

MAINE STATE LEGISLATURE

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Selected Results from a Survey of Maine Public High School Principals

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Introduction

School funding and school size are important and recurrent topics of discussion in education policy. Smaller schools and more funding are often seen as necessary conditions for addressing a wide range of policy concerns, from educational programming to school climate and beyond. Several questions concerning the relationship between either school funding or school size and school programming, problems, and climate are addressed in this report.

The University of Maine office of the Maine Education Policy Research Institute recently sent a survey to all 118 public high school principals in Maine. They received 76 valid responses, yielding a survey response rate of 64%. This brief report presents the results of a preliminary analysis of selected items from the survey.

Questions Addressed

The following questions are addressed in this report:

- Lack of resources is sometimes given as a reason for not offering after school or summer school academic programs. Are higher spending schools, in fact, more likely to offer these programs?
- Lack of resources is also given as a reason for offering fewer days of professional development for teachers. Do higher-spending schools offer more professional development time for teachers?
- One stated advantage of larger high schools is that they can offer more comprehensive programming. Are Advanced Placement (AP) Courses more prevalent in larger schools than in smaller ones?
- One stated disadvantage of larger high schools is that attendance rates are lower than those of smaller schools. Do larger schools report more student absences than smaller schools?
- Small high schools have been promoted as being superior to larger high schools in many ways. It is said that they are not plagued by the problems that tend to occur in larger schools. Does this claim hold up in Maine? Are small high schools the solution to big problems?

Summer School and After School Programs in Higher Spending and Lower Spending High Schools

Lack of funds is sometimes offered as the reason for not offering after school or summer school academic programs. If this is the true reason, rather than different spending priorities for instance, one might expect to find more of such programs in high schools that spend more overall. However, Figure 1 shows that 83% of schools that spent less than the median in per-pupil operating expenditure of \$7,452, designated Lower Spending Schools, offered summer school programs, compared to only 56% of higher spending schools. This difference is large enough that it is unlikely to have occurred by chance (Pearson $\chi^2 = 6.023$, 1df; $p = .014$). In contrast, as may be seen in Figure 2, the percentages of lower spending and higher spending schools offering after school programs are nearly identical, 71% and 73% respectively. Statistically speaking, these percentages are indistinguishable (Pearson $\chi^2 = .034$, 1 df; $p > .500$). These results may indicate that lack of funding is not the core reason in deciding whether to offer summer school and after school programs.

Figure 1: Summer School Academic Programs in Maine High Schools

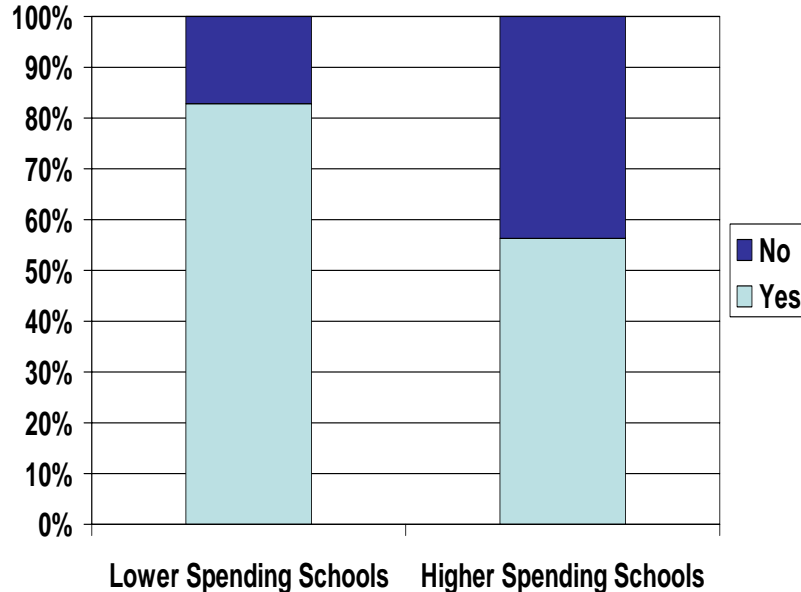
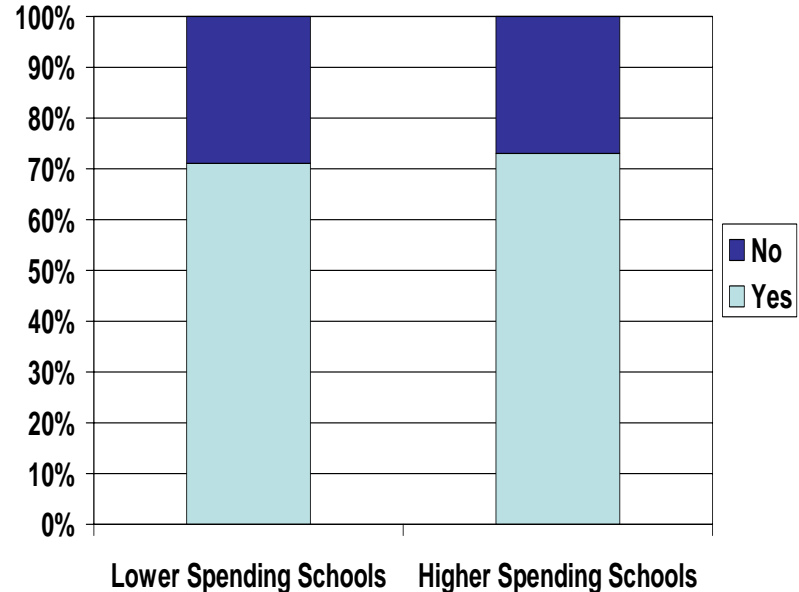


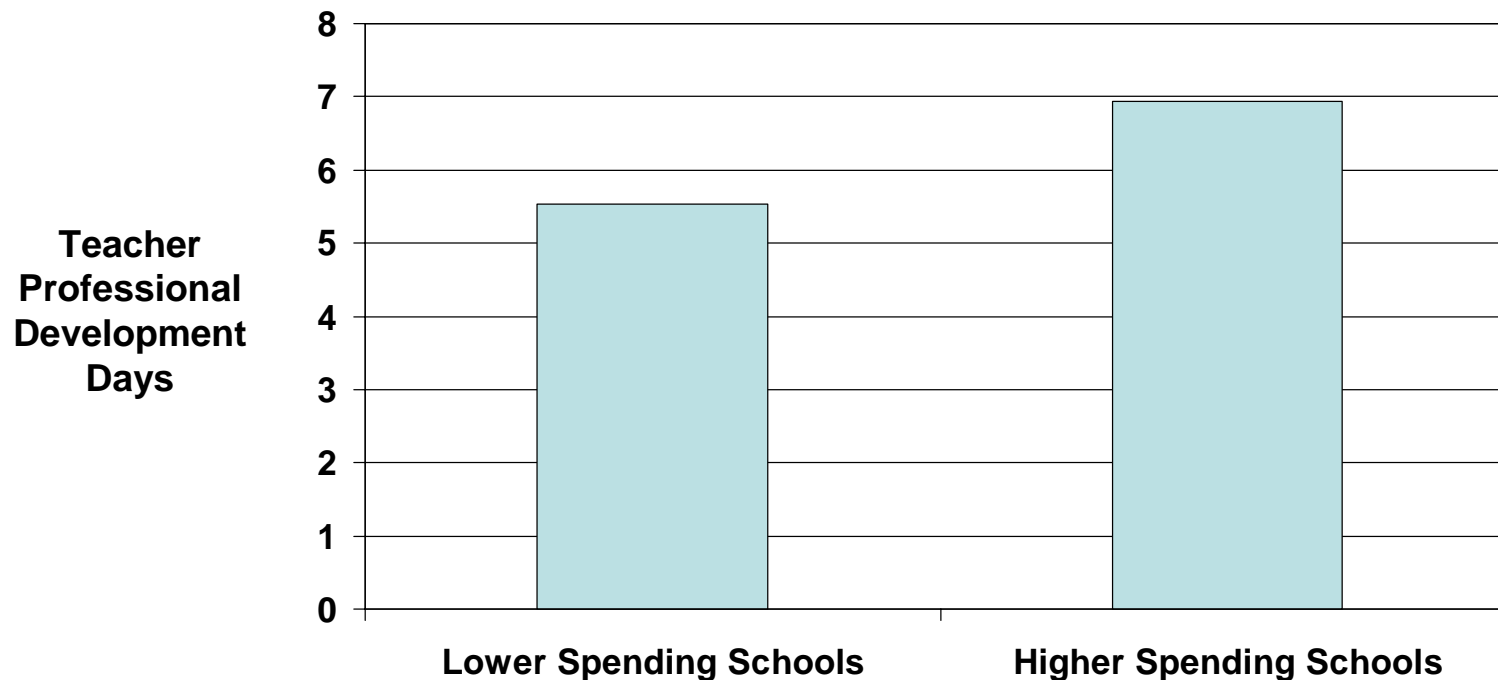
Figure 2: After School Academic Programs in Maine High Schools



Teacher Professional Development Time in Higher Spending and Lower Spending High Schools

Lack of funds is sometimes offered as a reason for scheduling fewer professional development days for teachers. If this is truly the reason, one might expect to find more professional development days in high schools that spend more overall. As Figure 3 shows, higher spending schools—those that spent more than the state median—did indeed report more time scheduled for teacher professional development, that is, around 6.9 days equivalent, compared to 5.5 days equivalent for lower spending schools. However, the difference is not quite large enough from a statistical standpoint to state conclusively that this difference is not due to chance. (In a two-tailed independent samples t-test with 52 df, $t = 1.938$, $p = .058$.)

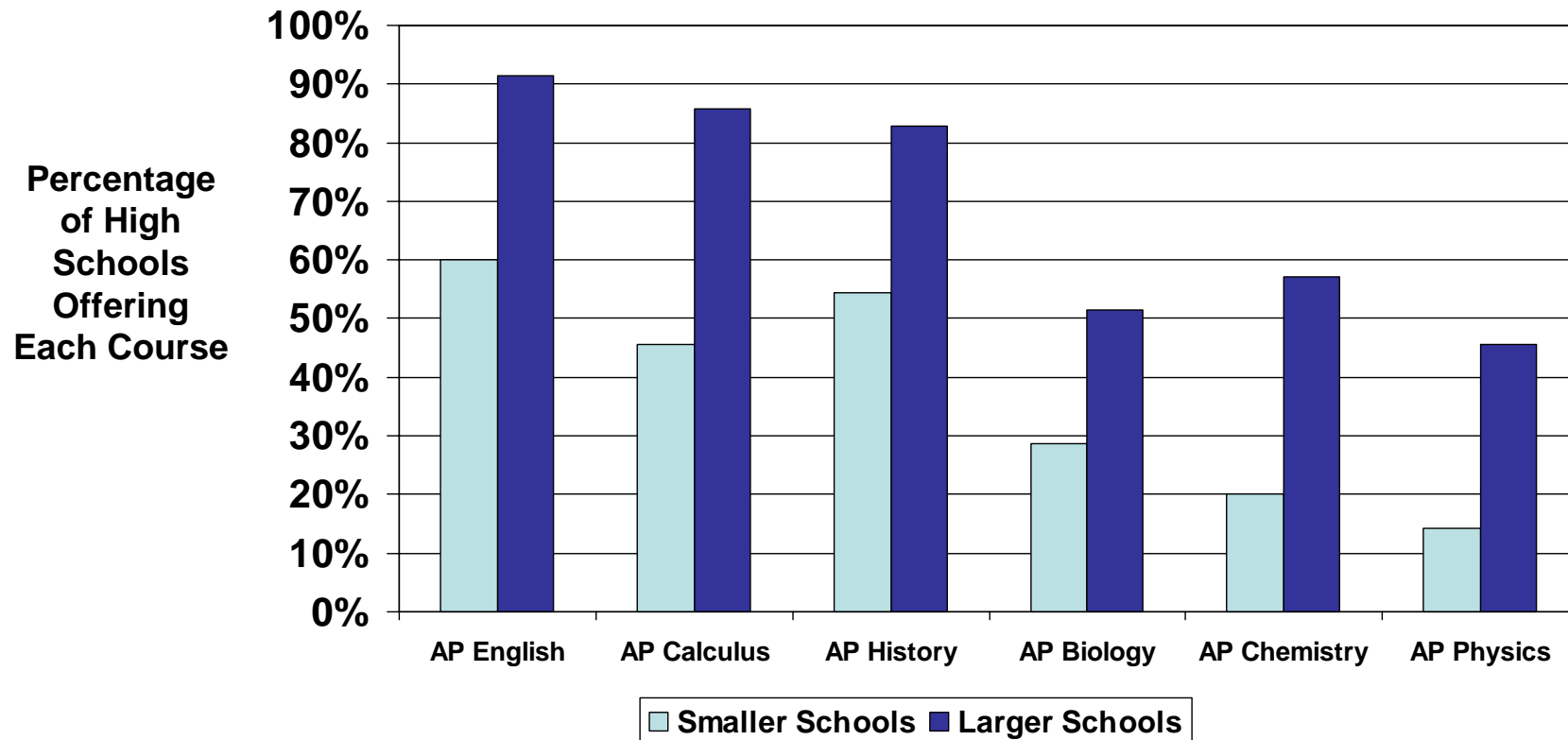
Figure 3: Professional Development Days in Maine High Schools



Availability of AP Courses in Smaller and Larger High Schools

One stated advantage of larger high schools is that they can offer more comprehensive programming than smaller schools. Figure 4 shows the availability of six popular Advanced Placement (AP) courses in larger and smaller high schools in Maine, where larger and smaller schools were defined as having, respectively, higher or lower enrollment than the median of all responding high schools, which was 402 students. Clearly, more of the larger schools offer each AP course, in the case of chemistry and physics, more than twice as many. All six differences are greater than one would expect by chance alone. (In each of six separate Pearson χ^2 tests, $p \leq .010$.)

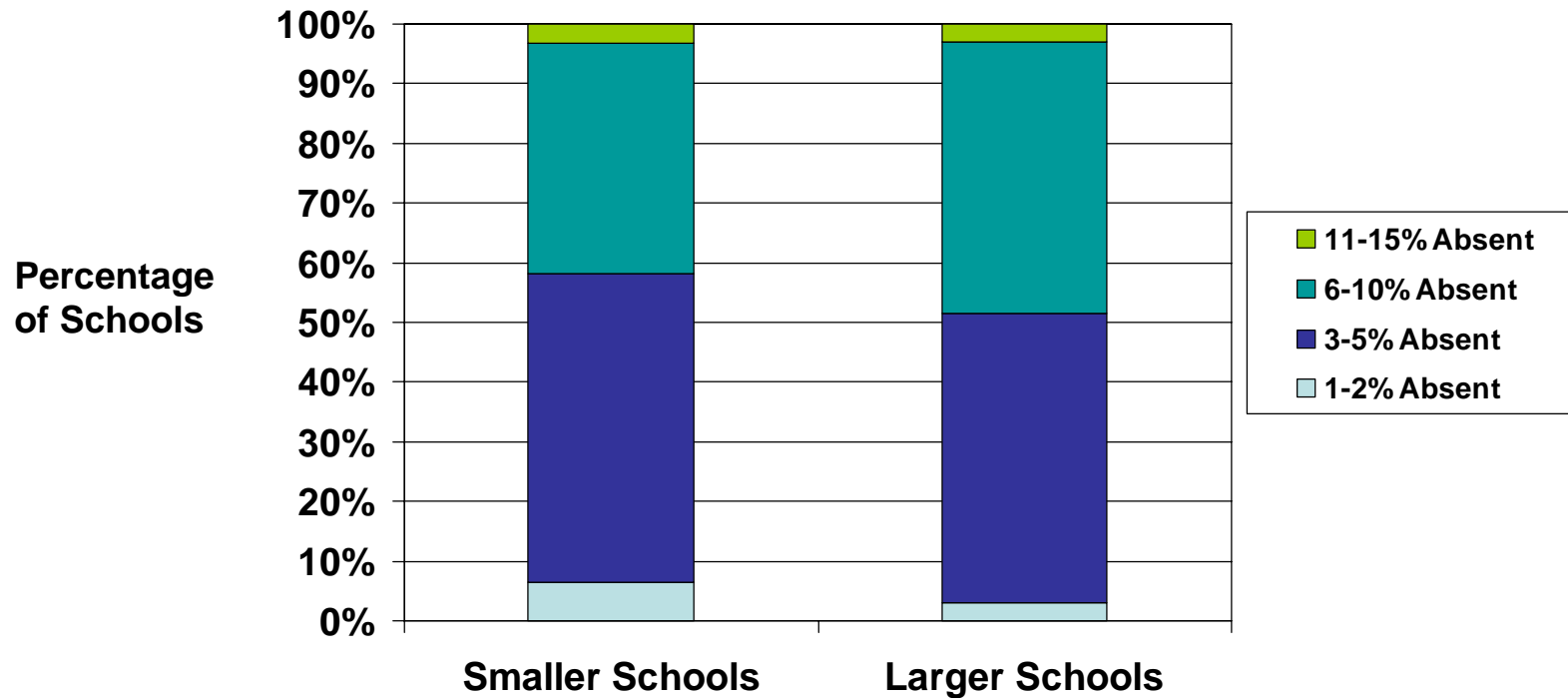
Figure 4: Advanced Placement Courses Offered In Maine High Schools



Student Absences in Smaller and Larger High Schools

One stated advantage of smaller high schools is that attendance rates are better than those of larger schools. Figure 5 displays the absence rates for smaller and larger high schools. A higher percentage of smaller schools seem to have absence rates below 6%. Specifically, 6.5% of smaller schools have absence rates below 3% and 58.1% of smaller schools have less than 6% absent on average, compared to 3.0% and 51.5% of larger schools, respectively. One can see that there are plenty of higher absence rates and lower absence rates in schools of both size categories. The observed differences are not large enough to provide good statistical evidence of a significant difference in absence rates between smaller and larger schools (Pearson $\chi^2 = 0.605$, 3 df; $p > .500$).

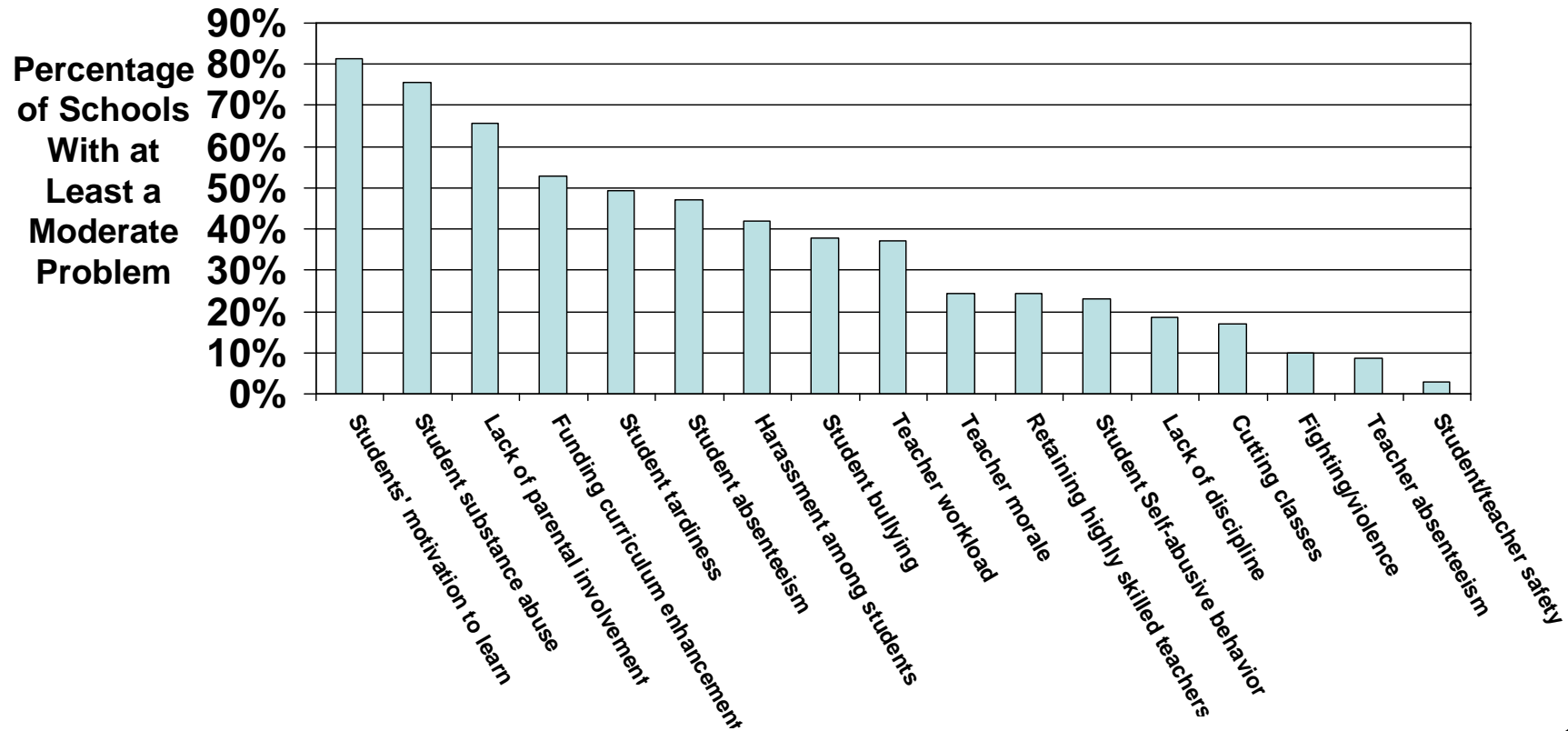
Figure 5: Student Absences in Maine High Schools on an Average Day



What Are the Big Problems in Maine High Schools?

Small high schools have been promoted as being superior to larger high schools in many ways. It is said that they are not plagued by the problems that tend to occur in larger schools. Does this claim hold up in Maine? Are small high schools the solution to big problems? The first step in answering the question is to determine what the big problems are. Figure 6 shows the percentage of schools with at least a moderate problem in each of seventeen areas, as perceived and reported by the principal. Looked at this way, the six biggest problems in Maine schools of the seventeen listed are, in order, students' motivation to learn, student substance abuse, lack of parental involvement, funding for curriculum enhancement activities, student tardiness, and student absenteeism. The next step is to ask whether smaller high schools have less of a problem in these areas than larger schools. This question is addressed on the following page.

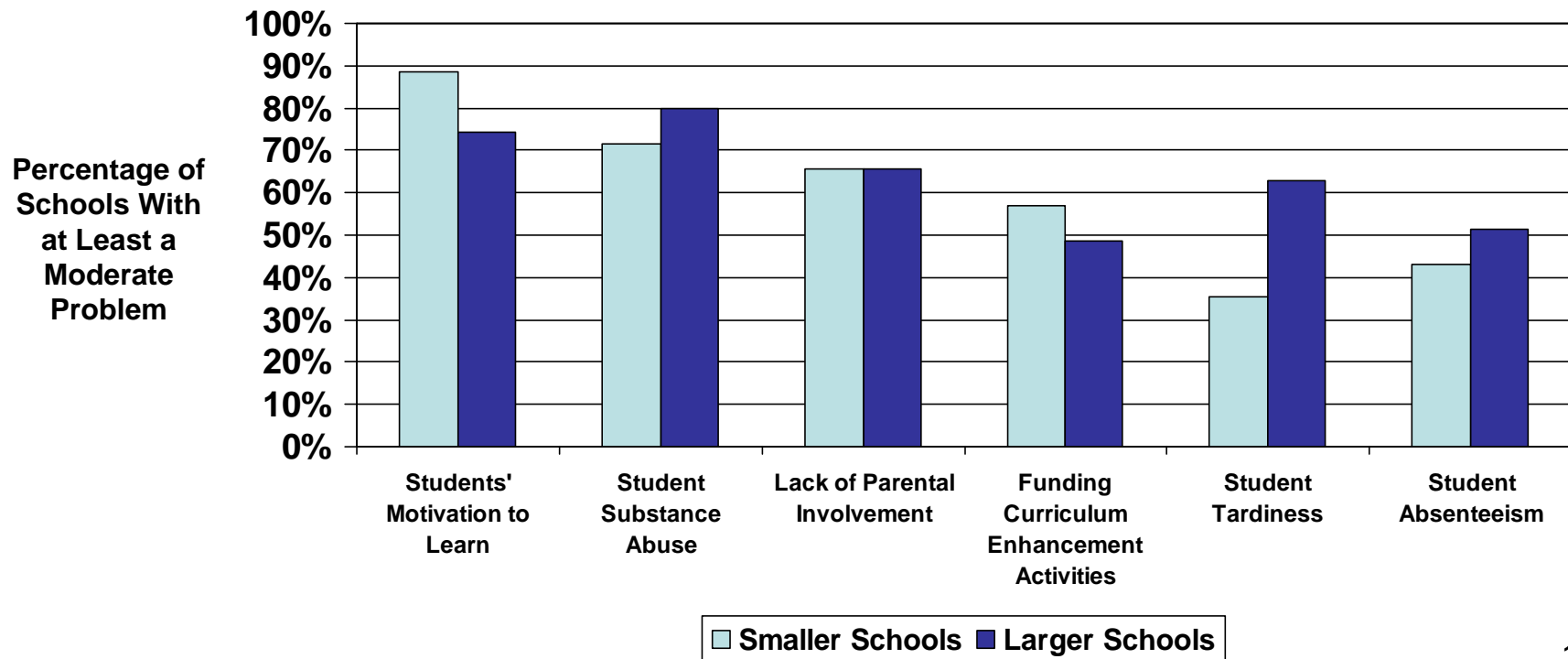
Figure 6: Perceived Problem Areas in Maine High Schools



Are Small Schools the Solution to Big Problems?

Based on principals' perceptions, as displayed in Figure 7, it seems that smaller high schools fare better than larger schools in some areas, worse in others, and just about the same in at least one area, namely, lack of parental involvement. The only area where the difference is large enough to count as statistical evidence is student tardiness: tardiness is at least a moderate problem in more larger schools than smaller schools (Pearson $\chi^2 = 5.242$, 1 df; $p = .022$). Whether this is due to the nature of small schools, a higher percentage of students riding the bus, or other factors is beyond the scope of this report. However, these results, along with similar results in other studies, may be a cue to spend less time searching for solutions in the sizes of schools, and expend more effort examining and emulating schools that, regardless of size, seem to have found some solutions.

Figure 7: Major Problem Areas in Smaller and Larger High Schools



Bonus Question: Is Additional Funding the Solution to Big Problems?

Based on principals' perceptions, it seems that higher spending schools fare better than lower spending schools in some areas and just about the same in others. In only one area is the observed difference large enough to constitute statistical evidence: lack of parental involvement is at least a moderate problem in fewer higher spending schools than lower spending schools (Pearson $\chi^2 = 4.368$, 1 df; $p = .037$). This difference may be due to the spending, due to the socio-economic status of the community members, or other possible factors. However, these results make clear that spending more money than other schools is not sufficient, nor necessary, to solving these serious problems. The message in these results is not that money doesn't matter. It obviously takes a lot of money to operate a school. The results do indicate, though, that just as many lower spending schools seem to have found solutions to these problems as higher spending schools.

Figure 8: Major Problem Areas in Lower and Higher Spending Schools

