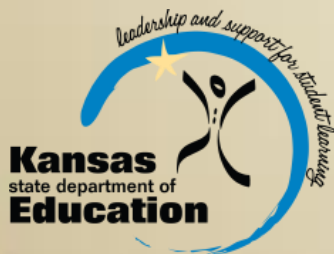


Measuring and Improving Student Fitness Statewide

Jennifer Church, MS, RD

Kansas Department of Health and Environment



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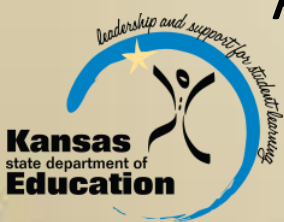


Kansas Health Foundation

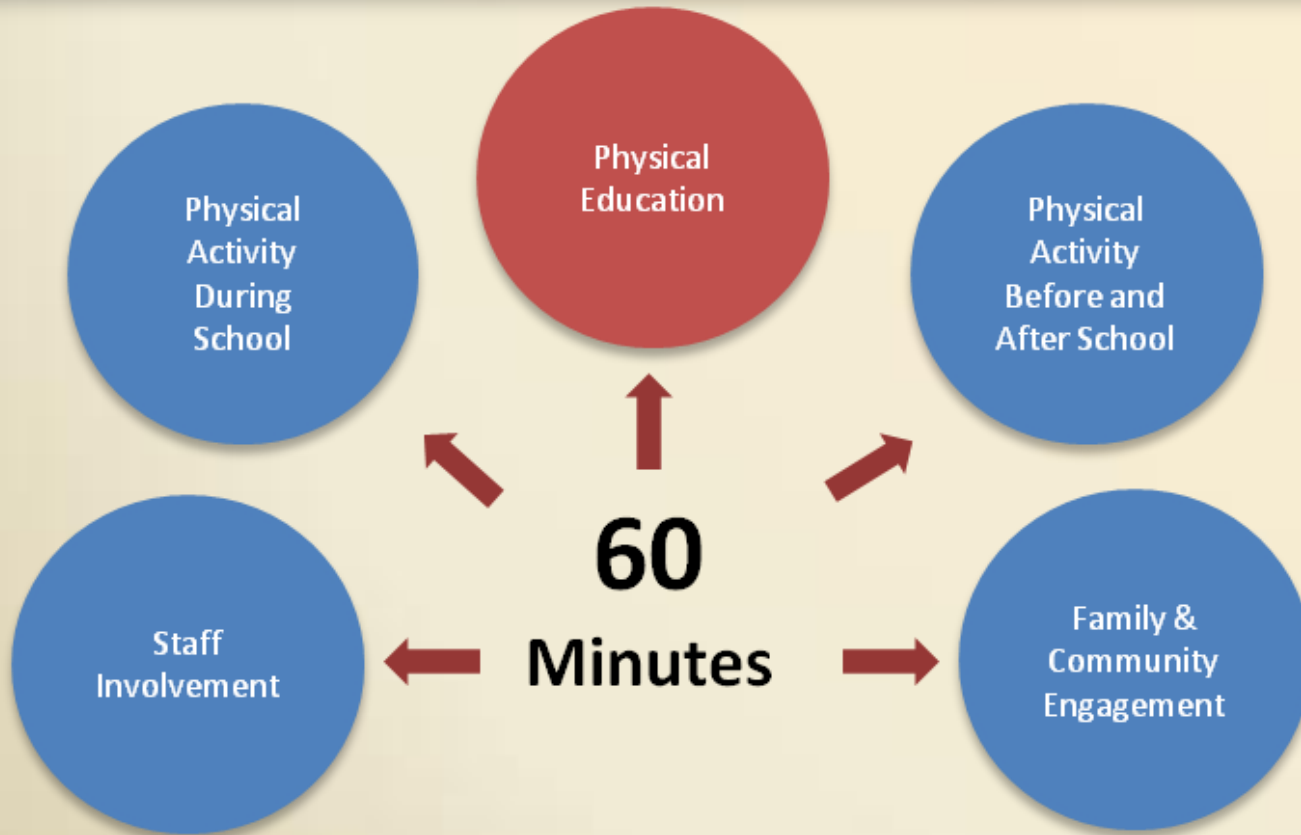


Measuring and Improving Student Fitness Statewide

- Two main projects implemented through the Healthy Kansas Schools Program beginning in 2011:
 - (1) Kansas Fitness Information Tracking (K-FIT) system links fitness measures and academic performance of students in grades 4-9
 - (2) Let's Move in Kansas Schools trains physical educators on the Comprehensive School Physical Activity Program (CSPAP)



Comprehensive School Physical Activity Program



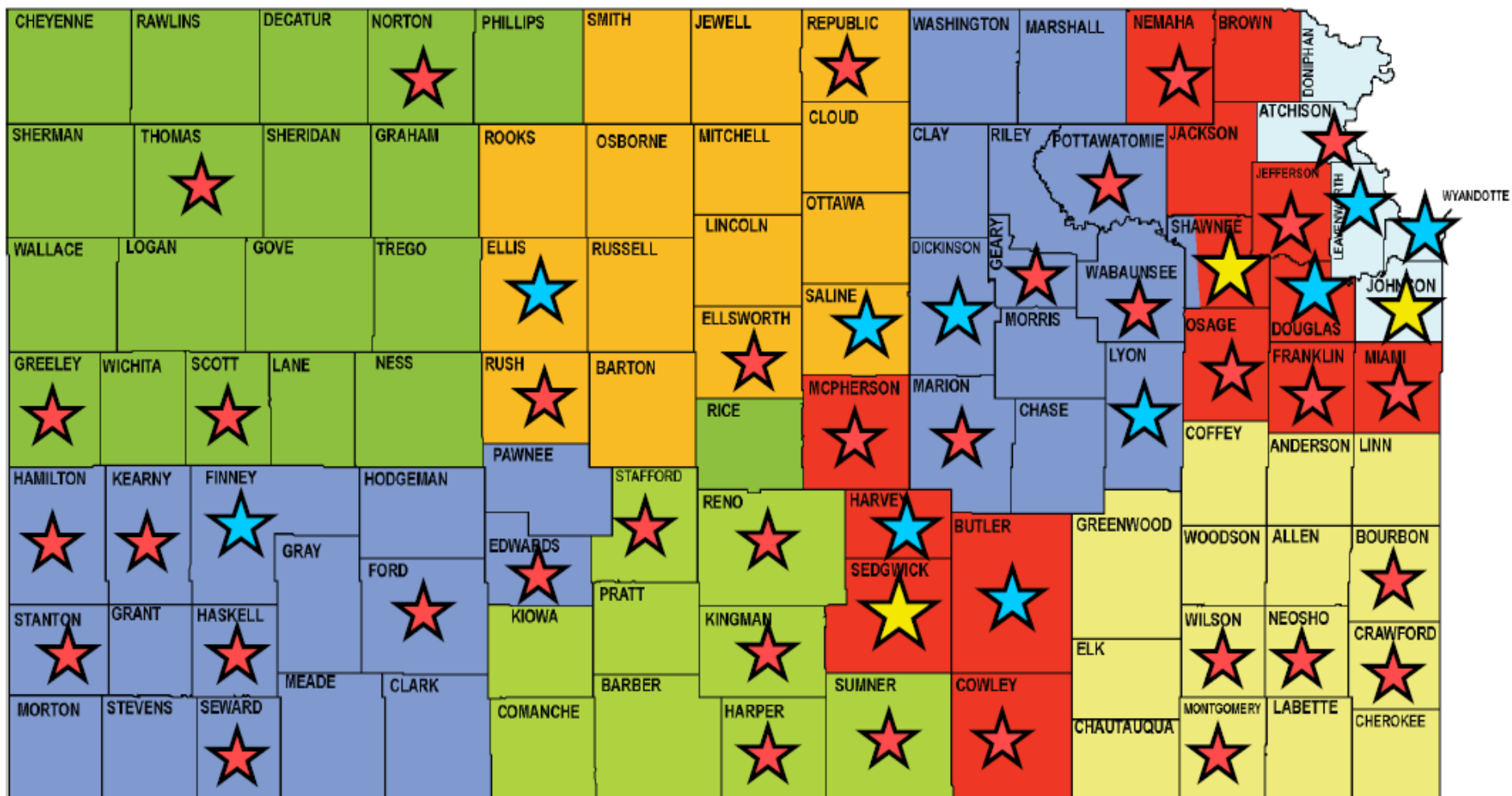
Kansas Let's Move!

Active Kansas Schools Trainings

- 18 Kansas Physical Educators received national training on Let's Move! Active Schools (CSPAP)
- Trainees develop and implement school action plans and receive support from a Kansas mentor
- To date, over 200 PE teachers have received the Let's Move! Active Schools training over a period of 3 years



Let's Move in Kansas Schools Trainees 2011-2013



202 Physical Educators trained

73 School Districts

49 Counties

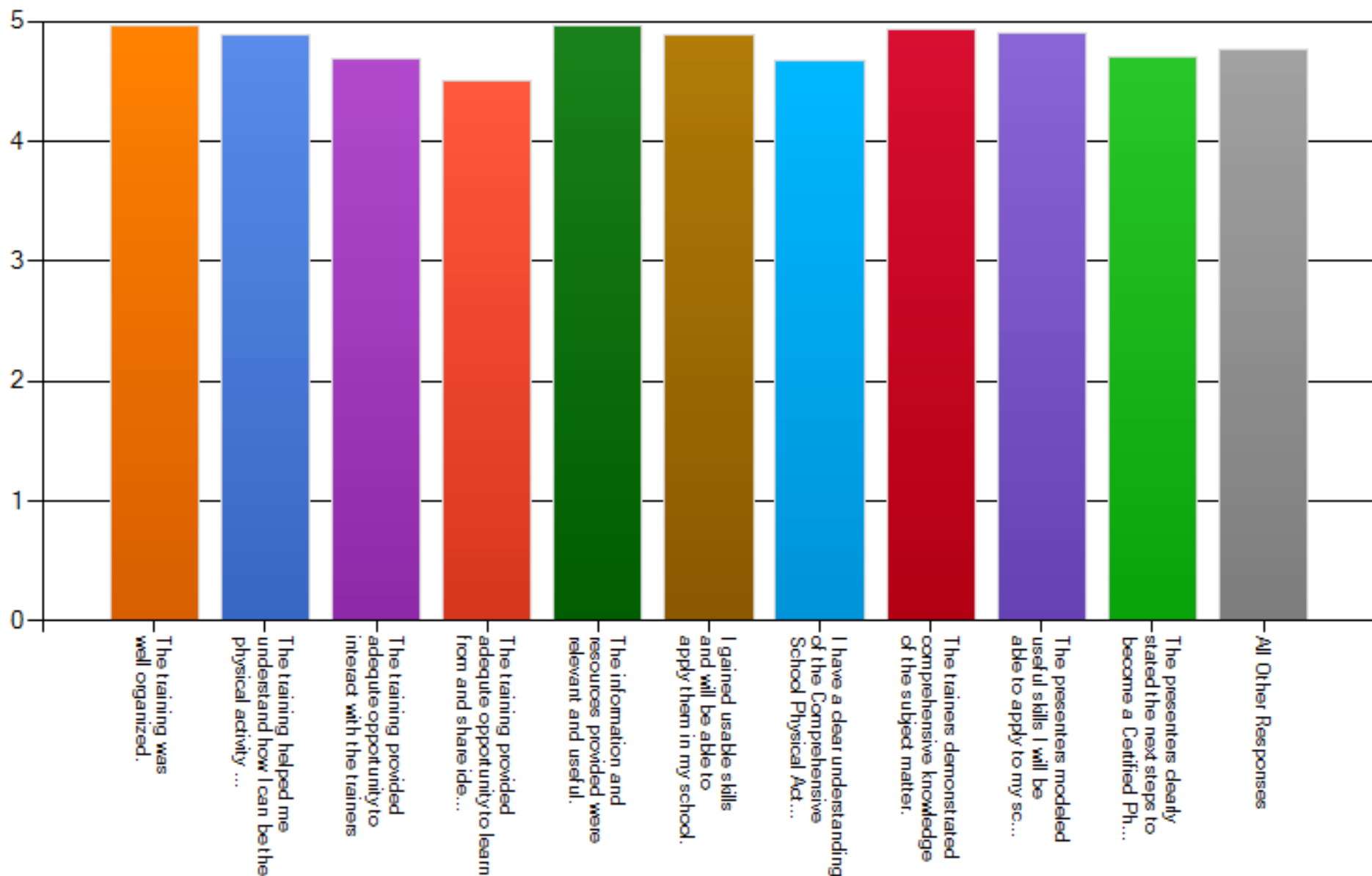
-  15+ Trainees
-  5-14 Trainees
-  1-4 Trainees

140 Certified Directors of Physical Activity

20 University Faculty

13 Universities

Please rate the following items on a scale from 1 to 5 to indicate the extent to which you agree or disagree with each statement. Please select the appropriate number: 1=Strongly Disagree; 2=Disagree; 3=Neutral; 4=Agree; 5=Strongly Agree



Barriers to Implementing a CSPAP Cited in Post-Training Survey (n=35)

- Staff buy-in or Support (43% of respondents)
- Time (31% of respondents)
- Other barriers cited:
 - Money
 - Space
 - Limited PE time
 - Training
 - Competition with other programs

As of July 1, 2013, Kansas PALS addressed the following components:

PA During School

- Addressed in 70 schools and 8 universities

PA Before & After School

- Addressed in 41 schools and 5 universities

Family & Community

- Addressed in 30 schools and 4 universities

Staff Involvement

- Addressed in 25 schools and 4 universities



KANSAS FITNESS INFORMATION TRACKING

K-FIT Overview

- Goals
 - To enhance the understanding of the relationships between fitness and individual academic indicators.
 - To reinforce the importance of physical education and physical activity to the academic mission of schools.
 - To provide an online system that allows physical educators to conduct and record student fitness testing, to 900 schools statewide. (FITNESSGRAM®)

K-FIT

How it Works

- PE teachers trained on 5 key fitness tests and on use of FitnessGram program
- Student-level data from the following sources were linked to create K-FIT student database:
 - Demographics and absenteeism from the Kansas Individual Data on Students (KIDS) database
 - Student academic performance assessment results for reading and math
 - FitnessGram

Overview of Fitness Tests

PACER: The PACER is the default aerobic capacity test in FITNESSGRAM. The PACER score is the total number of laps completed by the student. A lap is defined as one 20-meter distance. A 15-meter version of the PACER is also available for use in smaller facilities. PACER laps are converted to an aerobic capacity score.

Curl-up:

The curl-up is a test of abdominal strength and endurance. It is a safer and more effective test than the modified sit-up because it does not involve the use of the hip flexor muscles and minimizes compression to the spine. The score is the number of curl-ups performed by the student (maximum=75).



Trunk lift:

The trunk lift is a test of trunk extensor strength and flexibility. For this test, a student lifts their upper body off the floor using the back muscles and holds the position to allow for measurement. The score is the number of inches the upper body is lifted off the ground while the student is facedown (maximum=12 inches).

90 degree push-up:

The 90 degree push-up is a test of upper body strength and endurance. For this test, a student bends the elbow to 90 degrees with the upper arm parallel to the floor. The score is the number of 90 degree push-ups performed by the student.



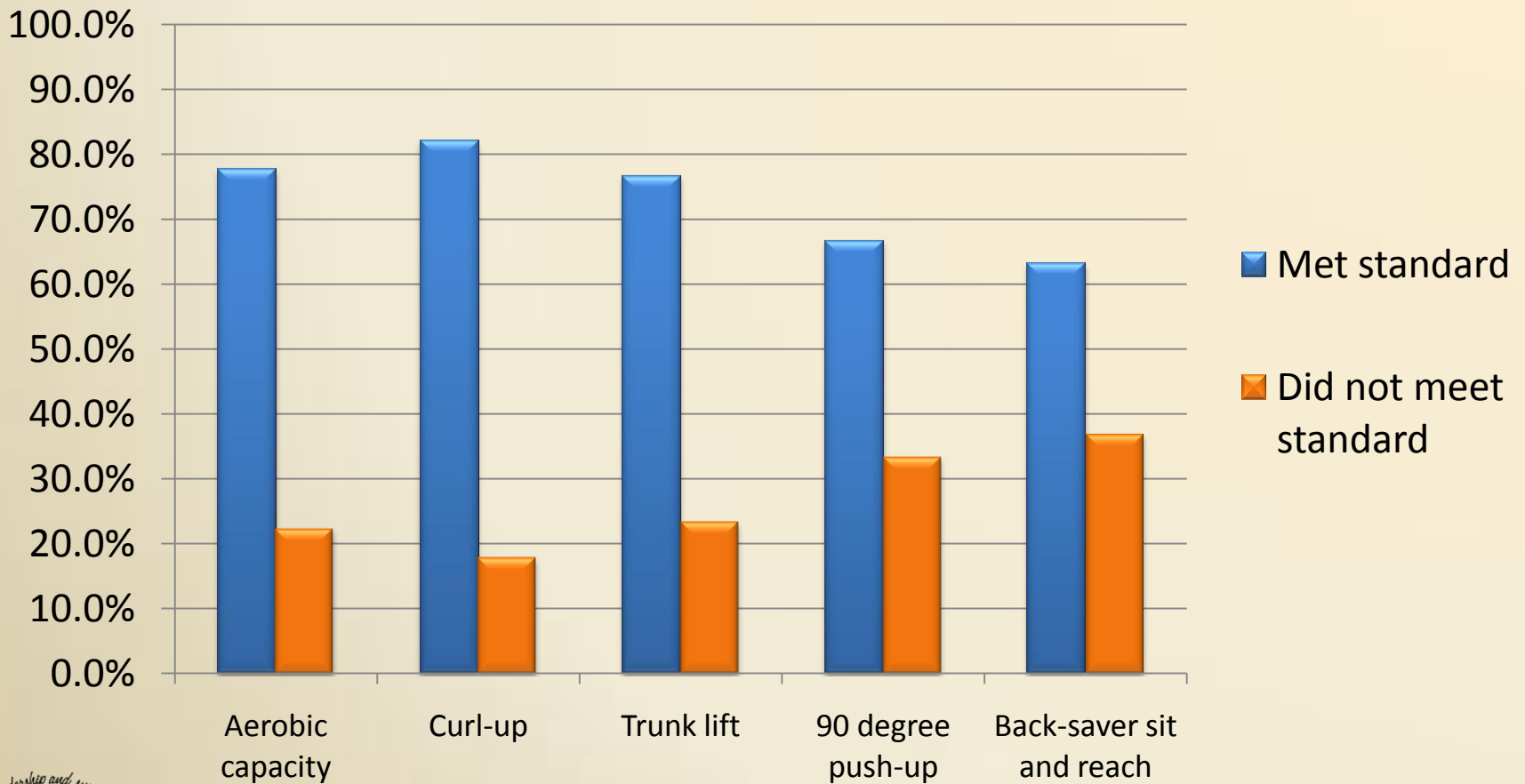
Back-saver sit and reach:

The back-saver sit and reach is a test of flexibility, particularly the flexibility of the hamstring muscles. For this test, a student reaches to a specified distance on the right and left sides of the body. The score is the number of inches on each side the student can reach on the test apparatus (maximum=12 inches).

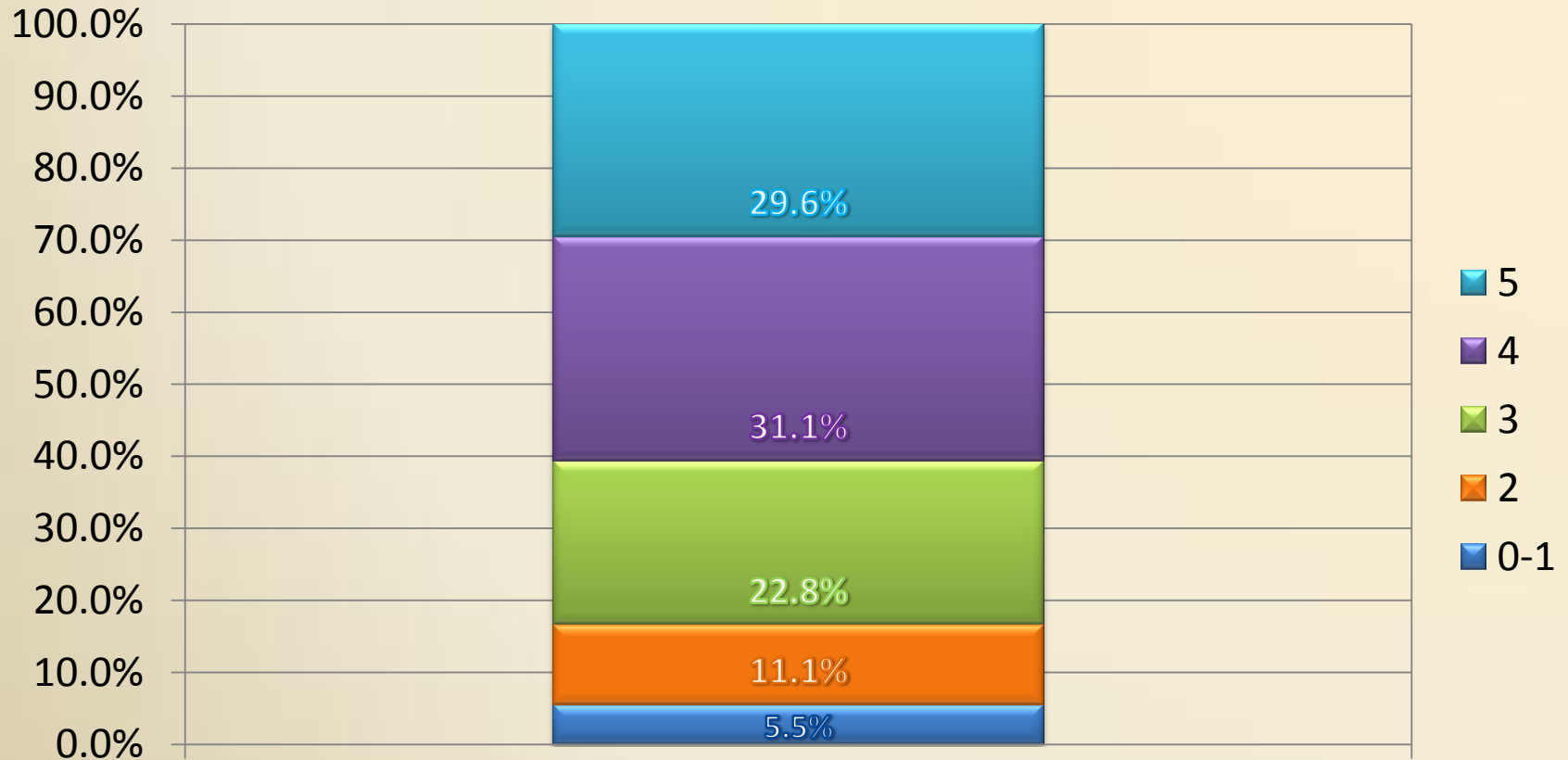
K-FIT Analysis

- 17,861 student records entered into K-FIT data system during 2011/2012 school year
- Exclusion criteria applied: grades K-3 and 10-12 and those with physical, mental, emotional or developmental disabilities
- 13,483 student records included in analysis

Percentage of students in K-FIT database who met and did not meet FITNESSGRAM Healthy Fitness Zone standards, by selected fitness test, Kansas 2011-2012 school year



Percentage of students in K-FIT database who met FitnessGram Healthy Fitness Zone standards for 0-1, 2, 3, 4, or all 5 fitness tests, Kansas 2011-2012 school year



Number of fitness tests for which fitness standards were met

K-FIT Conclusions

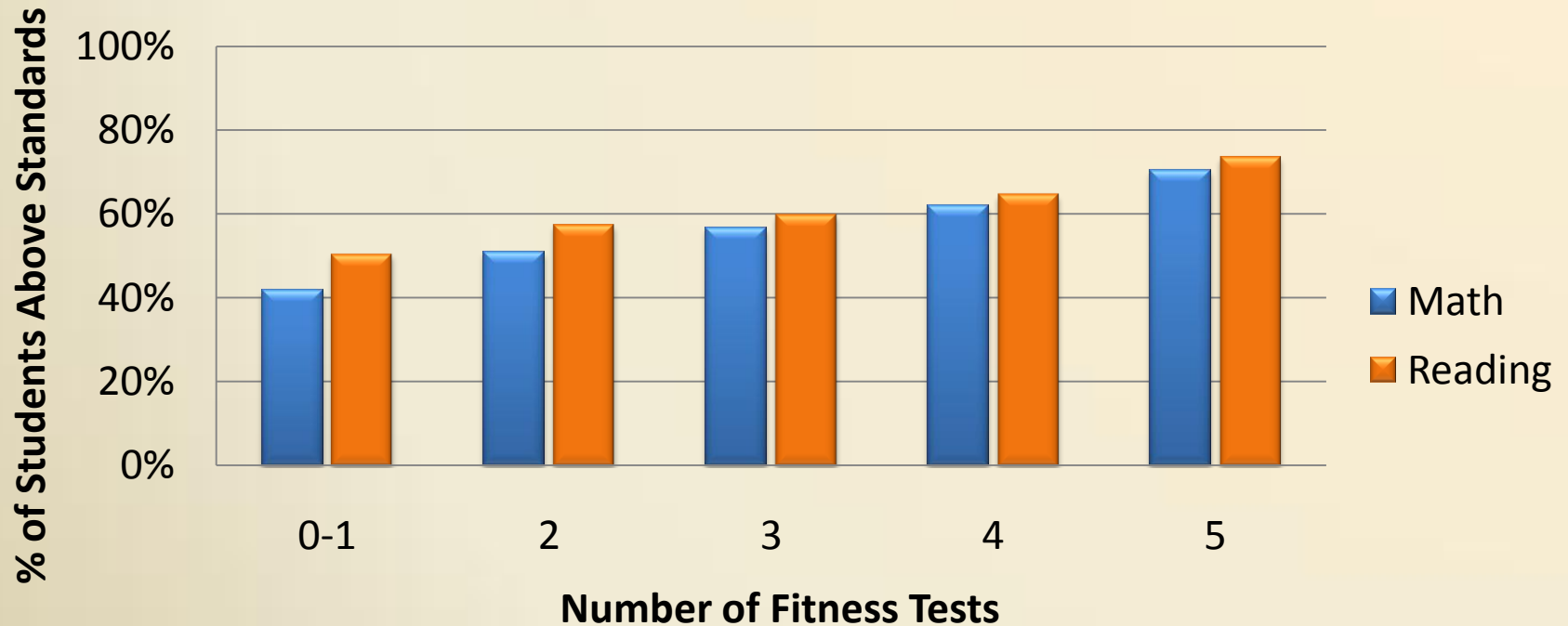
- A higher percentage of students who are physically fit score above standard on Kansas state assessments in reading and math and miss fewer days of school



K-FIT Conclusions

- Odds of being above math and reading performance standards significantly higher among students who met fitness standards in all five fitness tests compared to those who did not
 - For students who met fitness standards for 0 to 1 fitness tests, 50.4 and 41.8% scored above standard on reading and math assessments, respectively.
 - In comparison, among students who met fitness standards for all 5 fitness tests, 73.5 and 70.3% scored above standard on reading and math assessments, respectively.

Percent of students who were above standards for reading and math by number of fitness tests for which fitness standards were met, 2011-12 K-FIT database

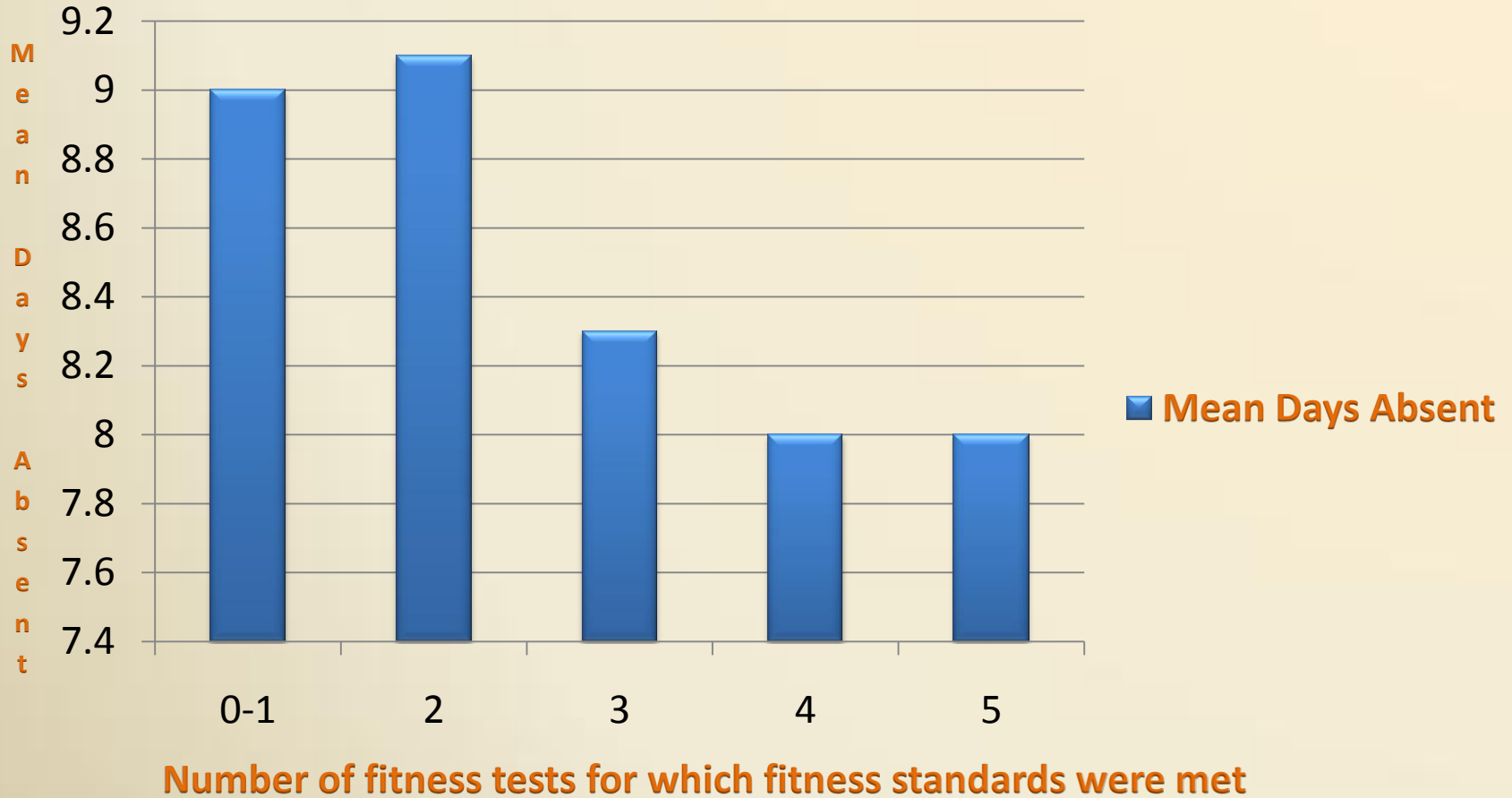


The fitness level of a student was determined by the number of fitness tests for which the student achieved the “healthy fitness zone” (or met fitness standards) out of five key tests that measured aerobic capacity, strength and flexibility. The odds of being above math and reading performance standards were significantly higher among students who met fitness standards in all five fitness tests compared to those who did not.

K-FIT Conclusions

- Students who met the HFZ standards on all five fitness tests were absent significantly fewer days (8.0 days), on average, than students who met the HFZ standards on fewer than two fitness tests (8.9 days) ($t = -2.58$, $p = 0.01$)

Mean number of days absent among students in K-FIT database, by number of fitness tests for which HFZ standards were met, Kansas 2011-2012 school year





Home > Kansas Fitness Information Tracking (K-FIT)

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Kansas Fitness Information Tracking (K-FIT)

K-FIT Overview

Kansas Fitness Information Tracking (K-FIT) is a Healthy Kansas Schools project administered by the Kansas State Department of Education (KSDE) and Kansas Department of Health and Environment (KDHE) and funded by the Kansas Health Foundation (KHF). The goal of the initiative is to enhance the understanding of the relationships between various fitness components and individual academic performance. The FITNESSGRAM online system enables participating schools to incorporate uniform fitness testing into their physical education curriculum and submit results to KSDE.



Latest K-FIT Report and Key Findings

During the 2011-2012 school year, 152 schools representing 40 school districts across Kansas submitted FITNESSGRAM data on more than 17,000 students. The findings of the study highlight aggregate, de-identified data from more than 13,000 students in grades 4-9. Key findings from the study include:

- On average, students who are physically fit score above standard on Kansas state assessments in reading and math.
- Students who met all five fitness standards were absent from school significantly less than students who met two or fewer fitness standards.

For more information about the report and findings, please view any of the following documents:

- [Full K-FIT Report](#)
- [Executive Summary](#)
- [Official News Release](#)
- [K-FIT Informational Handout](#)

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Next Steps

- Use FitnessGram test results as a way to evaluate programs
- Continue training and providing site licenses for FitnessGram until June 2014
- Analyze at least 2-3 years of data to determine changes over time
 - Data for 2012-13 currently being analyzed
 - Records on twice as many schools (>300) and 3 times as many students (>56,000) received for 2012-13 school year
 - Longitudinal data will be available starting in year 2



Questions?

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