b>	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	<b>% of Population with out a BA</b>	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	<b>% of Individuals Below 186% of Poverty</b>	% of Pop. Receiving CalFresh	
	Truancy Rate								.21															
	Suspension Rate															.25							.20	
	3rd STAR Eng								.32		.22	.28	.38	.18		.19	.16			.42	.26	.35	.18	
	3rd STAR Math					.17				.19														
	5th STAR Eng				.17				.23		.23	.55	.58	.17		.19			.29	.42	.20	.20	.24	
	5th STAR Math									.20									.17					

Bolded Risk Factors are included in the Cumulative Risk Scale. Cells with shading have a statistically significant relationship ( $p \leq .03$ ). For these cells, there is  $\geq 97\%$  probability that the relationship is real. A dark red cell indicates a strong relationship, a lighter red cell indicates a moderate relationship, a white cell indicates no or a weak relationship.

# Appendix C: Community Risk Factor Demographic Table

Table: Community Risk Factor Demographics by Cumulative Risk Score

Cumulative Risk Score	Community	Risk Factors																					
		Community Climate				Health		Demographics		Household Comp./Parenting			Language			Educational Risk				Poverty/Nutrition Assistance			
		Home Vacancy Rate %	Unemployment Rate %	% of Child Pop. w/ Subst. Child Abuse	% Pop. Under 18	% Failed 5th Grade Failed Ca. Fit. Test	% of 5th Grade w/ Unhealthy Body Comp.	% Hispanic or Latino	% Minority Students	% of Households w/ >1 Person per Room	% of Households w/ 6 or More People	% Children w/ Single Moms	% of English Learner Students	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	% of Pop w/ out a BA or Higher	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	% of Individuals Below 185% of Poverty	% of Pop. Receiving CalFresh
7	Roseland	2	7	1.8	28	75	46	55	96	7	10	28	62	46	45	93	36	54	26	88	46	36	15
6	Bellevue	7	6	1.4	31	90	36	42	88	4	10	14	72	33	37	82	27	32	12	92	50	39	14
5-7	High Risk Average	5	6	1.6	29	82	41	48	92	5	10	21	67	39	41	88	31	43	19	90	48	38	14
4	Two Rock	5	1	0	27	46	8	26	43	5	8	11	31	17	58	80	16	23	15	55	49	40	4
3	Geyserville	15	4	2.4	17	0	63	43	61	2	5	13	39	37	42	79	28	0	10	57	35	23	3
3	Kashia	0	0.0	0.0	16	0	na	0	100	0	19	0	0	0	na	94	28	0	0	100	0	0	0
3	Santa Rosa	7	5	1.3	23	71	37	30	71	2	4	23	46	22	43	73	18	24	11	68	40	32	11
3	Wright	7	6	0.1	25	82	33	34	75	6	8	11	42	26	43	78	22	20	10	71	24	23	9
2	Healdsburg	8	3	0.3	25	91	33	29	72	1	6	21	39	20	39	66	15	7	10	53	30	23	5
2-4	Moderate Risk Average	7	3	.8	22	48	35	27	70	3	8	13	33	20	45	78	21	12	9	70	30	24	5
1	Cinnabar	7	4	0.2	25	59	20	33	60	3	4	9	54	24	49	68	15	14	7	74	36	24	2
1	Guerneville	27	6	.5	17	94	39	8	27	6	1	17	16	3	16	72	14	6	6	58	34	32	7
1	Horicon	68	4	2.6	7	na	na	14	69	5	2	19	0	11	61	48	7	50	50	78	58	20	2
1	Monte Rio	46	7	1.3	9	31	8	0	15	5	1	25	2	0	na	65	3	33	33	73	55	30	7
1	Montgomery	50	4	1.8	16	na	na	4	41	4	1	14	0	2	0	65	6	0	33	24	57	36	4
1	Waugh	0	3	0.2	30	49	20	23	35	12	2	17	15	15	28	63	16	6	2	13	11	13	3
1	West Side	28	4	0	20	92	79	25	22	5	1	31	6	24	27	52	15	25	25	12	17	15	3

na- means not available. Red colored squares means the risk factor is included in the Cumulative Risk Score.



Table: Community Risk Factor Demographics by Cumulative Risk Score

		Risk Factors																					
		Community Climate				Health		Demographics		Household Comp./Parenting			Language			Educational Risk				Poverty/Nutrition Assistance			
Cumulative Risk Score	Community	Home Vacancy Rate %	Unemployment Rate %	% of Child Pop. w/ Subst. Child Abuse	% Pop. Under 18	% Failed 5th Grade Failed Ca. Fit. Test	% of 5th Grade w/ Unhealthy Body Comp.	% Hispanic or Latino	% Minority Students	% of Households w/ > 1 Person per Room	% of Households w/ 6 or More People	% Children w/ Single Moms	% of English Learner Students	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	% of Pop w/ out a BA or Higher	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	% of Individuals Below 185% of Poverty	% of Pop. Receiving CalFresh
1	Wilmar	8	3	1.1	20	53	47	9	23	1	2	3	11	7	24	70	8	9	9	26	5	7	3
1	Windsor	4	4	0.4	29	86	29	29	41	2	7	14	18	20	27	6	16	10	5	35	24	19	5
0	Alexander Valley	22	5	0.0	14	na	na	52	29	4	3	0	22	46	65	77	40	14	43	23	15	20	2
0	Bennett Valley	4	3	1.2	19	57	26	9	30	4	2	22	05	06	41	57	7	20	14	15	14	13	3
0	Cloverdale	9	4	0.6	24	35	27	26	55	3	3	18	27	20	43	75	19	11	2	54	34	24	6
0	Cotati-Rohnert Park	4	5	0.7	22	75	30	18	51	1	3	20	19	11.	29	74	10	9	6	34	24	23	6
0	Dunham	13	7	2.3	18	29	25	2	20	2	4	2	11	1	100	63	4	27	27	22	6	5	3
0	Forestville	19	3	1.1	15	64	18	8	29	2	1	18	9	4	24	62	11	20	20	33	20	17	4
0	Fort Ross	49	2	1.2	9	na	na	4	18	0	0	33	11	2	31	48	7	40	0	16	26	19	2
0	Gravenstein	11	4	.3	17	71	32	3	18	14	1	13	7	1	36	61	7	37	42	16	15	14	3
0	Harmony	14	4	.4	18	na	na	5	32	2	0	23	2	2	74	50	4	13	27	12	28	21	2
0	Kenwood	8	1	.5	12	28	8	6	17	1	1	0	3	4	40	49	1	8	17	13	41	16	1
0	Liberty	5	2	0	25	33	18	13	37	0	4	1	2	10	02	66	6	10	20	22	6	11	3
0	Mark West	8	3	1.2	24	72	38	16	36	1	4	16	15	9	30	69	10	11	13	32	25	18	6
0	Oak Grove	4	2	.5	24	31	15	16	33	1	2	8	10	14	40	71	17	15	27	26	10	11	3
0	Old Adobe	6	5	.2	23	64	19	21	46	5	2	12	32	17	34	67	13	11	8	39	19	15	3
0	Petaluma	7	4	.6	22	81	25	17	39	0	2	12	27	12	33	66	9	21	19	34	20	17	5
0	Piner-Olivet	7	5	.5	24	73	33	21	56	7	3	22	29	14	28	76	13	11	11	46	29	23	5
0	Rincon Valley	6	4	.7	21	54	25	14	37	1	2	26	13	8	30	61	9	28	13	33	22	17	5

na- means not available. Red colored squares means the risk factor is included in the Cumulative Risk Score.

Table: Community Risk Factor Demographics by Cumulative Risk Score

		Risk Factors																					
		Community Climate				Health		Demographics		Household Comp./Parenting			Language			Educational Risk				Poverty/Nutrition Assistance			
Cumulative Risk Score	Community	Home Vacancy Rate %	Unemployment Rate %	% of Child Pop. w/ Subst. Child Abuse	% Pop. Under 18	% Failed 5th Grade Failed Ca. Fit. Test	% of 5th Grade w/ Unhealthy Body Comp.	% Hispanic or Latino	% Minority Students	% of Households w/ > 1 Person per Room	% of Households w/ 6 or More People	% Children w/ Single Moms	% of English Learner Students	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	% of Pop w/ out a BA or Higher	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	% of Individuals Below 185% of Poverty	% of Pop. Receiving CalFresh
0	Sebastopol	7	4	.6	21	48	35	14	27	3	3	24	11	8	29	64	12	14	14	30	26	19	5
0	Sonoma	12	4	.9	19	70	36	19	58	2	2	13	33	15	35	63	16	19	14	51	24	20	4
0	Twin Hills	13	3	0	20	80	21	4	19	4	2	7	5	3	77	50	6	14	14	12	10	8	3
0-1	Low Risk Average	12	4	.7	20	57	31	15	33	3	2	15	14	11	40	63	11	17	18	27	20	16	4

na- means not available. Red colored squares means the risk factor is included in the Cumulative Risk Score.

# Appendix D: Community Educational Outcomes Demographic Table

Table: Educational Outcomes by Cumulative Risk Score

Culm Risk	Community	Child Behavior		Education			
		Suspension Rate %	Truancy Rate %	% Proficient or Above on 3rd Math	% Proficient or Above on 5th Math	% Proficient or Above on 3rd English	% Proficient or Above on 5th English
6	Bellevue	9	37	64	66	24	39
6	Roseland	6	28	64	62	29	45
5-6	High Risk Average	10	32	64	64	27	42
4	Two Rock	0	16	63	77	12	77
3	Kashia	na	73	na	na	na	na
3	Santa Rosa	0	12	60	55	41	56
3	Wright	5	16	78	69	38	70
2	Geyserville	7	0	62	56	56	50
2	Healdsburg	7	38	65	48	38	41
2-4	Moderate Risk Average	6	34	66	61	37	59
1	Cinnabar	na	na	56	44	24	39
1	Guerneville	12	14	81	62	55	63
1	Horicon	na	na	59	na	42	na
1	Monte Rio	0	4	na	61	na	92
1	Montgomery	0	36	na	na	na	na
1	Waugh	4	11	85	62	73	84
1	Windsor	8	5	70	54	50	62
0	Alexander Valley	na	na	83	94	44	94
0	Bennett Valley	5	4	71	76	64	78
0	Cloverdale	14	9	53	43	35	39
0	Cotati-Rohnert Park	8	8	70	55	50	57
0	Dunham	na	na	52	60	31	65
0	Forestville	7	24	60	64	34	64
0	Fort Ross	0	66	na	na	na	na

na- means not available. Red colored squares means the Risk Factor is included in the Cumulative Risk Score.

Table: Educational Outcomes by Cumulative Risk Score

		Child Behavior		Education			
Culm Risk	Community	Suspension Rate %	Truancy Rate %	% Proficient or Above on 3rd Math	% Proficient or Above on 5th Math	% Proficient or Above on 3rd English	% Proficient or Above on 5th English
0	Gravenstein	3	19	75	70	65	85
0	Harmony	1	11	70	60	59	87
0	Kenwood	4	28	95	76	69	76
0	Liberty	na	na	94	96	64	92
0	Mark West	5	36	72	75	47	75
0	Monte Rio	0	4	na	61	na	92
0	Montgomery	0	36	na	na	na	na
0	Oak Grove	6	5	74	77	62	85
0	Old Adobe	7	7	67	50	41	66
0	Petaluma	4	8	69	55	49	70
0	Piner-Olivet	4	14	66	62	42	60
0	Rincon Valley	3	1	78	72	64	70
0	Sebastopol	8	27	45	41	43	66
0	Sonoma	3	12	53	44	35	39
0	Twin Hills	1	3	60	74	57	77
0	West Side	na	na	45	66	40	74
0	Wilamr	2	26	76	87	63	81
0-1	Low Risk Average	7	17	68	64	50	72

na- means not available. Red colored squares means the Risk Factor is included in the Cumulative Risk Score.

# Appendix D: Community Educational Outcomes Demographic Table

The table on this page reports the percentage of change in one variable that can be explained by a change in another variable ( $r^2$ ). For example, 24% of the change in Truancy Rate can be explained by the change in the percent of Households with 6 or more People.

Table: Risk Factor and Educational Outcome Determination ( $r^2$ ) Values Controlling for English Learner Students

		Risk Factors																						
		Community Climate				Health		Household Char.			Race/Language				Ed. Risk			Family Poverty						
Educational Outcomes		Home Vacancy Rate	Unemployment Rate	% of Child Pop. w/ Subst. Child Abuse	<b>% Pop. Under 18</b>	% Failed 5th Grade Failed Ca. Fit. Test	<b>% of 5th Grade w/ Unhealthy Body Comp.</b>	% of Households w/ >1 Person per Room	<b>% of Households w/ 6 or More People</b>	% Children w/ Single Moms	% Hispanic or Latino	<b>% Minority Students</b>	<b>% of English Learner Students</b>	% of Pop. That Speaks Spanish at Home	% of Sp. Speakers Speak Eng. < Well	<b>% of Pop w/ out a BA or Higher</b>	% if Pop. w/ No HS Diploma	% of Inexperienced Teachers (<5 years)	% of New teachers to District (<2 years)	% of Students w/ Free or Reduced Lunches	% of Children Below 185% of Poverty	<b>% of Individuals Below 185% of Poverty</b>	% of Pop. Receiving CalFresh	
	Truancy Rate		.19						.24			.20												
	Suspension Rate															.19								
	3rd STAR Eng	.19							.20											.23	.17			
	3rd STAR Math									.19														
	5th STAR Eng											.24								.20				
	5th STAR Math									.20				.15										

Bolded Risk Factors are included in the Cumulative Risk Scale. Cells with shading have a statistically significant relationship ( $p \leq .03$ ). For these cells, there is  $\geq 97\%$  probability that the relationship is real.

## Appendix E: Risk Factor and Educational Outcome Definitions

Risk Factor and Educational Outcome		Definitions
Community Climate	% of Vacant Homes	The amount of housing unit that are vacant, defined as no one is living in the unit at the time of the survey, divided by the total number of houses in a community.
	% of Population Unemployed	The number of individuals over 16 years old who are classified as unemployed divided by the population over 16.
	% of Child Population with a Substantiated Child Abuse Allegation.	The amount of child abuses referrals where evidence has been found that supports a conclusion that the child has been abused divided by the number of children under 18 in a community.
	% of Population Under 18	The number of individuals under 18 divided by the total population.
Race/Language	% of Population Hispanic or Latino	The number of Hispanic or Latino individuals divided by the total population.  Origin can be viewed as the heritage, nationality group, lineage, or country of birth of the person or the person's parents or ancestors before their arrival in the United States. People who identify their origin as Spanish, Hispanic, or Latino may be of any race.
	% of Minority Students in District	The number of minority students divided by the total number of students in a school district.
	% of English Learner Students in District	The number of English learner students in a district divided by the total students.  The Education code defines an English learner as "A student who does not speak English or whose native language is not English and who is not currently able to perform ordinary classroom work in English."
	% of Population That Speaks Spanish at Home	The number of Spanish speakers divided by the total population.
	% of Population That Speaks Spanish at Home, Speaks English. Less Than Well	The number of Spanish speakers who speak English "less than well" divided by the total number of Spanish speakers.
Educational Risk	% of Population with out a Bachelor's Degree or Higher	The number of individuals 15 years and older who do not have a bachelor's degree divided by the population 15 years and over.
	% of Population without a High School Diploma	The number of individuals 15 years and older who do not have a high school diploma or equivalent divided by the population 15 years and over.
	% of Inexperienced Teachers in District (Teachers with less than 5 years teaching)	The number of teachers in a district who have less than 5 years teaching experience divided by the total number of teachers in a district.
	% of Teachers New to a School District (Teachers with less than 2 years in a district)	The number of teachers in a district who have taught for less than two years in a district divided by the total number of teachers in a district.

Risk Factor and Educational Outcome		Definitions
Health	% of 5th Graders Who Failed California Fitness Test	The number of students who failed the California Fitness Test divided by the total number of students who took the test.
	% of 5th Graders with Unhealthy Body Composition	The number of students with an unhealthy body composition on the California Fitness Test divided by the total students who took the California Fitness Test.  The test is based on Body Mass Index and % Body Fat.
Household Characteristics	% of Households with More Than 1 Person per Room	The number of households with more than 1 person per room divided by the total number of households in a community.  The Census excludes ““Bathrooms, laundry rooms, utility rooms, pantries, and unfinished rooms” from its definition of a room.
	% of Households with 6 or More People	The number of households with 6 or more people divided by the total households in a community.  The Census defines, “A household includes all the people who occupy a housing unit as their usual place of residence.
	% of Children in Single Mother Families	The number of families with children under 18 with a female householder, no husband present divided by the number of families with children under 18 in a community.  The Census defines a family as, “A group of two or more people who reside together and who are related by birth, marriage, or adoption.”
Family Poverty	% of Students Eligible for Free or Reduced Lunches	The number of students eligible for free or reduced lunches divided by the total number of students in a district.
	% of Children Below 185% of Poverty	The number of children under age 18 whose families are below 185% of the poverty threshold divided by total number of children.  The poverty threshold is determined based on the size of family and number of related children under 18 years and then applied to all members of the family.
	% of Individuals Below 185% of Poverty	The number of individuals whose families are below 185% of the poverty threshold divided by total number of individuals.  The poverty threshold is determined based on the size of family and number of related children under 18 years and then applied to all members of the family.
	% of Population Receiving CalFresh	The number of clients in a community who were eligible for CalFresh in June 2010 divided by the total population in a community.

Risk Factor and Educational Outcome		Definitions
Achievement	% Proficient or Above on 3rd Grade STAR Mathematics Test	
	% Proficient or Above on 5th Grade STAR Mathematics Test	
	% Proficient or Above on 3rd Grade STAR English/ Language Arts Test	
	% Proficient or Above on 5th Grade STAR English/ Language Arts Test	
Child Behavior	Suspension Rate	The number of suspensions divided by the enrollment for a district.
	Truancy Rate	Number of truants divided by the enrollment of a district. Truants are defined as the number of students with unexcused absences or tardy on 3 or more days.



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**Published by**

Human Services Department  
Information Integration Division  
*technology • data • planning • outreach*  
3600 Westwind Boulevard  
Santa Rosa, Ca 95402  
707.565.5817

August 19, 2011