Levels of Risk, Protection and Drug Use in Schools Predict Students' WASL Scores

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OVERVIEW

Research on youth development has identified risk factors (e.g., availability of drugs, lack of parental supervision, friends who use drugs) that increase the likelihood that young people will engage in drug use, and protective factors (e.g., supportive adult relationships, social skills, opportunities for involvement in organized activities in school and the community) that reduce the likelihood of drug use.

This study investigated relationships between the levels of risk and protective factors and drug use reported by students in middle and high schools in Washington State, and the academic achievement of students within those schools as measured by Washington Assessment of Student Learning (WASL) tests.

We linked data from the Washington State Healthy Youth Survey on the levels of risk and protective factors and drug use in schools to data on individual students' achievement in mathematics, reading, and writing from (WASL) tests. We examined relationships between the proportions of 8th and 10th grade students in schools who reported any use of alcohol, marijuana, or cigarettes during the prior month, and the liklihood of 7th-grade or 10th-grade students in the same schools meeting the mathematics, reading, and writing standards on the WASL tests.   We also examined relationships between the average levels of risk and protective factors reported by the 8th-grade and 10th-grade students in schools and WASL results from the 7th-grade and 10th-grade students in those same schools.

RESULTS

Substance Use:
Seventh and tenth grade students in schools with higher rates of alcohol, tobacco, and marijuana use are less likely to meet the standards on the mathematics, reading, and writing sections of the WASL (Figure 1).

Protective Factors:
Seventh and tenth grade students in schools where students report experiencing more protective factors are more likely to meet the standards on the mathematics, reading, and writing sections of the WASL (Figure 2).

Figure 1: Relationship between Prevalence of Past Month Alcohol Use in a School and the Probability a 10th Grader in that School Will Meet WASL Standards
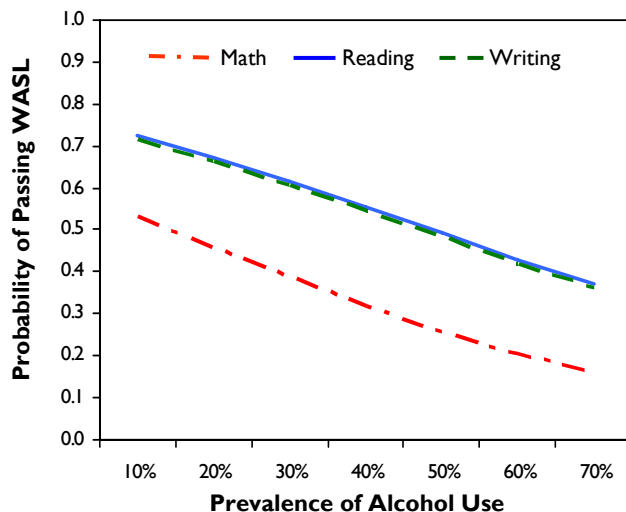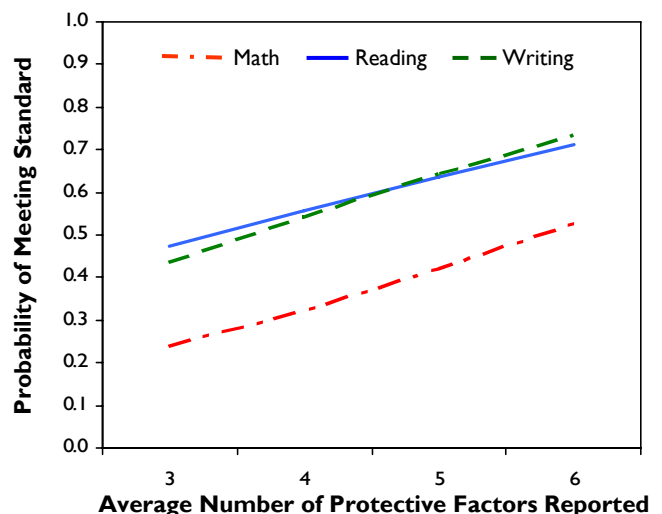

Figure 2: Relationship between Average Number of Protective Factors Reported by 10th Graders in a School and the Probability a 10th Grader in that School Will Meet WASL Standards
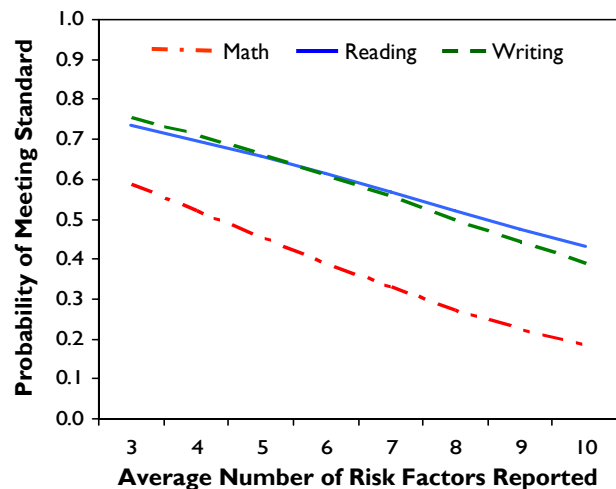
RESULTS CONTINUED

Risk Factors:

Seventh and tenth grade students in schools where students report experiencing more risk factors are less likely to meet the standards on the mathematics, reading, and writing sections of the WASL (Figure 3).

We found that the levels of drug use, risk, and protection in a school building influenced WASL success above and beyond the influence of demographic and economic variables including students' gender and race/ethnicity[1], students' special education status, the percentage of students in each building enrolled in the free and reduced lunch program, and district level total student enrollment and per pupil expenditures.

Figure 3: Relationship between Average Number of Risk Factors Reported by 10th Graders in a School and the Probability a 10th Grader in that School Will Meet WASL Standards

IMPLICATIONS FOR POLICY AND PRACTICE

The findings reported here suggest that:

- Reducing the prevalence of drug use in school populations will increase students' academic success.

- Reducing the levels of risk factors and increasing the levels of protective factors in school populations will increase students' academic success.

- Schools should implement tested, effective curricula for reducing risk and enhancing protection among their students.

- Schools should monitor levels of risk and protective factors experienced by their students, and work with community partners to reduce risk and enhance protection in all domains of students' lives.

Data Notes

Linking student-level WASL data with school-level Healthy Youth Survey (HYS) data and district-level data resulted in analysis samples of N = 46,887, N = 46,713, and N = 46,743 10th grade students for mathematics, reading, and writing outcomes, respectively. All three of these samples were nested within 237 schools and 171 school districts (five schools did not have corresponding school and district identification numbers across all three sources of data). These formed the analysis samples for unconditional models (i.e., models not statistically controlling for covariates). Inclusion of school characteristics reduced the analysis samples to N = 41,556, N = 41,393, and N = 41,424, 10th grade students nested within 201 schools and 156 districts, respectively. These comprised the analysis samples for conditional models (i.e., models with covariates).

Linking student-level WASL data with school-level Healthy Youth Survey data and district-level data resulted in analysis samples of N = 50,112, N = 50,116, and N = 50,108 7th grade students for mathematics, reading, and writing outcomes, respectively, nested within 266 schools and 170 districts (three schools did not have corresponding school and district identification numbers across all three sources of data). These comprised the analysis samples for unconditional models. Inclusion of school characteristics to the student-level WASL data, school-level HYS risk/protective factor data, and district-level financial data reduced the analysis samples to N = 40,632, N = 40,638, and N = 40,637 7th grade students in 222 schools and 150 districts, for the three respective outcomes. These comprised the analysis samples for conditional models.

[1]Due to small samples in many schools, these controls were limited to White versus Nonwhite and Hispanic versus Non-Hispanic