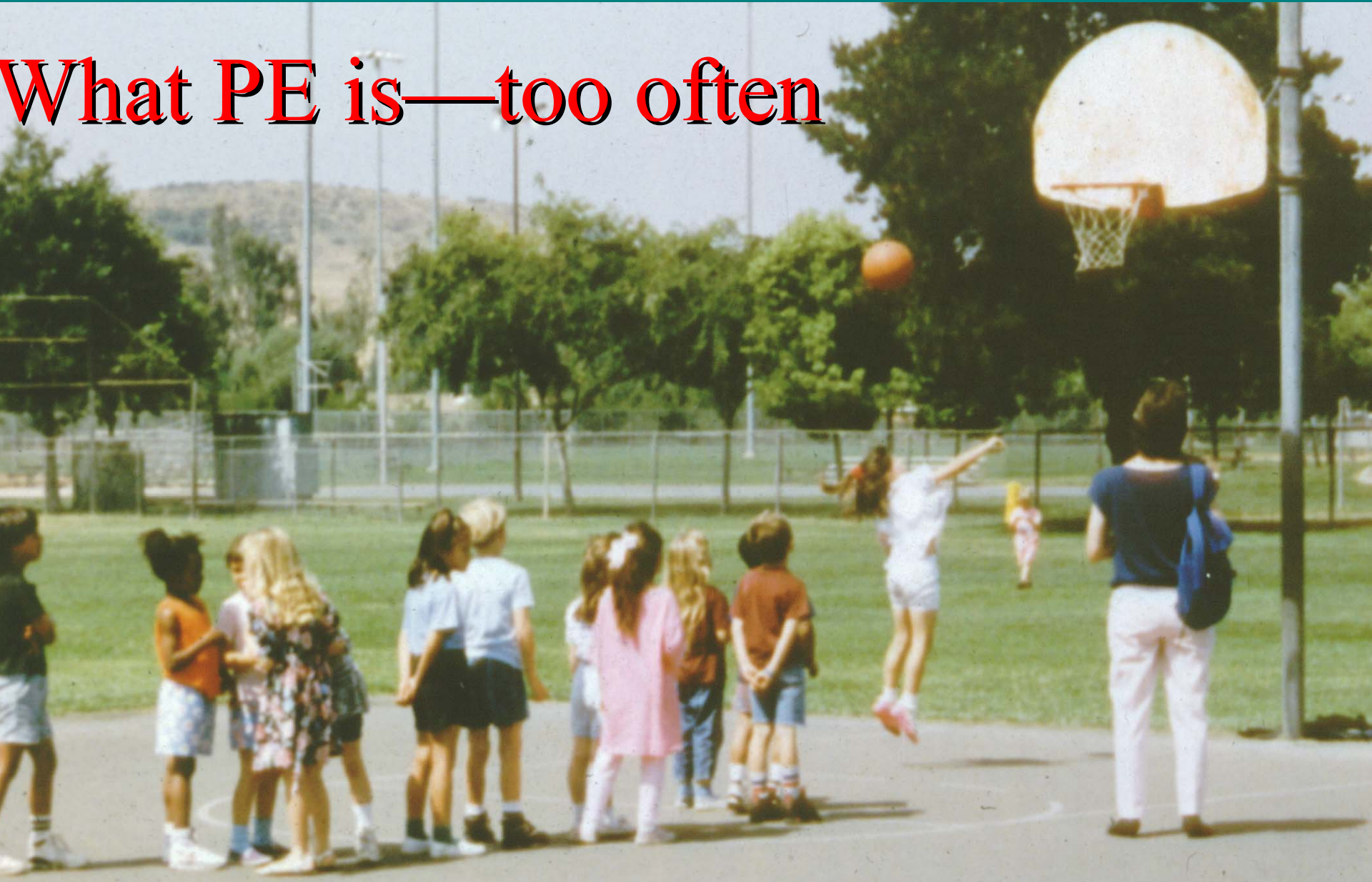


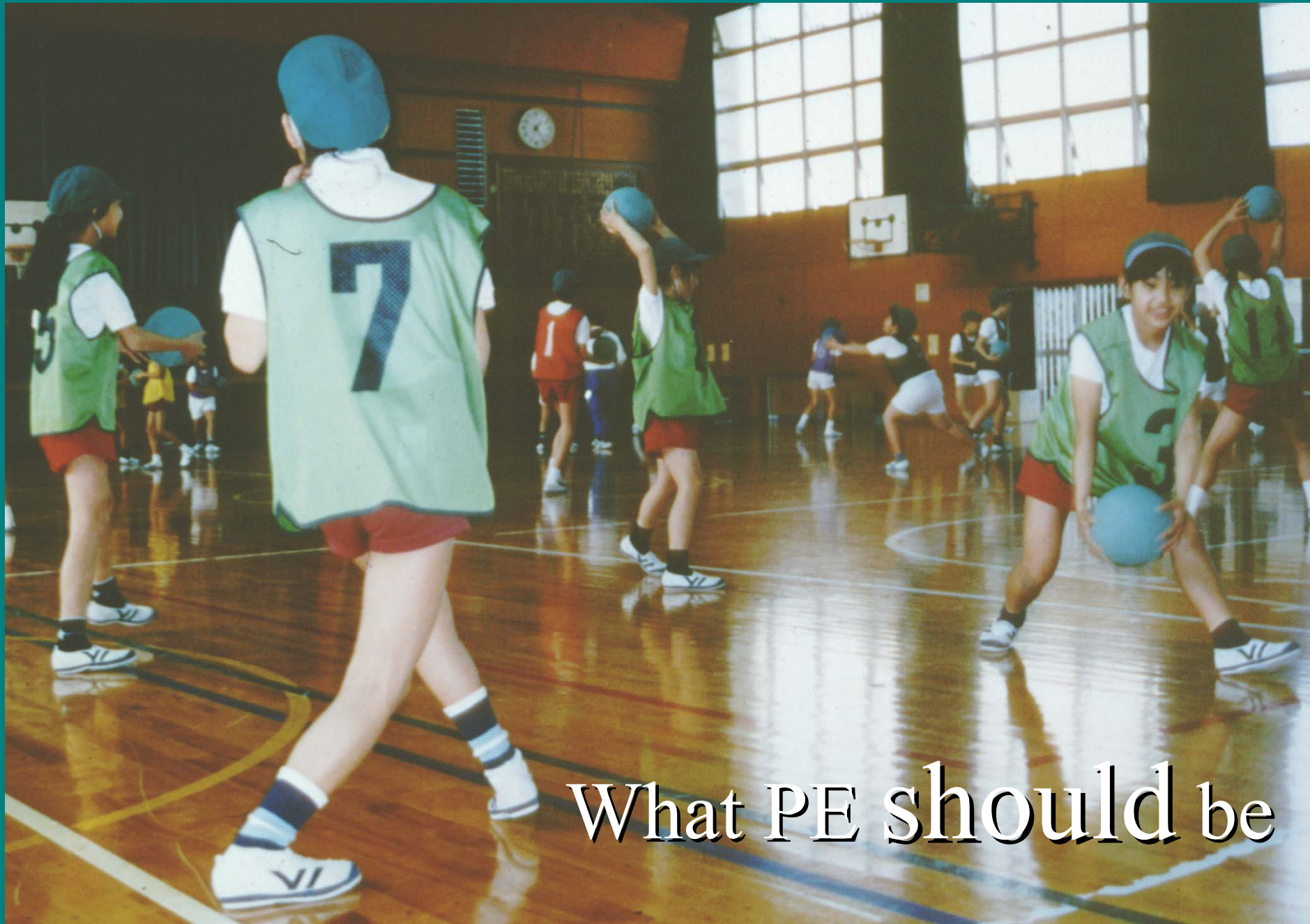


SPARK & MSPAN: Evidence-Based PE

**James Sallis
San Diego State University**

What PE is—too often





What PE should be

SPORTS, PLAY & ACTIVE

SPARK

RECREATION FOR KIDS!



SPARK Study Design

- 7 primary schools randomly assigned to 3 conditions
 - Usual PE taught by classroom teachers
 - SPARK taught by trained classroom teachers
 - SPARK taught by PE specialists
- Program delivered in 4th & 5th grades
- About 2000 students involved

Part 1: Health-Related Fitness Activities



Part 2: Skill-Related Activities



SELF-MANAGEMENT WORKSHOPS

- **To promote physical activity out of school & after the program**
- **To encourage children to seek out and engage in activity**
- **Teach behavior change skills**
- **Weekly 30-min. classes**
- **Scripted teacher guide**

SPARK IMPLEMENTATION

Consists of three components:

- 1) Curricula**
- 2) Staff Development**
- 3) On-site consultation and follow-up
with a P.E. Specialist**

jumb rope

I am Ms. Bonafede

From Elaine

hand ball

scorer

scorer

basetball

Spark

Is Fun

Sports, Play, Active, Recreation for Kids

jumb rope

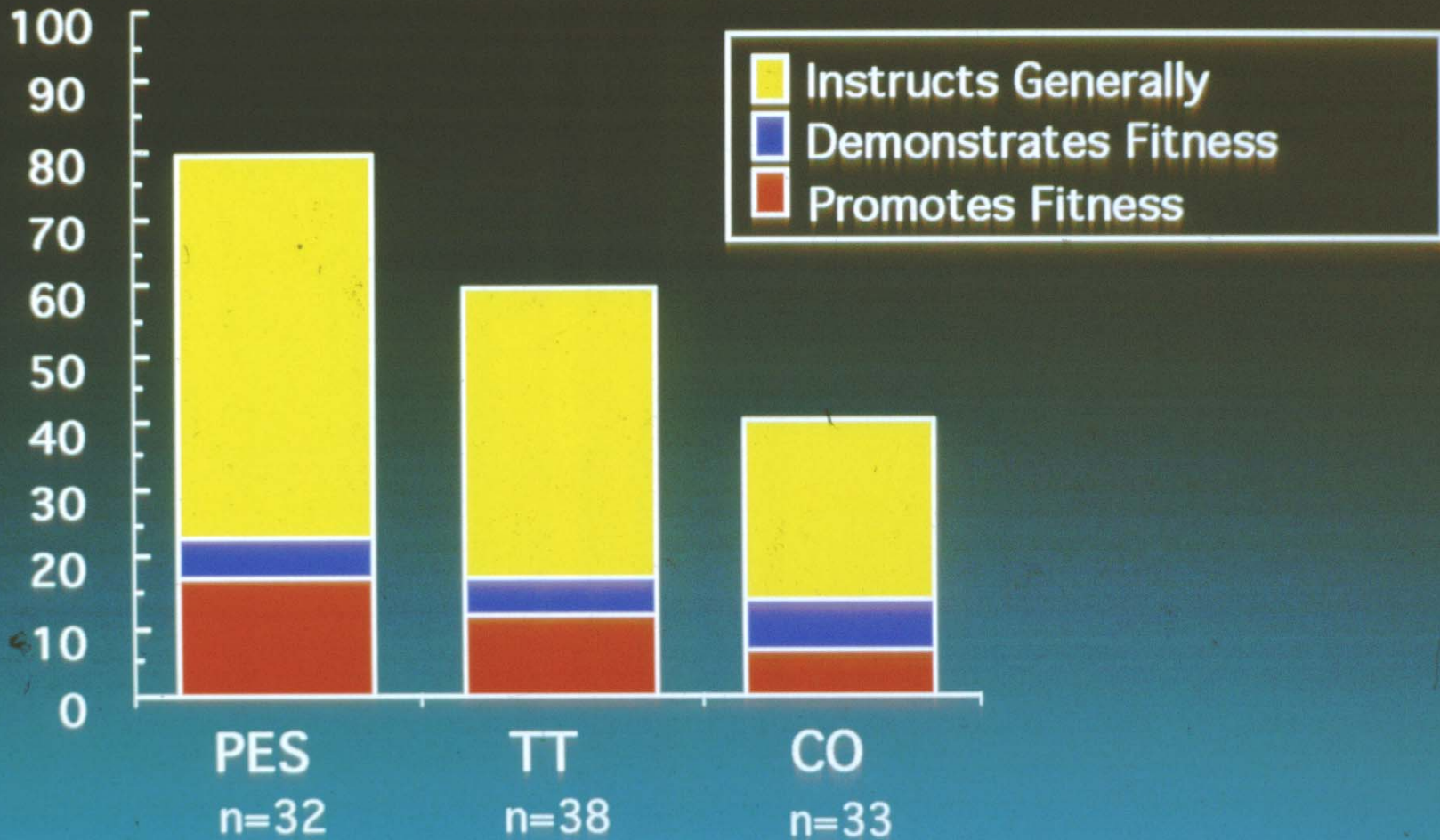
hand ball

Ms. Bonafede IS A Great teacher!

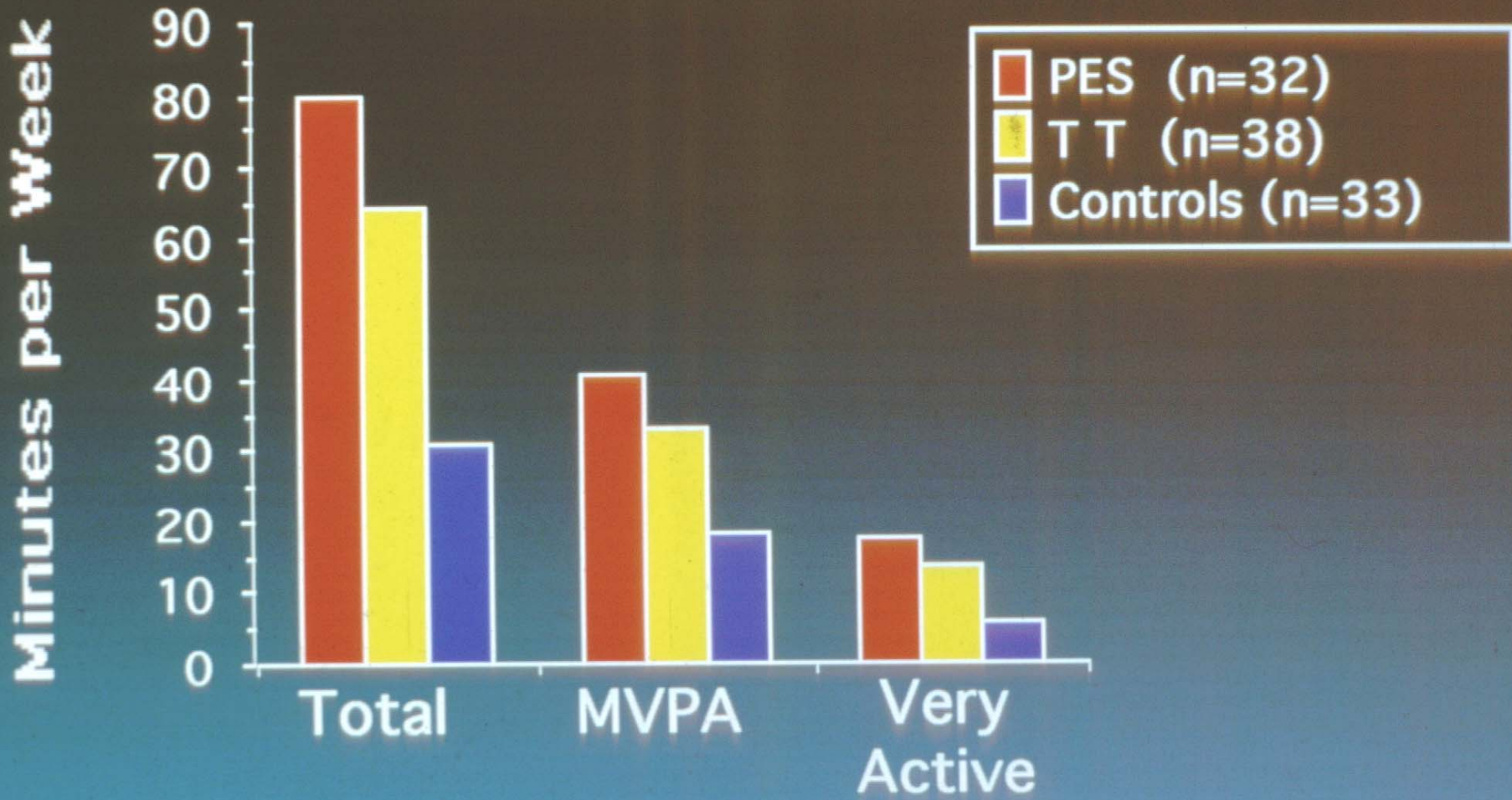


Active Instruction Time

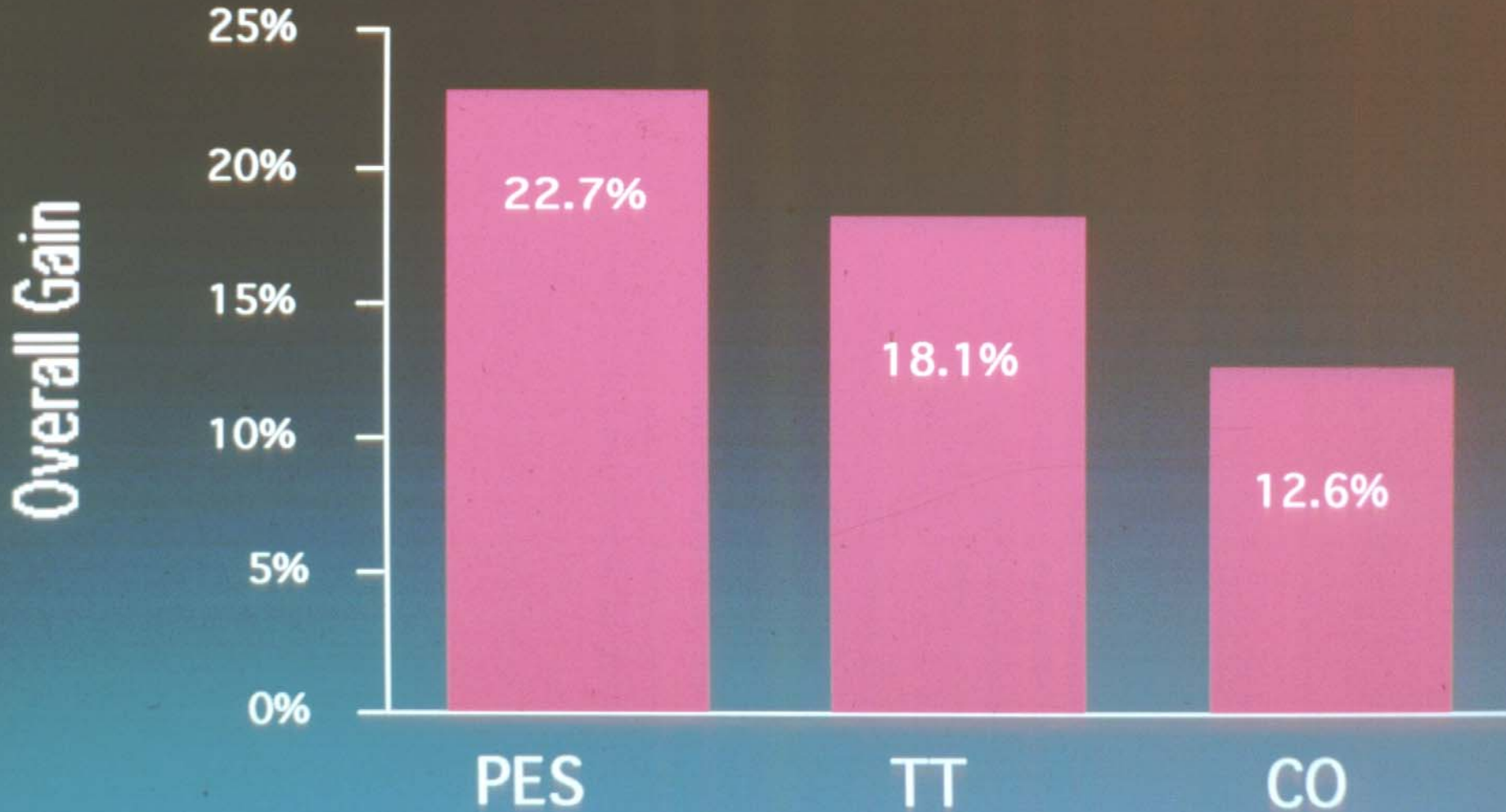
Percent of Lesson



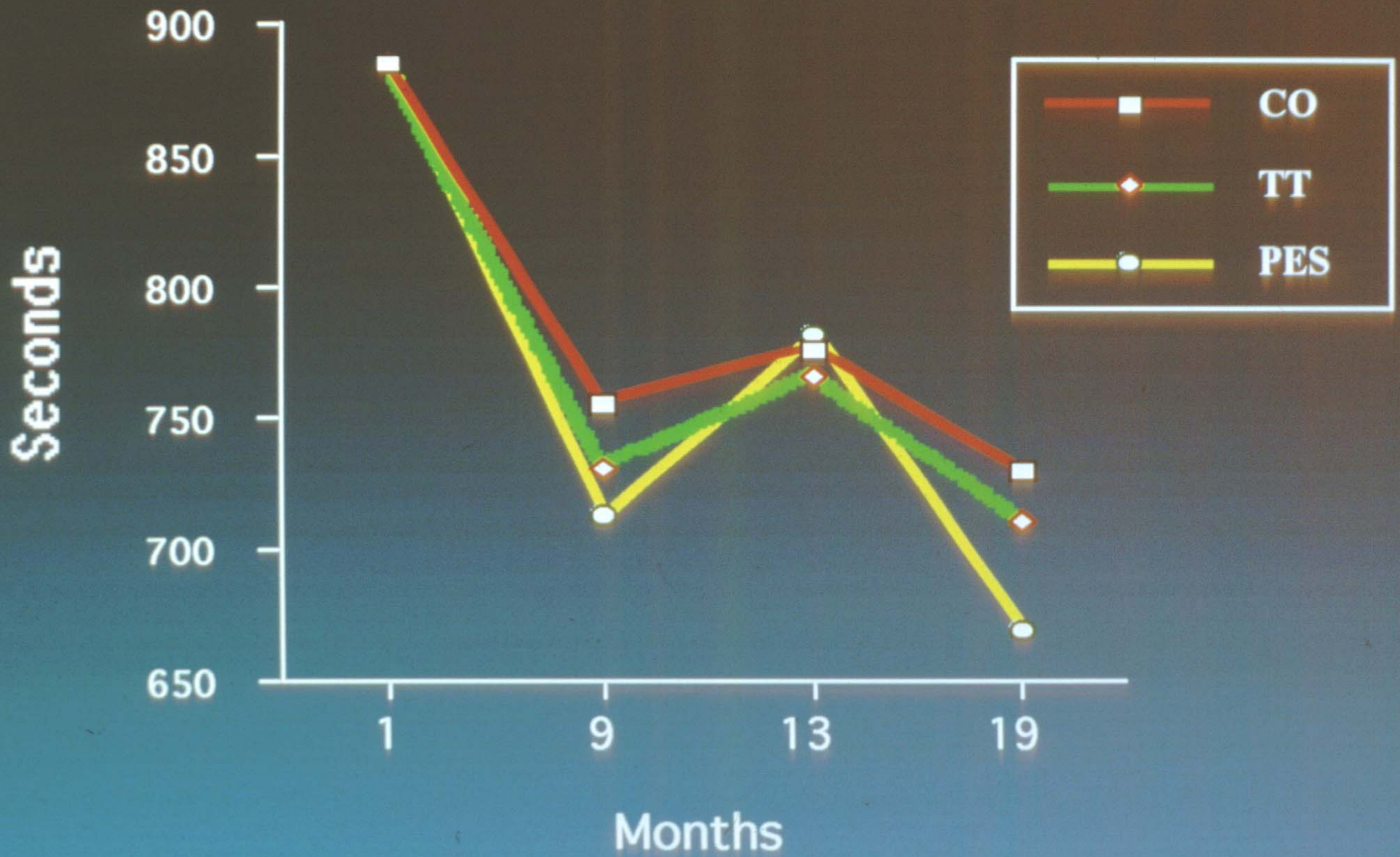
1990-1993



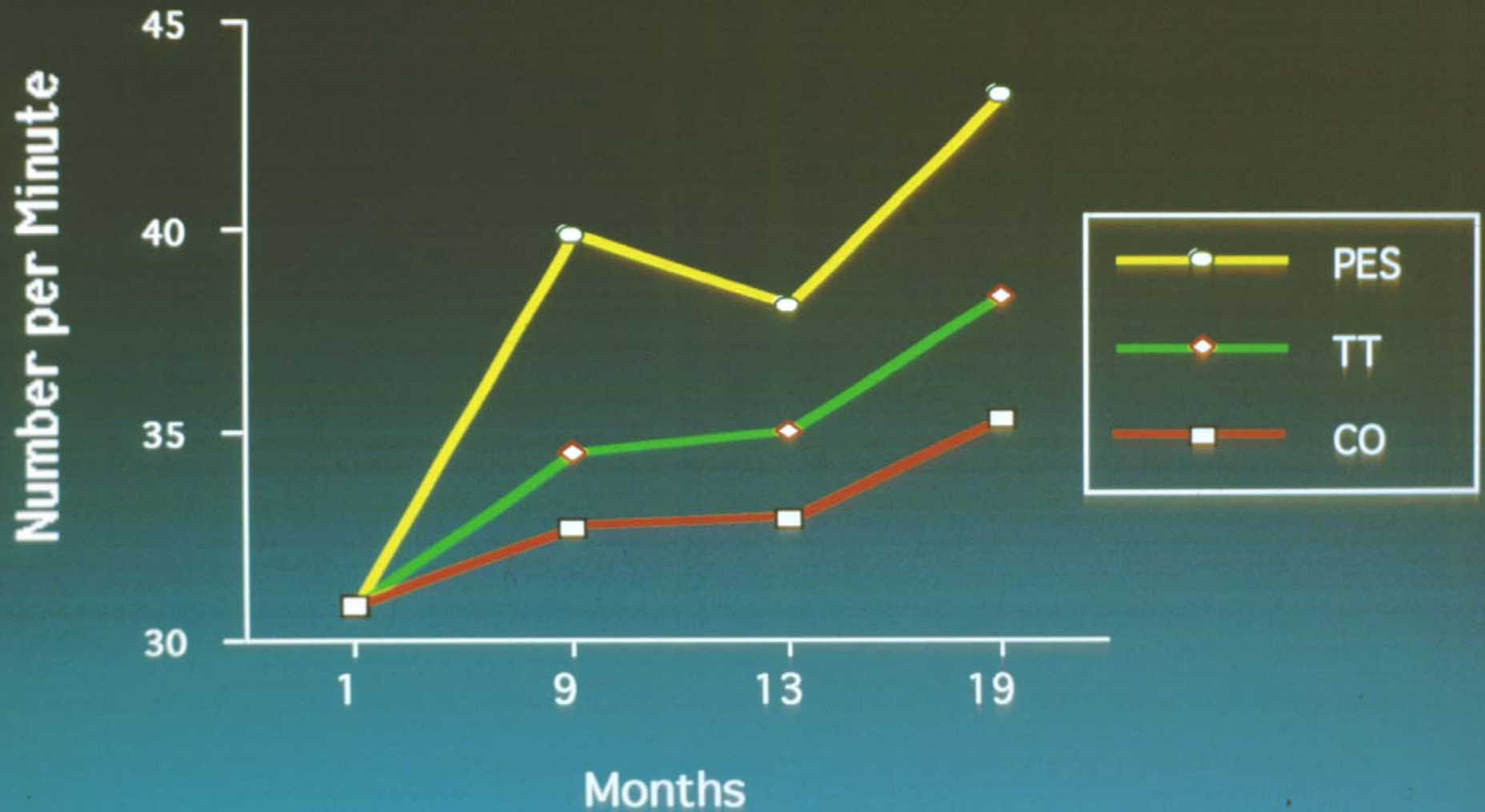
Skill Improvement



Mile Run: Girls' 2-Year Results



Sit-Ups: Boys' 2-Year Results



SPARK Effects on Academic Achievement

3-Year Changes in Percentile Rank

Comparisons vs Controls ($P < 0.05$)

	Better-Worse
Physical Education Specialists (PES)	1 - 1
Trained Classroom Teachers (TT)	3 - 0

8 comparisons on Metropolitan Achievement Tests

n=754 students, 7 schools

Minutes of PE per week (gr 4 & 5) = PES, 109; TT, 92; CO, 38

Process Evaluation of Self-Mgt

- Overall, no effect on PA out of school
- 65% of lesson components implemented
- Student participation in self-mgt, based on points earned for PA, was related to:
 - BMI change over 1 year in boys ($r=-.15$)
 - Change in parent support and PA attitudes & intention over 1 year in boys (r 's=.12 to .15)

Sustainability of SPARK

- International Life Sciences Institute and Childhood Obesity Prevention Initiative initiated study
- 277 SPARK schools had been trained more than 1 year prior to survey
- Mailed survey completed by teachers at 111 schools (48% response rate)
- Survey conducted by independent group at U. of South Carolina

Use of SPARK

- 78% reported using SPARK currently
- 75% used SPARK more than 2 years
- 52% reported that >50% of teachers using SPARK (maybe not adopted in all grades)
- 99% agree that SPARK PE book is available

Sustainability Study: Conclusion

- Schools that adopted SPARK were highly likely to sustain use up to 4 years later
- Ensuring adequate equipment and principal support, and promoting teacher physical activity, may enhance sustainability of health-related PE programs such as SPARK

Middle School Physical Activity and Nutrition 1996 - 2000



www.sparkpe.org

M-SPAN Study Aims

School environment changes will:

- ❖ increase students' energy expenditure (kcal/kg) at school
- ❖ decrease students' fat intake (grams) at school
- ❖ be maintained after intervention

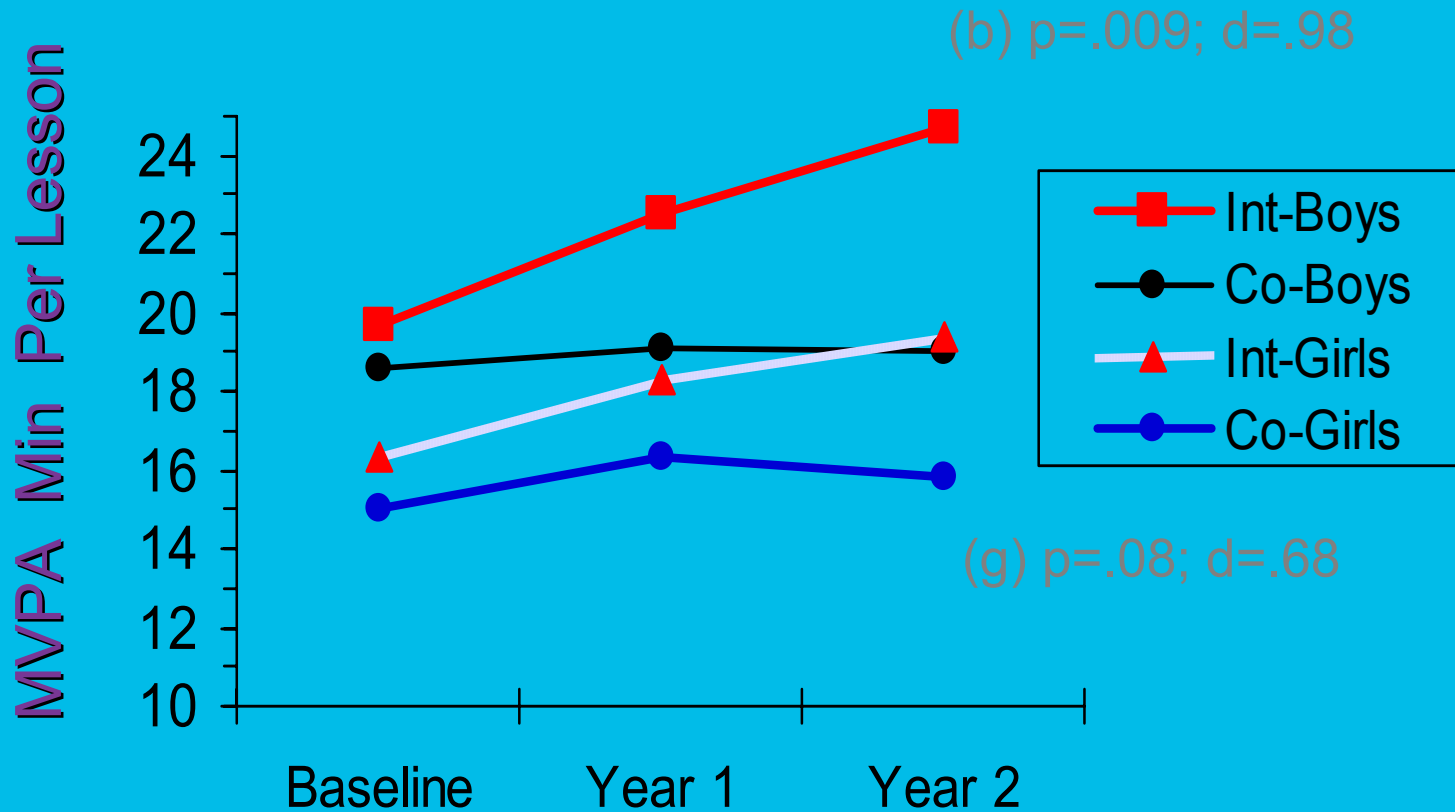
An Ecological Approach to School PA Promotion

- ◆ Identifies times and places for PA
- ◆ Identifies policies that hinder and facilitate PA
- ◆ Provides social and physical resources
- ◆ Provides more opportunities for PA at the school

M-SPAN Study Schools

- ❖ 24 middle schools (grades 6-8) in San Diego County
- ❖ 9 school districts
- ❖ 1082 avg. size (range 456-1776)
- ❖ 43% ethnic minority (13-71)
- ❖ 39% free/low cost meals (5-70)
- ❖ 36% arrive by bus (0-85)

M-SPAN: Effects on MVPA in PE



N=12 Intervention & 12 Control Schools; 1847 lessons

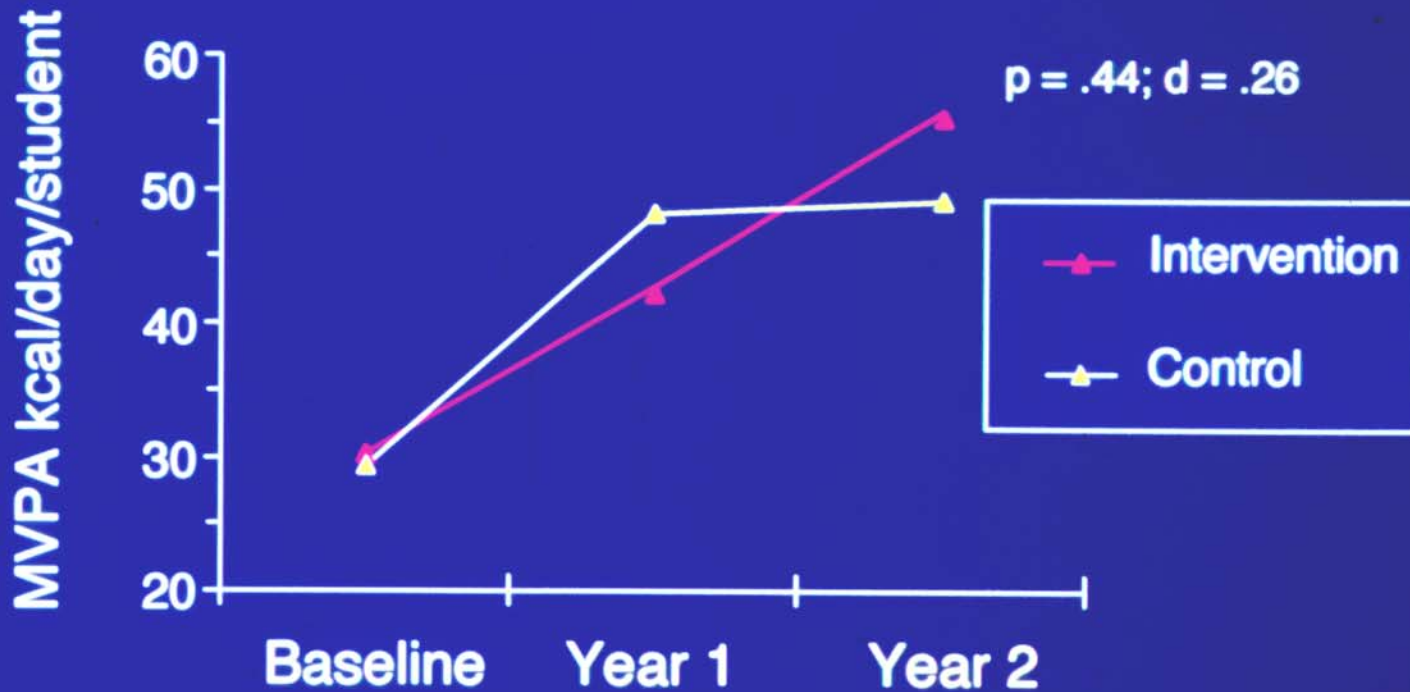


Policy Changes to Promote PA

- ◆ School committees met 3 times to plan policy changes
- ◆ Guided by brochure with policy suggestions
- ◆ Examples: improve fields, open play areas to students, assign faculty to supervise student PA, expand lunch period
- ◆ Policy goals shared with other schools via newsletter

M-SPAN SOPLAY: Boys

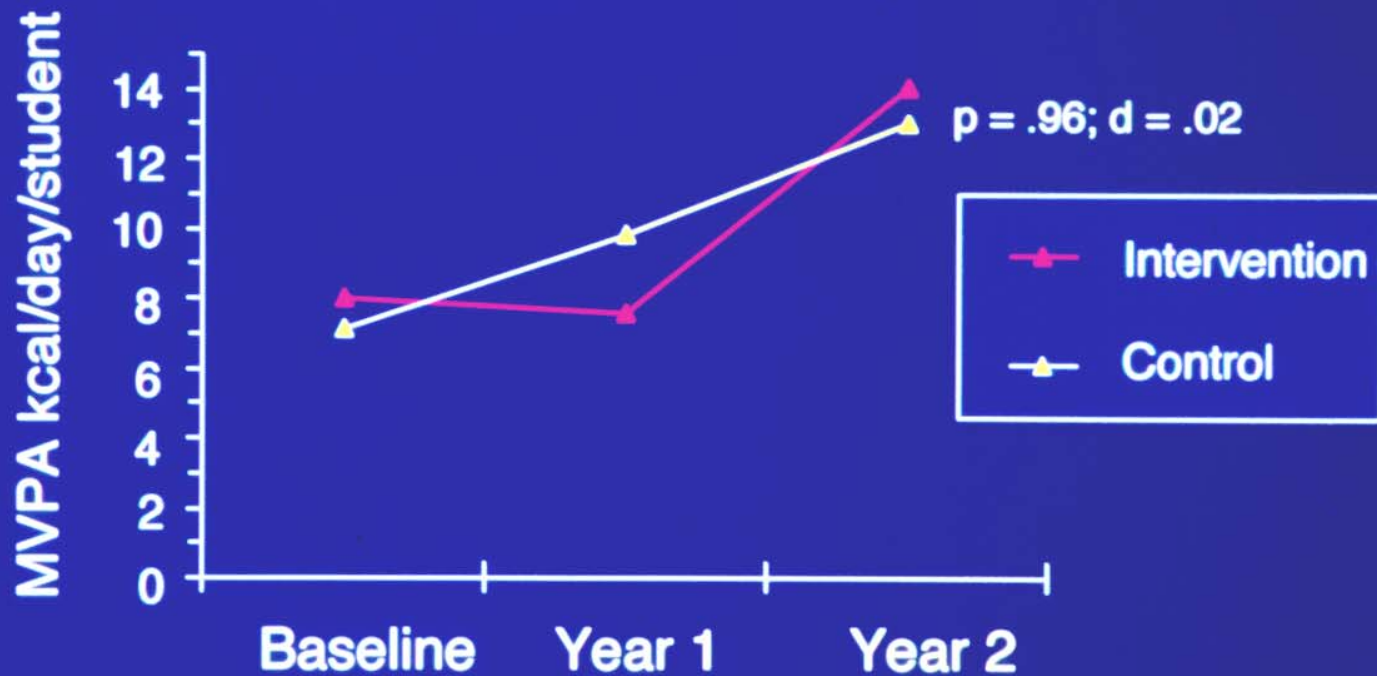
Effects on MVPA kcal/day/student



N=24 Schools; 264 days; 5046 observations

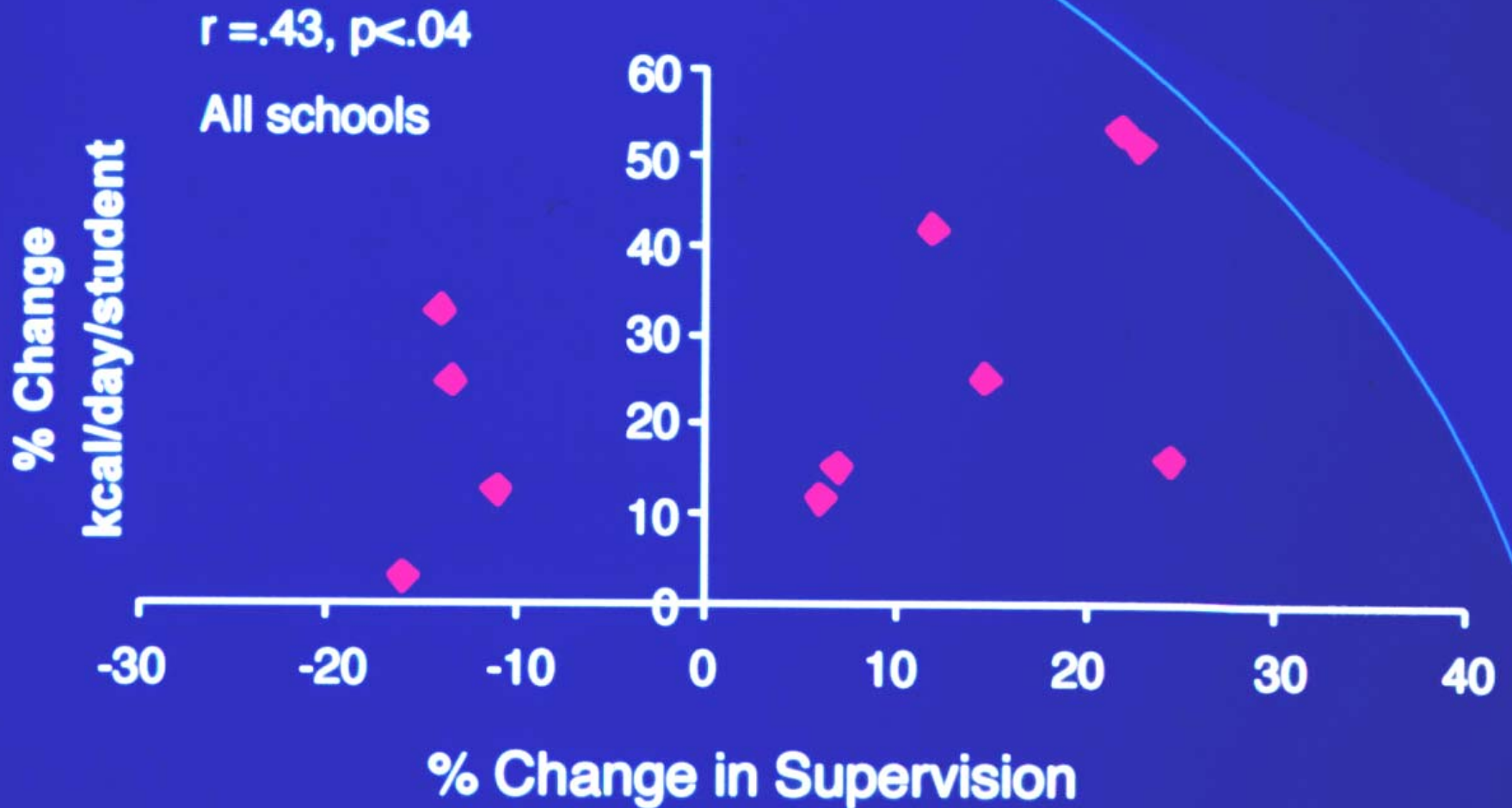
M-SPAN SOPLAY: Girls

Effects on MVPA kcal/day/student



N=24 Schools; 264 days; 5046 observations

M-SPAN Intervention Schools: Changes in Kcal/day/student by Supervision



M-SPAN Nutrition Outcomes

- Nutrition environment changes were not successful for any school food source
- Major barriers were financial
 - Food service is self-supporting, so disincentive to try new foods
 - Low reimbursement for school lunch limits opportunities for improved quality foods
 - Low-quality foods are easy to sell

MSPAN Conclusions

- Health-related PE is effective in secondary schools
- Programs to increase PA throughout the school day can be effective, but implementation difficulties must be overcome
- MSPAN PE & Active Recreation Manuals now being disseminated by SPARK

Continuing Challenges

- Funding & incentives for evidence-based PE: Goal is to diffuse
- Teacher acceptance of behavior change curricula
- Time & effort required to change school policies



www.sparkpe.org

www.drjamesallis.sdsu.edu