

## QUESTION:

Do health and education agencies in the United States share responsibility for academic achievement and health?

## ANSWER:

An undeniable “yes”



**A new report provides compelling evidence of the interrelationship between health and academic achievement. This report has implications for policy-makers within our nation’s agencies responsible for education and health as well as changes in practice for those who provide health care and education. This new evidence, published in the *Journal of Adolescent Health*, is the result of a comprehensive review of 122 studies published in scientific peer-reviewed journals from 1985 to 2010.**

## METHOD

The United States Centers for Disease Control and Prevention monitors health-risk behaviors of adolescents in United States, which includes (1) violence; (2) tobacco use; (3) alcohol and other drug use; (4) sexual behaviors contributing to unintended pregnancy and sexually transmitted diseases; (5) inadequate physical activity; and (6) unhealthy dietary behaviors. Using predetermined selection criteria, authors identified 122 articles that used at least one variable for the monitored health-risk behaviors and also for specified variables for academic achievement.

## RESULTS

Across all of the included studies, 96.6% reported statistically significant inverse relationships between health-risk behaviors and academic achievement. (See Table 1)

## CONCLUSIONS

With this persuasive evidence about the relationship between health-risk behaviors and academic achievement, it is imperative that leaders in education and health act together to make wise investments in our nation's school-age youth that will benefit the entire population. A unified system that addresses both health behavior and academic achievement would have reciprocal and synergistic effects on the health and academic achievement not only of children and adolescents, but also of adults in the United States.



*“Child health and academic achievement are two sides of a coin, but it takes both working together to provide child wellness for a community. As it is, we are a society of professionals who work in silos, which is important because this is where like minded people do evidenced-based work. But children and families walk between the silos and that’s where they can get lost.”*

**Linda M. Grant, MD, MPH , Associate Professor of Pediatrics at Boston University School of Medicine**

Bradley, BJ, Greene, AC. Do Health and Education Agencies in the United States Share Responsibility for Academic Achievement and Health? A review of 25 years of evidence about the relationship of adolescents' academic achievement and health behaviors. *Journal of Adolescent Health*, 52 (2013): 523-532.

**TABLE 1: PUBLISHED RESEARCH (1985-2010) RE: ASSOCIATION OF ADOLESCENTS' Health-Risk Behaviors and Academic Achievement**

HEALTH-RISK BEHAVIORS	NUMBER OF STUDIES	LONGITUDINAL/ CROSS-SECTIONAL	MEASURES USED FOR ACADEMIC ACHIEVEMENT	STUDIES REPORTING AN INVERSE ASSOCIATION BETWEEN HEALTH-RISK BEHAVIORS AND ACADEMIC ACHIEVEMENT
<b>Violence-Related Behaviors</b>	<b>32*</b>	<b>14*</b> Longitudinal <b>19*</b> Cross-Sectional Range of length of longitudinal studies 1 year to 10 years	GPA, grades, standardized test scores, grade-level retention, teacher rated educational engagement, educational aspirations, and/or educational attainment	<b>31 of 32</b> The only study that did not report an inverse association between academic achievement and being a victim of violence did, however, report an association with subsequent poor school attendance.
<b>Tobacco Use</b>	<b>28</b>	<b>10</b> Longitudinal <b>18</b> Cross-Sectional Range of length of longitudinal studies 10 months to 17 years	GPA, grades, standardized test scores, grade-level retention, teacher rated educational engagement, academic stream in high school, and/or college intentions	<b>28 of 28</b> All the studies reported an inverse relationship between use of tobacco (including smokeless tobacco) and academic achievement.
<b>Alcohol and Other Drug Use (AOD)</b>	<b>44</b>	<b>21</b> Longitudinal <b>23</b> Cross-Sectional Range of length of longitudinal studies 2 years to 23 years	GPA, grades, standardized test scores, high school class rank, academic stream in high school, grade-level retention, teacher rated classroom adjustment, on-time/late high school graduation, high school graduation or GED, college plans, college entry and/or attainment of a college degree	<b>43 of 44</b> A consistent finding of all except one of the 45 studies was an inverse association between academic achievement and either binge drinking, drinking to get drunk, using inhalants, marijuana, other illicit drugs and/or misusing prescription medications. In studies that differentiated alcohol use from binge drinking and drinking to get drunk, the inverse association was reported only for binge drinking and drinking to get drunk.
<b>Sexual Risk Behaviors</b>	<b>22</b>	<b>12</b> Longitudinal <b>10</b> Cross-sectional Range of length of longitudinal studies 1 month to 11 years	GPA, grades, standardized test scores, grade level retention, class rank, high school graduation, plans for future schooling, years of school completed, school involvement, initiating college, and/or attending college	<b>22 of 22</b> All of the 10 studies that collected data about age of sexual debut reported that earlier sexual debut was inversely correlated with grades and also with years of education completed. Risky sexual behavior (e.g. multiple sexual partners and unprotected sexual intercourse) was also inversely correlated with academic achievement.
<b>Inadequate Physical Activity</b>	<b>13</b>	<b>7</b> Longitudinal <b>6</b> Cross-Sectional Range of length of longitudinal studies 3 months to 10 years	GPA, grades, standardized test scores, self-reported chances of attending and/or graduating from college	<b>9 of 13</b> Time spent in physical education class during the instructional day did not result in lower grades or lower standardized test scores. All studies that analyzed data about time participating in Moderate and Vigorous Physical Activity (MVPA) reported a positive association with academic achievement. Studies about participation in competitive athletics and academic achievement had mixed results.
<b>Inadequate Nutrition</b>	<b>9</b>	<b>4</b> Longitudinal <b>5</b> Cross-Sectional Range of length of longitudinal studies 4 months to 10 years	GPA, grades, standardized test scores, and/or school attendance and tardiness	<b>9 of 9</b> Participating in school breakfast or lunch programs was associated with improvement in grades, standardized test scores and school attendance. After adding specific nutrients (fruits, vegetables and dairy products) missing from students' diets, their academic performance improved.
<b>TOTAL</b>	<b>148**</b>	<b>1 month - 23 years</b>	<b>96.6%</b> of the studies reported statistically significant inverse relationships between health-risk behaviors and academic achievement.	

\*One published study was both cross-sectional and longitudinal

\*\*While 122 publications in peer-reviewed journals were reviewed, 26 of the studies addressed more than one health-risk behavior.

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