

## 2009 Physical Fitness and Academic Achievement – Summary

In 2004, the CDE conducted an analysis to examine the relationship between physical fitness and academic achievement using the 2004 Physical Fitness Test (PFT) and the California Standards Tests (CSTs) as measures. Academic achievement was assessed using scale scores for the CSTs in English-language arts and math, and physical fitness was assessed using the number of PFT physical fitness standards achieved. The results of the study indicated that there was a strong positive relationship between physical fitness and academic achievement.

The CDE study was replicated using EGUSD data and a portion of that analysis is shown below (full analysis contained in a different document). The analyses includes the mean scale scores for the ELA and Math CSTs by each overall PFT score.<sup>1</sup>

As evident in Figure 1, the mean scale score on the CST ELA improved as overall PFT scores improved. The average scale score on the CST ELA for students who achieved one healthy fitness standard was 329 for 5<sup>th</sup> graders, 320 for 7<sup>th</sup> graders, and 296 for 9<sup>th</sup> graders. In contrast, the average CST ELA scale scores for students who achieved all six fitness standards were 373, 375, and 351, for 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> graders respectively.

**Figure 1. 2009 CST ELA mean scale scores for grades 5, 7, and 9 by the number of fitness standards achieved (i.e., the overall PFT score).**

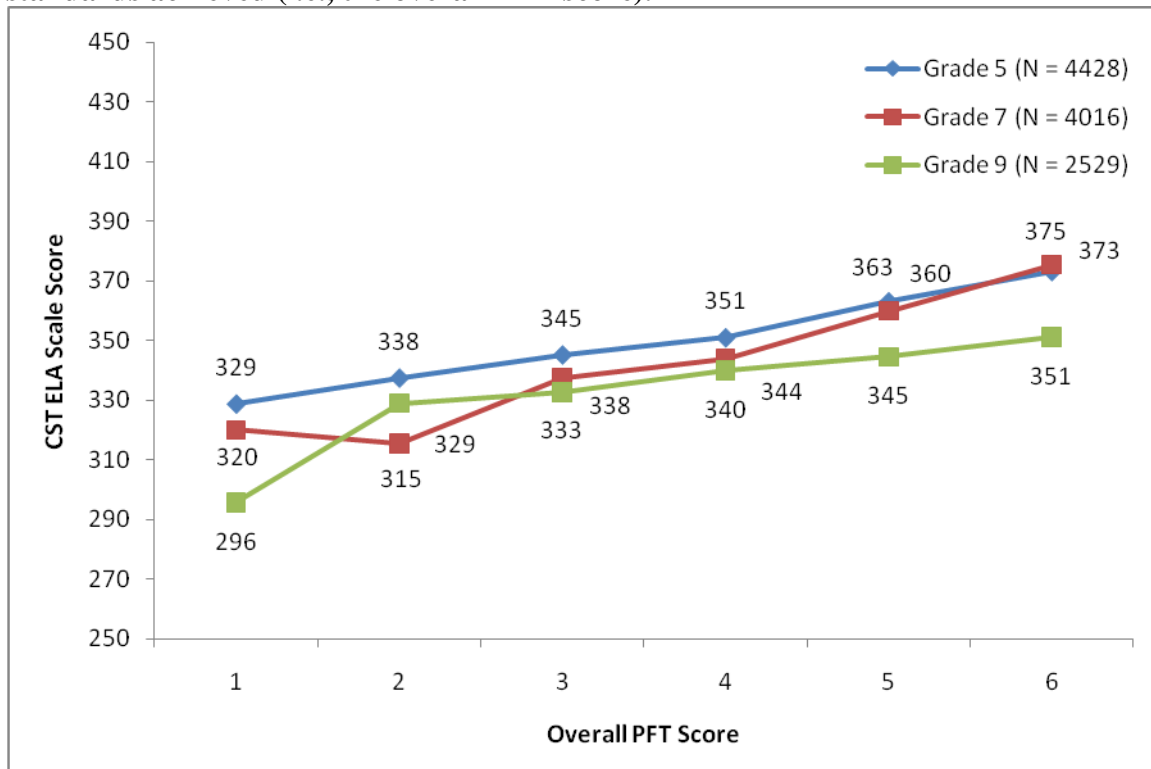
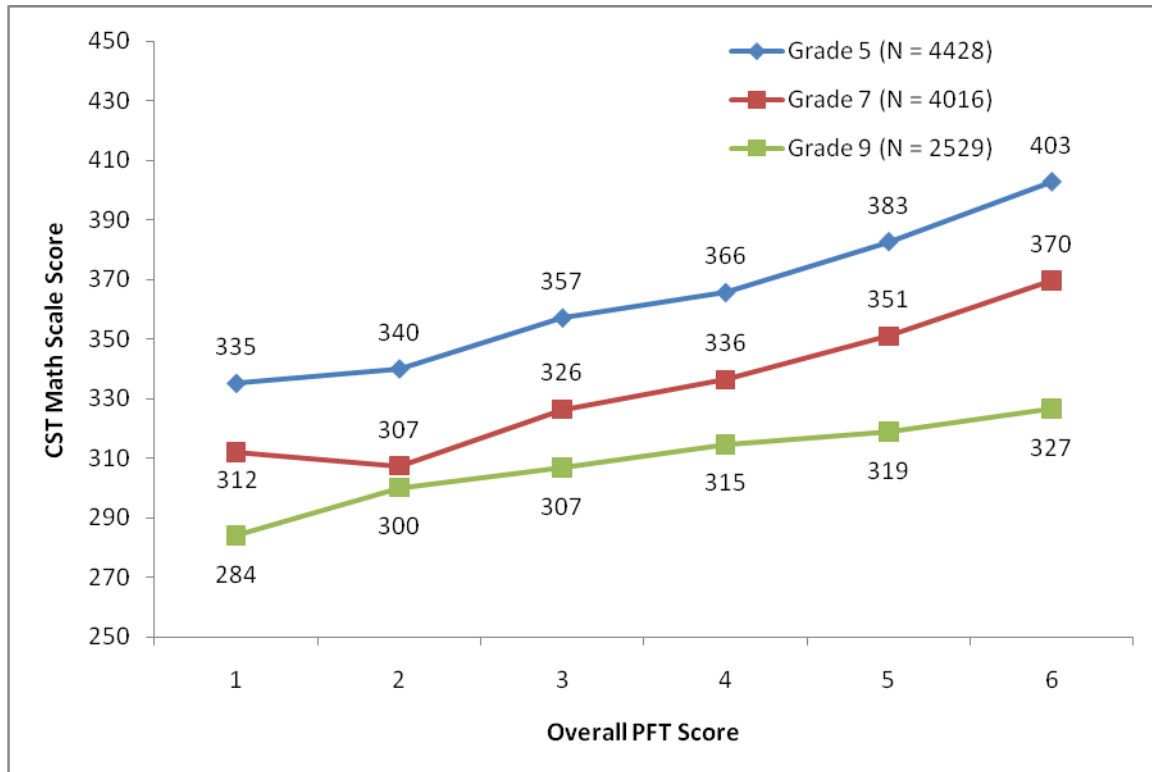


Figure 2 shows a similar pattern of results using 2009 CST in mathematics scale scores. As overall PFT scores improved, the mean scale score on the CST in mathematics increased.

<sup>1</sup> \*Students with an overall PFT score of 0 were not included in any of the figures due to small sample sizes. For math, the Grade 7 Math CST was used for 7th grade CST scale scores and the Algebra I CST was used for 9th grade.

**Figure 2. 2009 CST Math mean scale scores by overall PFT scores for grades 5, 7, and 9.**



The results of these analyses provide support for a positive relationship between academic achievement and physical fitness, as the level of physical fitness increases there is also an increase in students' mean CST scale scores. It is important to note that these results do not indicate causality. It cannot be inferred from these data that improved physical fitness caused an increase or improvement in academic achievement or vice versa.