



Mid Atlantic Regional Chapter of the American College of Sports Medicine

Annual Scientific Meeting, November 4th- 5th, 2017
Conference Proceedings

International Journal of Exercise Science, Issue 9, Volume 6



Improvement in High School 1600-Meter Run Times Within and Between Seasons

Thomas P. O'Toole, Michael G. Wortley. Georgian Court University, Lakewood, NJ

A model for expected improvement of high school 1600-meter runners' race times throughout a track season could improve coaches' ability to determine the effectiveness of a given training program.

PURPOSE: To develop a model for improvement within and between seasons for high school track athletes in the 1600-m run through analysis of New Jersey meet results across one track season. **METHODS:** The results of the 1600-m races from 36 high school indoor and outdoor track meets from December 2014 to May 2015 were downloaded from a publicly available website (<http://nj.milesplit.com>), and regression lines were used to model the average race time as a function of the week of the season by gender and grade.

RESULTS: The regression parameters for 9th grade females were an intercept of 384.2 ± 6.2 s (mean \pm SE) and a slope of -1.2 ± 0.5 s \cdot week $^{-1}$ ($r^2=0.28$). For 10th grade females the intercept was 377.9 ± 5.7 s and the slope was -1.1 ± 0.4 s \cdot week $^{-1}$ ($r^2=0.29$). For 11th grade females the intercept was 362.3 ± 4.1 s and the slope was -0.4 ± 0.3 s \cdot week $^{-1}$ ($r^2=0.08$). For 12th grade females the intercept was 366.5 ± 5.7 s and the slope was -0.8 ± 0.4 s \cdot week $^{-1}$ ($r^2=0.19$). For 9th grade males the intercept was 323.9 ± 5.1 s and the slope was -0.5 ± 0.4 s \cdot week $^{-1}$ ($r^2=0.08$). For 10th grade males the intercept was 314.9 ± 4.1 s and the slope was -1.0 ± 0.3 s \cdot week $^{-1}$ ($r^2=0.39$). For 11th grade males the intercept was 304.1 ± 4.0 s and the slope was -0.6 ± 0.3 s \cdot week $^{-1}$ ($r^2=0.22$). For 12th grade males the intercept was 300.5 ± 4.1 s and the slope was -0.5 ± 0.3 s \cdot week $^{-1}$ ($r^2=0.15$). **CONCLUSIONS:** Further research is needed verify the accuracy of this model. We speculate that this model would be a poor predictor of week-to-week 1600-m times, but a better predictor of long term improvement.

