

Are Student Health Risks and Low Resilience Assets an Impediment to the Academic Progress of Schools?¹

In an earlier report (*CHKS Factsheet 1*), we described how student health risk and resilience are *concurrently* related to scores on California's Academic Performance Index (API), a summary measure of academic performance for schools that is the cornerstone of the state's educational accountability system. The results from these analyses indicated that health risk and resilience are consistently related to school API scores in expected ways. Schools with large percentages of students who engage in risky behavior, are exposed to health risks, or who have low levels of developmental supports (resilience assets) have lower API scores than other schools.

In this report, we extended the analysis by examining how student health risk and resilience are related to the *academic progress* of schools by investigating how these factors are related to subsequent *changes* in academic performance. We also examined whether or not student health risk factors are differentially related to changes in academic performance in low- and high-performing schools. Because low-performing schools are facing intense pressure to increase test scores, often by cutting back on ancillary programs and courses that address the comprehensive health needs of children—it is especially important to demonstrate that the relationships of health risk and resilience to academic performance found in the state as a whole also apply to low performing schools. These analyses speak to the question of whether or not health-related programs and activities that address non-cognitive barriers to learning are an important tool in the arsenal for turning around low-performing schools.

Results

The analyses suggest that health risk and low levels of resilience assets do impede the progress of schools in raising test scores.

- **Physical Activity and Nutrition.** California schools with high percentages of students who did not routinely engage in healthy eating (**Figure 1**) and physical activity had smaller subsequent gains in test scores than other schools. Moreover, physical activity and nutrition had equally beneficial consequences for academic progress in low- and high-performing schools.
- **Substance Use.** Schools with large numbers of students who report ever being intoxicated (**Figure 2**), who report using substances or being intoxicated at school, and who report being offered drugs at school exhibited smaller gains in test scores than other schools. Additionally, substance use was a *greater* impediment to school progress in *high performing* schools than in *low performing* schools (**Figure 3**). This is perhaps because low-performing schools encounter more impediments to academic performance or barriers that are so different from those in other schools that substance use has little influence on academic progress in low-performing schools.
- **School Safety Environment.** In both low- and high-performing schools, subsequent increases in test scores were smaller in schools with high levels of property theft and vandalism, low proportions of students who feel safe at school (**Figure 4**), and high levels of weapon possession.
- **Resilience Assets.** Test scores increased more in schools where students reported high levels of caring relationships at school (**Figure 5**), exposure to high expectations at school, and participation in meaningful activities in the community. These resilience assets are equally beneficial in low- and high-performing schools.

Overall, these relationships held for about 40 percent of the health risk and resilience measures that we examined, even after accounting for socioeconomic differences across schools. The results have important policy implications for schools and stakeholders trying to meet accountability demands for improved academic performance.

¹ Suggested citation: Hanson, T.L. and Austin, G.A. (2003). *Are Student Health Risks and Low Resilience Assets and Impediment to the Academic Progress of Schools?* (California Healthy Kids Survey Factsheet 3). Los Alamitos, CA: WestEd. This factsheet summarizes findings from a longer report, Hanson, T.L., Austin, G.A. & Lee-Bayha, J. (2004). *Ensuring that no child is left behind: How are student health risks & resilience related to the academic progress of schools.* San Francisco, CA: WestEd. These documents can be downloaded at www.wested.org/hks. For details about the analyses, please contact Tom Hanson, WestEd, 4665 Lampson Avenue, Los Alamitos, CA 90720. Phone (562) 799-5170. E-mail: thanson@wested.org. We gratefully acknowledge the Stuart Foundation for support for this study.

How the Analyses Were Performed

The analysis drew on 1998-2002 test score data from 7th, 9th, and 11th graders from the Standardized Testing and Reporting Program's (STAR) research files released by the California Department of Education and aggregated health risk and resilience data from local school administration of the California Healthy Kids Survey (CHKS).

- School-level academic performance was assessed by average national percentile scores (NPR) on the Stanford Achievement Test (SAT-9) in Reading, Language (written expression), and Mathematics.
- The CHKS is a voluntary, confidential, modular health risk and resilience data collection system supported by the California Department of Education and available to all California schools.
- Data for 20 health risk behaviors were available from the required general Core Module from 1,773 schools.
- Data on 16 resilience assets from the supplementary Resilience and Youth Development Module were available for 628 schools.

Autoregressive regression models were used to examine how health risk/resilience factors were related to subsequent changes in test scores, after controlling for baseline SAT-9 scores and the racial/ethnic-, socioeconomic-, and grade composition of the school. Socioeconomic status was measured by parental education and the percentage of students receiving free/reduced meals. We also controlled for the percentage of students classified as English Language Learners. These controls allowed us to examine the relationship between health risk/resilience measures and changes in test scores in schools, independent of any effects that socio-demographic variables may have on academic performance.

Several methodological limitations should be noted in interpreting the results.

- Although the results are based on longitudinal data, the data are still non-experimental. Other unmeasured factors could be responsible for the relationship of health risk/resilience to subsequent changes in test scores.
- The analysis is based on school-level information, describing how school characteristics are related to each other. Further research is needed to determine how the characteristics of individual students are related to individual academic test scores.
- The data come from the secondary schools that chose to conduct the CHKS. The data are not necessarily representative of all California students. This is especially a limitation of the resilience data, which was derived from only 628 schools. These results need to be confirmed analyzing a representative sample of schools.²

Despite these limitations, the CHKS is one of the richest, most extensively administered surveys assessing risk and resilience in the country. These data provide an unprecedented opportunity to examine how a variety of different facets of health risk and resilience are related to improvements in academic performance.

Conclusion

Schools made greater progress in raising test scores when they had higher percentages of students who are less engaged in risky behaviors such as substance use and violence, who are more likely to eat nutritiously and exercise, and who report caring relationships and high expectations at school. These results suggest that addressing the health and developmental needs of youth is a critical component of a comprehensive strategy for meeting the accountability demands for improved academic performance. Efforts to improve schools should go beyond the current emphasis on standards and accountability measured by test scores. Policies and practices focusing exclusively on increasing test scores while ignoring the comprehensive health needs of students are almost certain to leave many children, and many schools, behind. Specifically:

- District and school leaders can take steps that may promote student achievement by increasing student access to moderate-to-vigorous physical activity in physical education classes, monitoring the nutritional content of food offered at school, and promoting greater awareness among students about their physical health and nutrition.
- Crime, violence, antisocial behavior, and other types of social disorganization on school campus can have adverse consequences for student learning and should be targeted with comprehensive prevention programs.
- School practices that provide students with supportive, caring connections to adults at the school who model and support healthy development, and that provide clear and consistent messages that students can and will succeed hold great promise for addressing the developmental needs of children and improving student learning.

² Starting in the 2003-04 academic year, CDE is requiring that all districts with Title IV funding administer the general core and resilience module every two years; other modules will be optional.

Figure 1. *Breakfast Consumption and Annual Changes in SAT-9 Scores (NPR)*

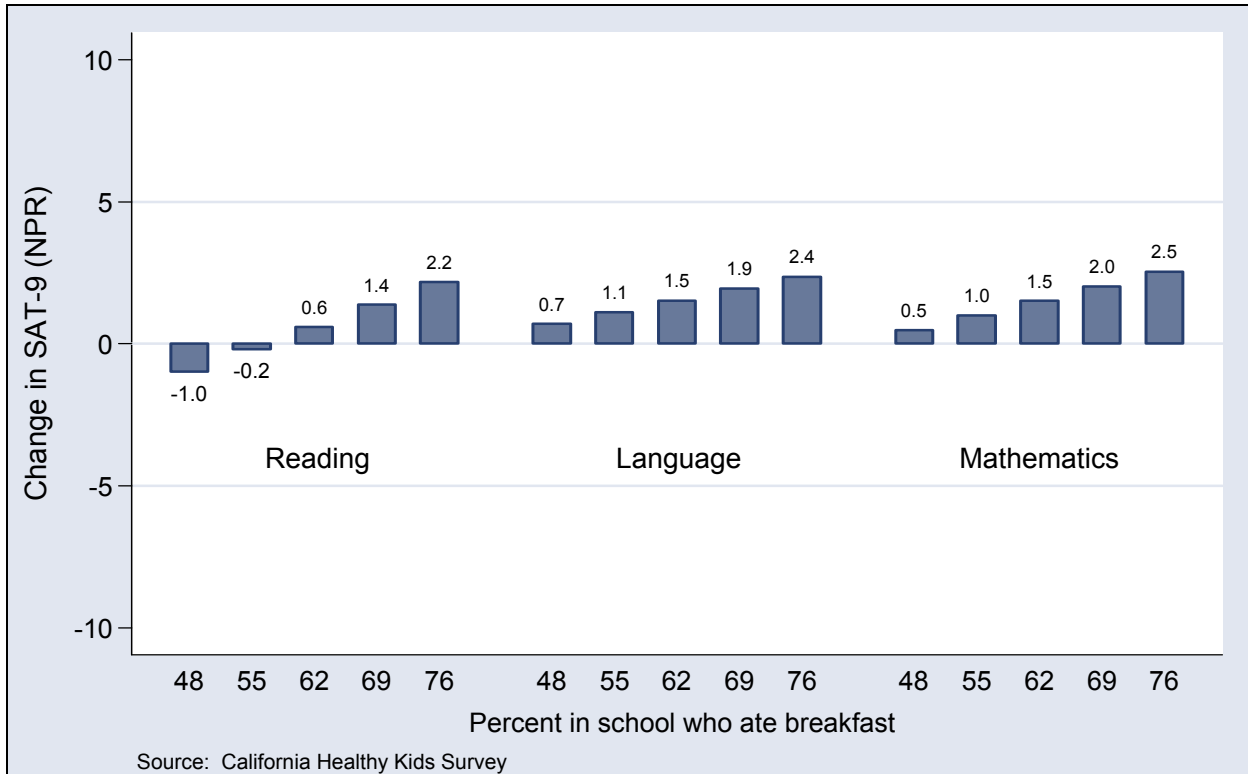


Figure 2. *Lifetime Intoxication and Annual Changes in SAT-9 Scores (NPR)*

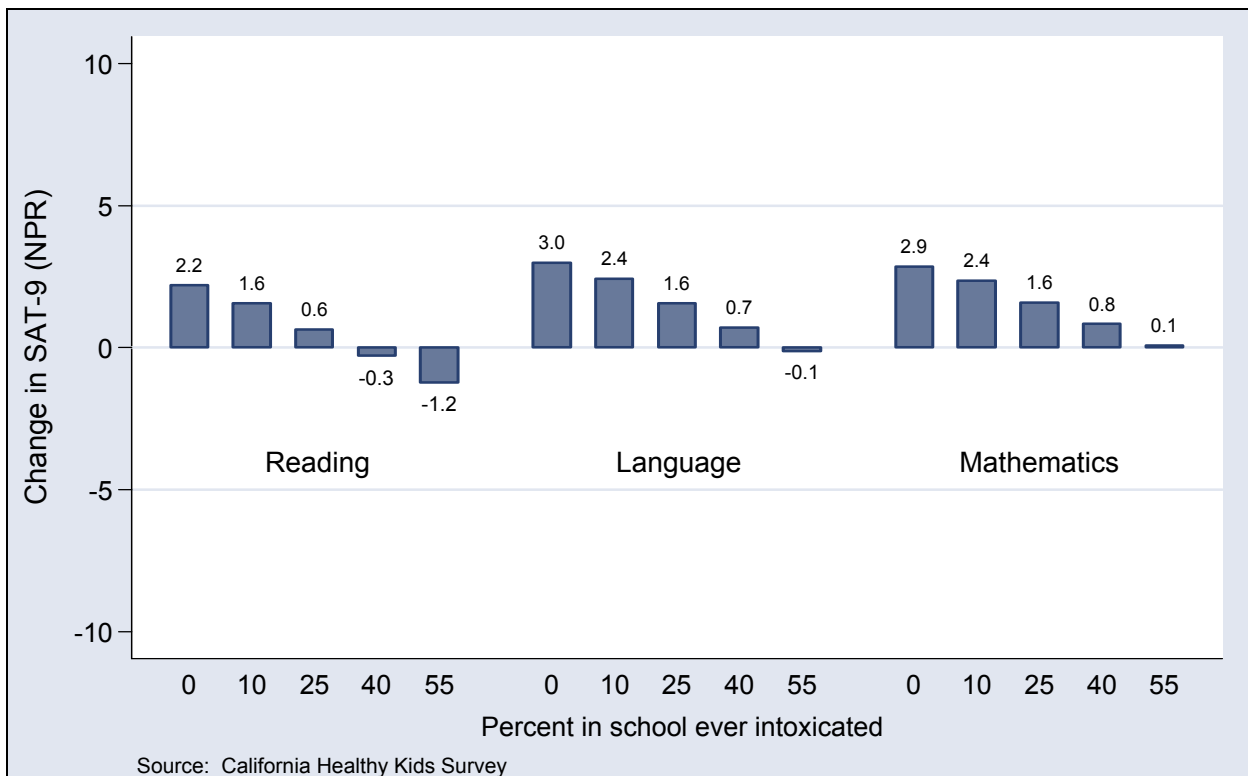


Figure 3. 30-day Substance Use at School and Annual Changes in SAT-9 Scores (NPR) for Low, Medium, and High Performing Schools

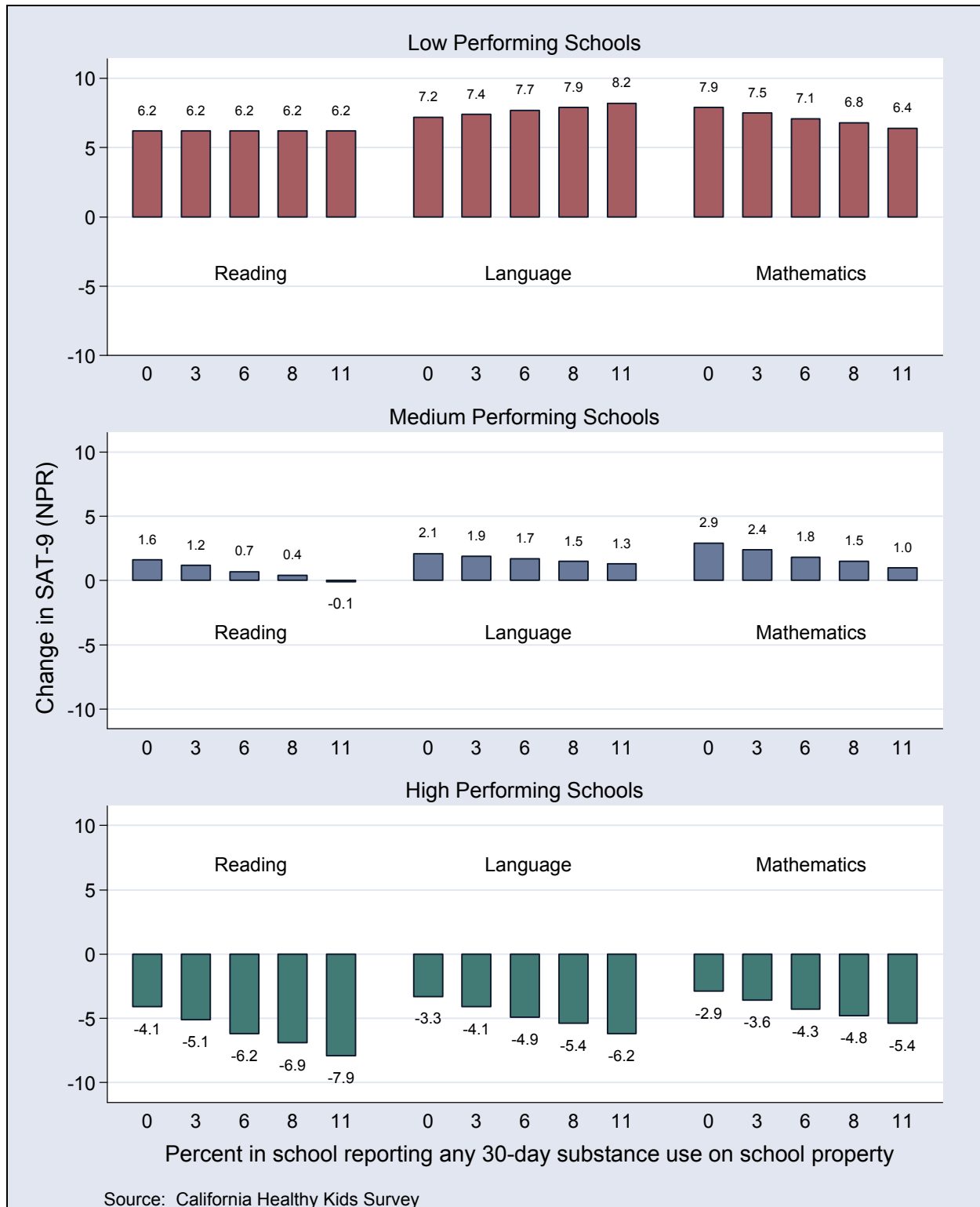


Figure 4. *Safety at School and Annual Changes in SAT-9 Scores (NPR)*

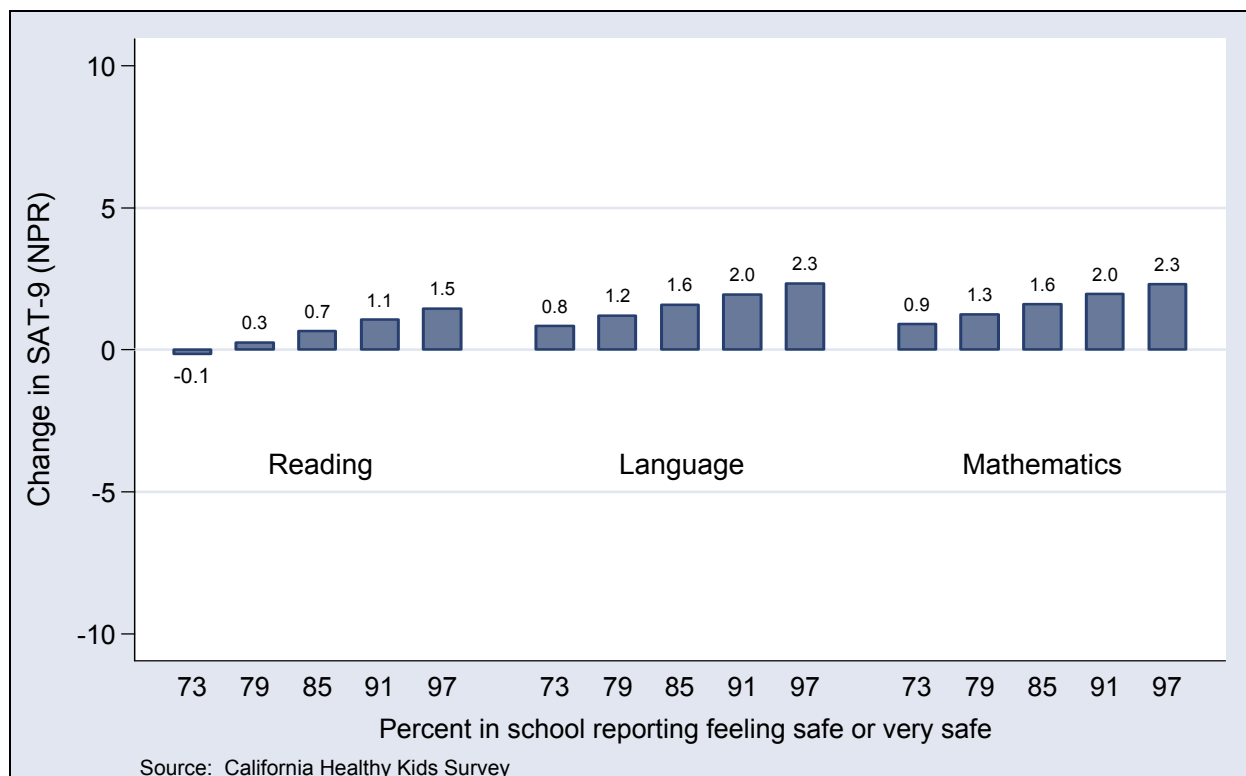


Figure 5. *School Caring Relationships and Annual Changes in SAT-9 Scores (NPR)*

