

The Relationship of Academic Achievement and School Well-being

Thomas Hanson, Gregory Austin, and Hong Zheng | WestEd

California secondary students in low-performing schools report significantly lower levels of school engagement, safety, and supports than students in high-performing schools. Data from the California Healthy Kids Survey show that only about one-third of students in the lowest-performing high schools perceived their schools as safe, or experienced caring adult relationships and high expectations there, and only around one-quarter felt connected to school. Academic Performance Index (API) scores rise and fall in tandem with the levels of these school well-being indicators. This finding holds even after controlling for differences in school demographic characteristics. These data provide evidence that efforts to turn around low-performing schools and increase student achievement will be improved if they include learning supports that make these schools more safe, caring, challenging, participatory, and engaging for the youth they serve. The results also suggest that providing these learning supports can help reduce dropout rates.

Too many students in California are failing to meet basic academic proficiency standards. In 2009, only about half of seventh and ninth graders, and four in ten eleventh graders, met or exceeded state standards in English language arts. Only four in ten seventh graders met state standards in mathematics. One reason for such low levels of achievement may be that low-performing schools are not sufficiently addressing the needs of numerous students who come to school with health, social, psychological, and behavioral problems that make successful learning difficult, and they are not sufficiently engaging students in learning. To study this, we grouped California secondary schools into five performance categories (quintiles), based on their Academic Performance Index (API) scores for students in grades seven, nine, and eleven. We then analyzed how API quintiles related to indicators of *school well-being* as reported by students in the same schools and grades on the California Healthy

Kids Survey (CHKS).¹ By “school well-being,” we mean the extent to which a school is characterized by a healthy, safe, supportive, and engaging climate.

How Was the Study Conducted?

The study sample consisted of 1,828 secondary schools that participated in the CHKS in 2004–06. Seven measures of school well-being in three areas were examined:

- *developmental supports* provided by the school (caring adult relationships and high expectations combined;² and opportunities for meaningful participation);

¹ The Academic Performance Index (API) is a school-level, weighted summary measure based on the national percentile ranking of student scores on subject-specific scores on California standards-based tests and other indicators.

² Although measured by separate scales, relationships and expectations were combined, based on a factor analysis indicating they measured a similar construct.

- *school safety* (the level of harassment/victimization students experience, violent/delinquent behavior, and perceived safety); and
- *student engagement* (school connectedness and truancy measured by unexcused absences).

With the exceptions of perceived safety and truancy, each of the measures was based on multiple questions. The developmental supports — each measured by three-item scales — have been shown to be fundamental to fostering resilience and positive academic, social, and health outcomes among youth, even those living in high-risk environments (Benard, 2004). School connectedness was measured by a five-item scale derived from the National Survey of Adolescent Health that has been highly correlated with school attendance, academic performance, and low levels of involvement in health-risk behaviors that are barriers to learning (Resnick et al., 1997). The questions about victimization, violence, and truancy at school covered experiences over the past 12 months. Given the large sample sizes involved in the analyses, we calculated effect sizes (standardized differences) to determine the magnitude of any differences found in school well-being across API quintiles.

How Does School Well-Being Differ Between Low- and High-Performing Schools?

A clear pattern emerged in the results. *Students in the lowest-performing 20% of schools (1st quintile) consistently*

reported significantly lower levels of all the seven school well-being measures in each grade, than did students in the highest-performing 20% of schools (5th quintile). Differences across performance quintiles were statistically significant for each of the 21 well-being indicators (seven indicators in three grades). With only a few slight exceptions, there was a regular, stepwise increase in the level of positive indicators (e.g., school connectedness), and a decrease in the level of negative indicators (e.g., truancy) as school-level API scores increased across quintiles. Table 1 summarizes these results.

The larger the standardized difference, the stronger the correlation between the indicator and API scores, and thus the greater potential influence of the variable on achievement. Thirteen indicators had standardized differences of between .15 and .43. In all three grades, the largest differences were for perceived safety (.31–.43), school connectedness (.27–.34), violence/delinquency (.20–.31), and truancy (.19–.28). Relatively large differences also occurred in seventh grade for relationships/expectations (.18).

In the 1st quintile, less than half of students in seventh grade, and just over one-third in high school perceived their schools as safe. Underlying this poor sense of safety, over three-quarters of the students across grades had been harassed at school. Only around one-third were high in caring relationships/expectations, and around one-quarter were highly connected to school. These low levels of supports and connectedness help explain why over one-quarter of low-performing students in seventh grade, and over half in high school reported truancy.

Table 1. School Well-being Outcomes in the Lowest and Highest Performing Quintiles

Indicator	Academic Performance Index Quintile						Range in Standardized Differences*
	7 th Grade		9 th Grade		11 th Grade		
	Lowest (%)	Highest (%)	Lowest (%)	Highest (%)	Lowest (%)	Highest (%)	
Perceived Safety	47	70	37	63	36	60	.31–.43
School Connectedness	29	53	21	44	24	40	.27–.34
Truancy	27	14	51	28	62	49	.19–.28
Violence/Delinquency	63	40	69	48	65	47	.20–.31
Harassment/Victimization	81	74	75	73	76	69	.08–.12
Relationships/Expectations	38	49	29	37	37	41	.10–.18
Meaningful Participation	14	20	10	15	13	17	.08–.13

*the range across all grades between the lowest-performing (1st) quintile and the highest (5th). The standardized differences are represented by multiplying Cohen's *f* by 2 — which is generally equivalent to the standardized difference calculated for two groups (Cohen's *d*). All differences across groups are statistically significant (*p* < .05).

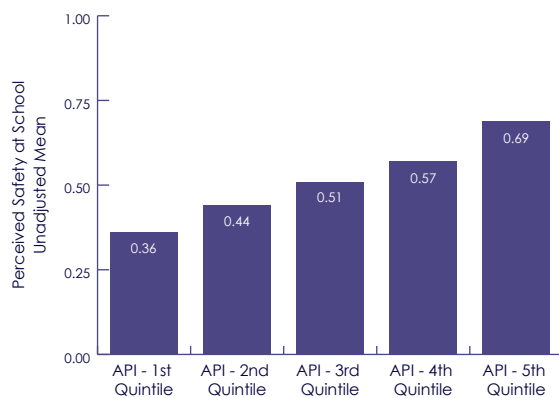
Grade-level Differences

Several grade-level differences also emerged that may have practical implications for school improvement.

- For the developmental supports, harassment, and violence/delinquency indicators, the standardized differences were generally larger in seventh grade than in ninth and eleventh grades.
- The reverse was true for perceived safety, connectedness, and truancy, where the differences were larger in high school than in seventh grade.
- For both school engagement indicators, the differences were larger in ninth than eleventh grade (.34 vs .27 for school connectedness, and .28 vs .19 for truancy).
- Perceived safety in eleventh grade had the largest difference of any indicator in any grade, as illustrated in Figure 1.

These results suggest that creating safer, more engaging high school environments may have an especially beneficial effect on achievement. Moreover, issues of engagement may be particularly relevant in ninth grade, and school safety in eleventh. For middle school, the results underscore the importance of developmental supports and bullying prevention.

Figure 1. Eleventh Grade Perceived Safety at School by API Quintile



Controlling for Demographic Differences

In a second round of analyses, we adjusted the results to take into account the extent to which demographic differences across schools may be responsible for the observed relationship between performance and

school well-being. We controlled for differences in free/reduced-price meal participation, parental education, racial/ethnic composition, proportion of English learners, school enrollment, region, and population area characteristics (region and population area size). After these adjustments (not shown in table), standardized differences across quintiles were reduced, but they were still statistically significant for 18 out of 21 indicators. The standardized differences were largest for perceived safety (.22–.33 across grades), connectedness (.21–.26) and violence/delinquency (.16–.17).

These adjustments tell us that if all schools were equal in terms of SES, race/ethnicity, and other demographic factors, there would be less of an association between school well-being and school performance. However, for almost all indicators the association is still statistically significant. Low-performing schools are still affected the most and would benefit the most from learning supports.

What Can We Do?

In short, school well-being indicators are consistently lowest in the lowest-API quintile and highest in the highest-API quintile. These findings provide insight for how we can reduce the relatively high percentages of California secondary students who are not faring well in meeting state academic performance standards. They do not shed light on the causal relationships between school well-being factors and academic performance. But they do add to the growing body of research indicating that school climates that are safe, supportive, caring, challenging, and participatory, contribute to students feeling more connected to the school. In turn, these students are more likely to attend school, be engaged in learning, and perform better (Blum 2005; Cohen, 2006; Gordon & Crabtree, 2006; National Research Council, 2004). Moreover, these findings are consistent with prior CHKS analyses showing that student health, school safety, and developmental supports were positively related to *improvements* in state standardized test scores a year later (Hanson, Austin, & Lee-Bayha, 2004).

The results suggest that efforts to turn around low-performing schools in California would be improved by enhancing *learning supports* — programs, resources, and strategies designed to create positive school climates,

address nonacademic barriers to academic performance, and to promote student well-being and learning engagement. Too many low-performing schools, regardless of demographics and grade, are lacking in the conditions and supports that youth need to succeed in learning.

The grade differences that we found suggest it may be especially important to provide developmental supports and bullying prevention in middle school — a finding consistent with the research discussed in California Healthy Students Research Project (CHSRP) Brief No. 4. In high school, school safety in general rises in importance. Promoting school well-being in ninth grade, the transition into high school, may also be an important dropout prevention strategy. One likely reason that the engagement indicators were more associated with test scores in ninth than eleventh grade is that many disengaged students have left the high school between these grades.

The findings in subsequent CHSRP briefs reinforce and add context to these conclusions. In CHSRP Brief No. 2, we more specifically explore how these well-being factors are related to the state's vexing racial/ethnic achievement gap. Other Briefs address these issues in regard to Latino students (Brief No. 3) and to youth who are bullied or experience trauma or stress (Briefs No. 4 and No. 5). Brief No. 6 reports on a study showing how school personalization, rooted in caring staff-student relations, positively affects learning. As a whole, these Briefs make the case, as Gandara emphasizes in Brief No. 4, that too little attention has been directed to how environmental conditions (especially school climate), and student health factors affect learning. For the most part, school reform efforts pay too little attention to these factors — an oversight that may explain the lack of progress in turning around low-performing schools and improving achievement among all students.

References

- Benard, B. 2004. *Resiliency: What we have learned*. San Francisco: WestEd.
- Blum, R. (2005). A case for school connectedness. *Educational Leadership: The Adolescent Learner*, 62(7), 16–20, April.
- Cohen, J. (2006). Social, emotional, ethical and academic education: Creating a climate for learning, participation in democracy, and well-being. *Harvard Educational Review*, 76(2), 201–239.
- Gordon, G. & Crabtree, S. (2006). *Building engaged schools: Getting the most out of America's classrooms*. New York: Gallup press.
- Hanson, T., Austin, G., & 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: WestEd.
- National Research Council. (2004). *Engaging schools: Fostering high school students' motivation to learn*. Committee on Increasing High School Students' Engagement and Motivation to Learn, National Research Council. Washington, DC: National Academy Press.
- Resnick, M., et al. (1997). Protecting adolescents from harm: Findings from the National Longitudinal Study on Adolescent Health. *Journal of the American Medical Association*, 278, 823–832.

BEING WELL. LEARNING WELL.

The California Healthy Students Research Project

is devoted to understanding and addressing issues of health and well-being that hurt student achievement. By researching health and education issues in the state, the project provides evidence-based policy and practice recommendations

to foster the school culture, environment, supports and services needed to give all youth the opportunity to be successful learners.

The project was conducted by WestEd and the Philip R. Lee Institute for Health Policy Studies, University of California San Francisco. It was funded by The James Irvine Foundation, The California Endowment and The William and Flora Hewlett Foundation and guided by an advisory committee made up of dozens of leaders within California's health and education sectors.

Find complete research reports at LearningWellBeingWell.org

Project directors:

Gregory Austin, Ph.D.
gaustin@wested.org

Claire Brindis, Dr. P.H.
claire.brindis@ucsf.edu