Newly Implemented Comprehensive School Physical Activity Programs and Children's Physical Activity

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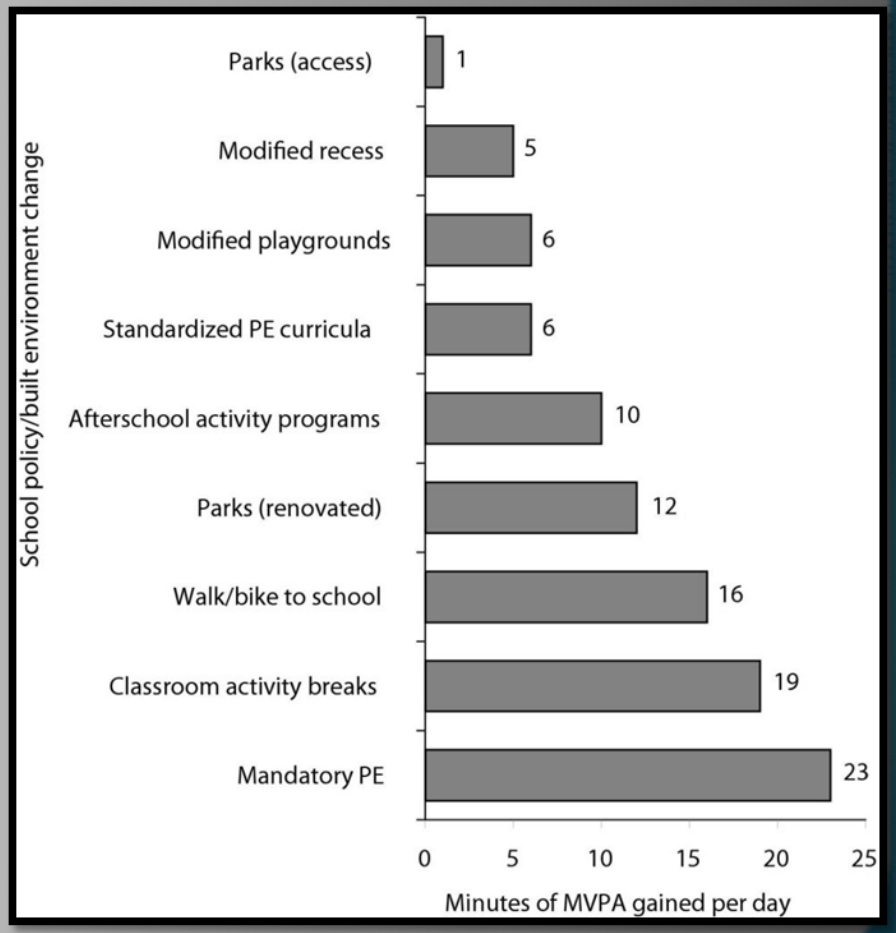
Active Living Research

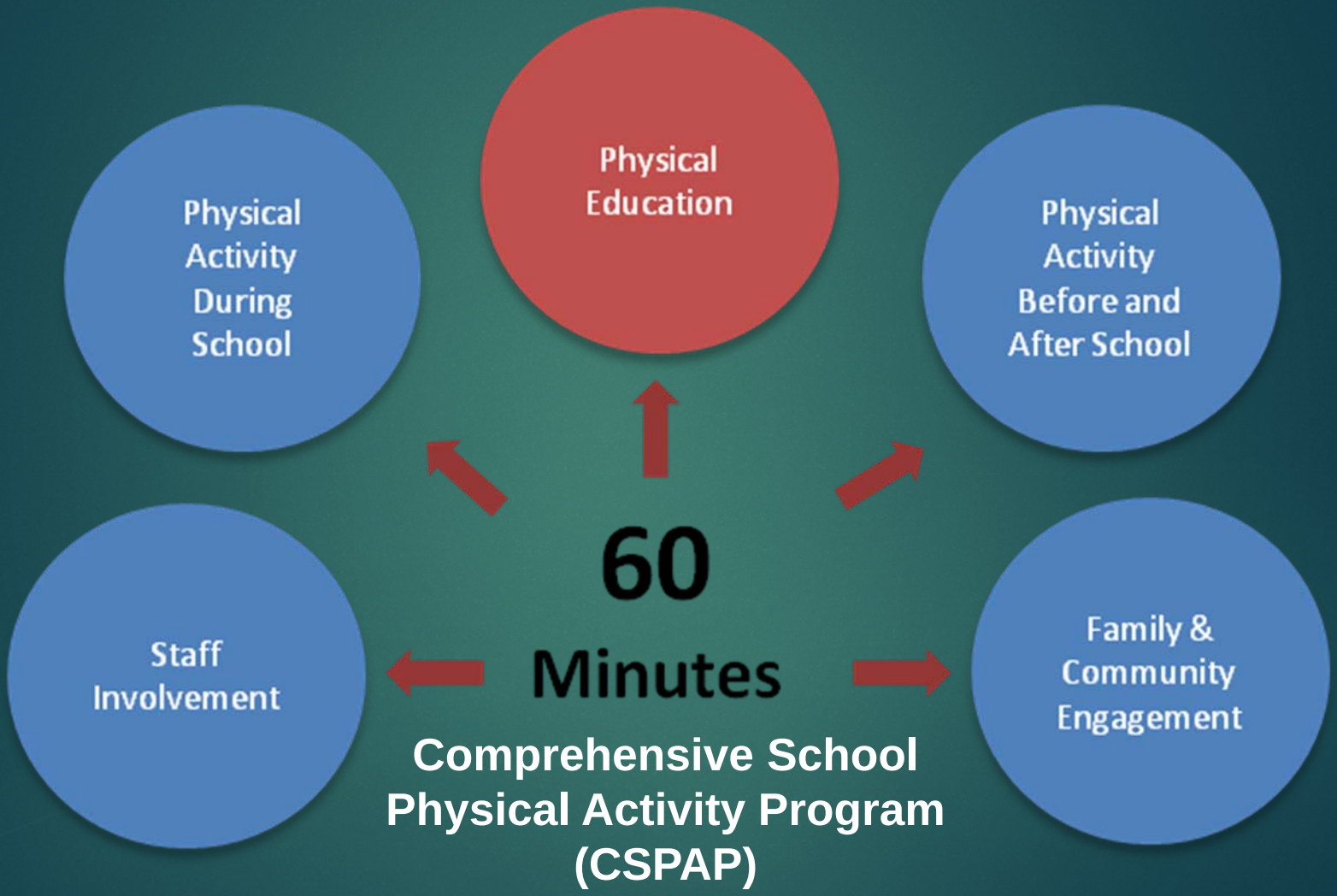
(USDHHS, 2012)

Reaching the goal of 60 min./day



(Bassett et al., 2013)

Whole-of-School Approach (IOM, 2013)



CDC. (2013). CSPAP: A guide for schools.
Erwin et al. (2013). CSPAP: A review;

Who leads a CSPAP?

NASPE survey: (2011)
Elementary (16%); Middle school (13%); High schools (6%)

"The expert and 'champion' for physical activity in and around the school day" (Beighle et al., 2009; Castelli & Beighle, 2007)

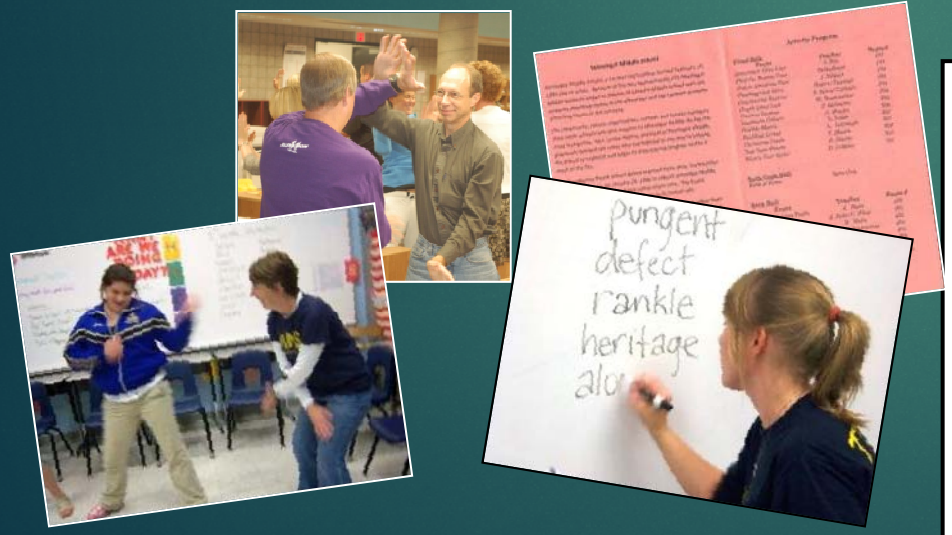
CSPAP Professional Development (PD) program for PE Teachers:

NASPE DIRECTOR OF PHYSICAL ACTIVITY

Rink. (Ed.). (2012). Role of Directors of CSPAPs. *JOPERD Special Issue*

1. Attend a one day training workshop
2. View and complete 3 Modules: (Public Health, Advocacy, Sustainability)
3. Pre and post CSPAP assessments (Programs, Policies, Teacher Efficacy)
4. Upload and implement an ACTION PLAN
5. Submit artifacts (i.e., documentation)

Steps 2-5: Trainer consultation & technical assistance



(DPA duties, Carson, 2012)

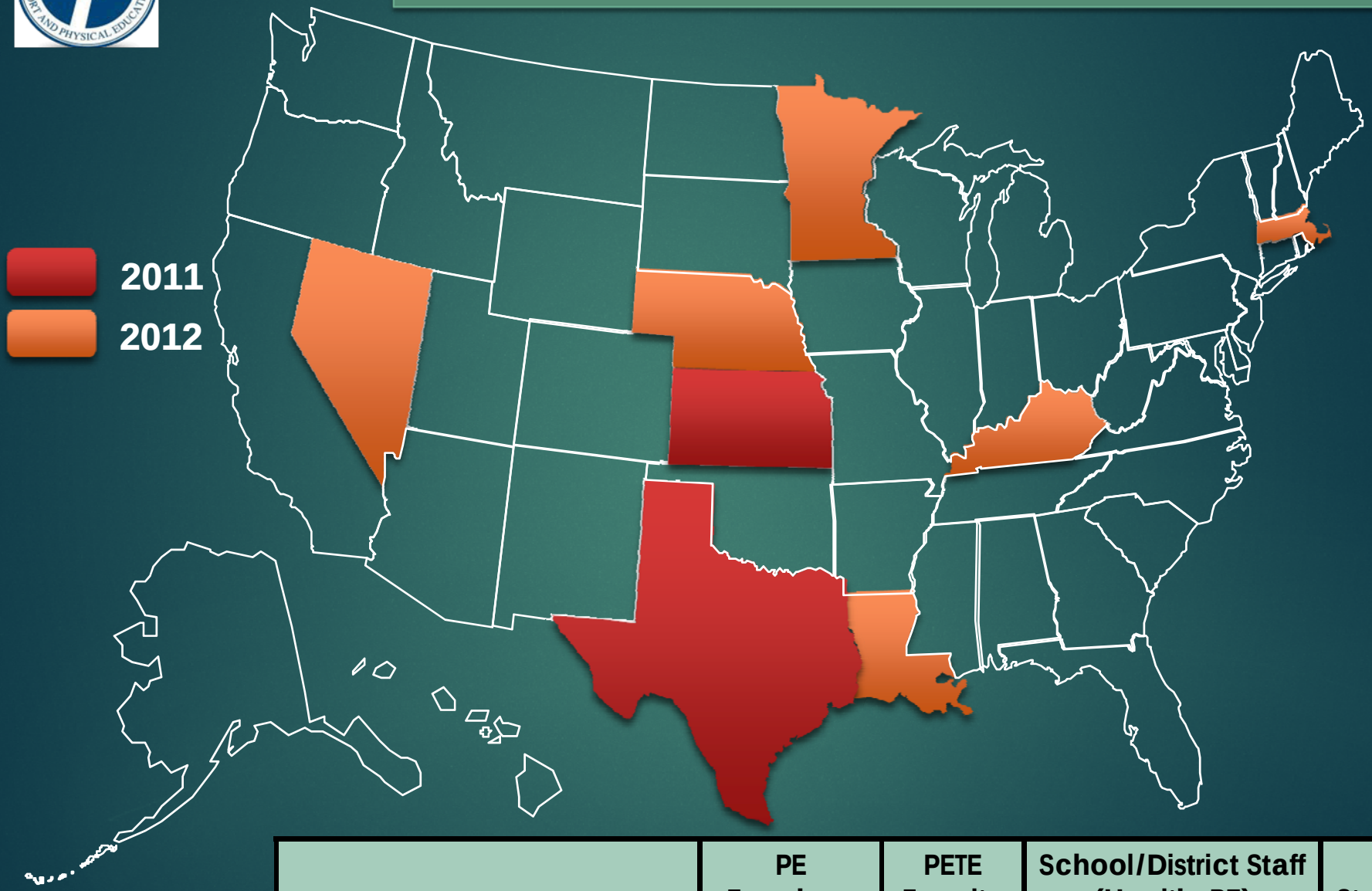
NASPE Director of Physical Activity Certification
Action Plan

Name: Joan Bolt School: Eisenhower Elementary School – Norton, Kansas

What would you like to do?	What CSPAP component will it address?	What resources do you need?	Who will help you do it?	When will it be done?	What artifacts will you collect?
Your action plan: To implement Activity Awards in conjunction with the milestones used in the Accelerated Reading Program at school.	Staff Involvement	*Tokens (F.A.T. – Free Activity Token) and Box *AR Milestone Chart *Gym Space *Equipment for Activities * Supervision	Principal Staff Volunteers	2011 School Year	*Pictures *Newsletter *Tokens *Milestone Chart
Step 1: Outline the action plan and speak to the Principal about what I would like to do.	Staff Involvement Physical Activity before and during school.	His office	Just me	August 16th	Just my outlined plan
Step 2: Meet with the AR Coordinator and go over the proposed action plan make roughdraft of program	Staff Involvement Physical Activity Before and during school	Token ideas AR Chart from 2010	AR Coordinator	August 19th	*AR Milestone Chart from 2010 * Ex. F.A.T. token * Results of 2010 AR stats
Step 3: Present Plan to the Staff at the EES AR Meeting	Staff Involvement Activity Before and during School Community facilities	AR Coordinator Library for meeting	AR Coordinator	August 30th	Meeting Notes
Step 4: Make Tokens and 2011-12 "Wall of Fame" Milestone Chart Introduce Program to EES Staff	Staff Involvement Activity Before and During School Community	Tokens Milestone Charts	AR Coordinator Principal	Sept 7th	Meeting Agenda Sample Token Sample Chart
Step 5: Implement Plan	All the Above	All the Above	Principal Volunteers Teachers	Sept 2011 – May 2012	All the Above

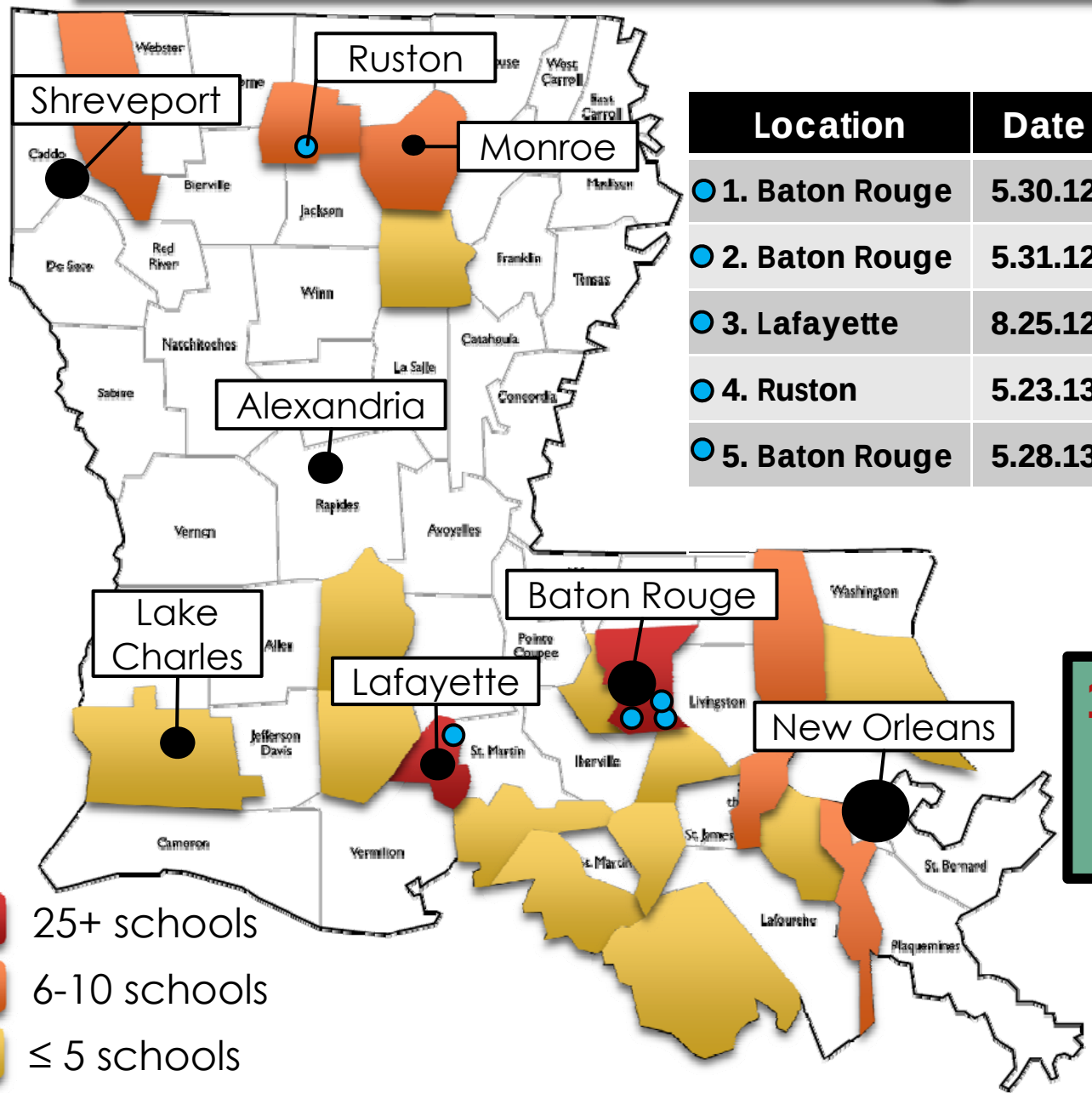
Comments: The Staff is very excited about this program. It involves getting tokens for reading and turning them into me in the mornings before school for Free Activity Time. They will also receive an extra PE class period at the end of the nine weeks if they hit an Activity Tier on the Milestone Chart. The top AR winner in each grade and 14 wild card picks (picked from the FAT token box) will get a mystery activity 'off campus' at the end of year.

Training Workshops 2011-2012



	PE Teachers	PETE Faculty	School/District Staff (Health, PE)	KIN Students
441 TOTAL TRAINED:	369	44	22	6

5 Louisiana Trainings '12-'13



Location	Date	M	F	Elem	Sec
1. Baton Rouge	5.30.12	9	29	16	13
2. Baton Rouge	5.31.12	8	21	14	14
3. Lafayette	8.25.12	12	21	14	7
4. Ruston	5.23.13	3	22	11	9
5. Baton Rouge	5.28.13	2	9	5	6
		34	102	60	49

136 PE Teachers
109 Schools
19 Parishes

25+ schools

6-10 schools

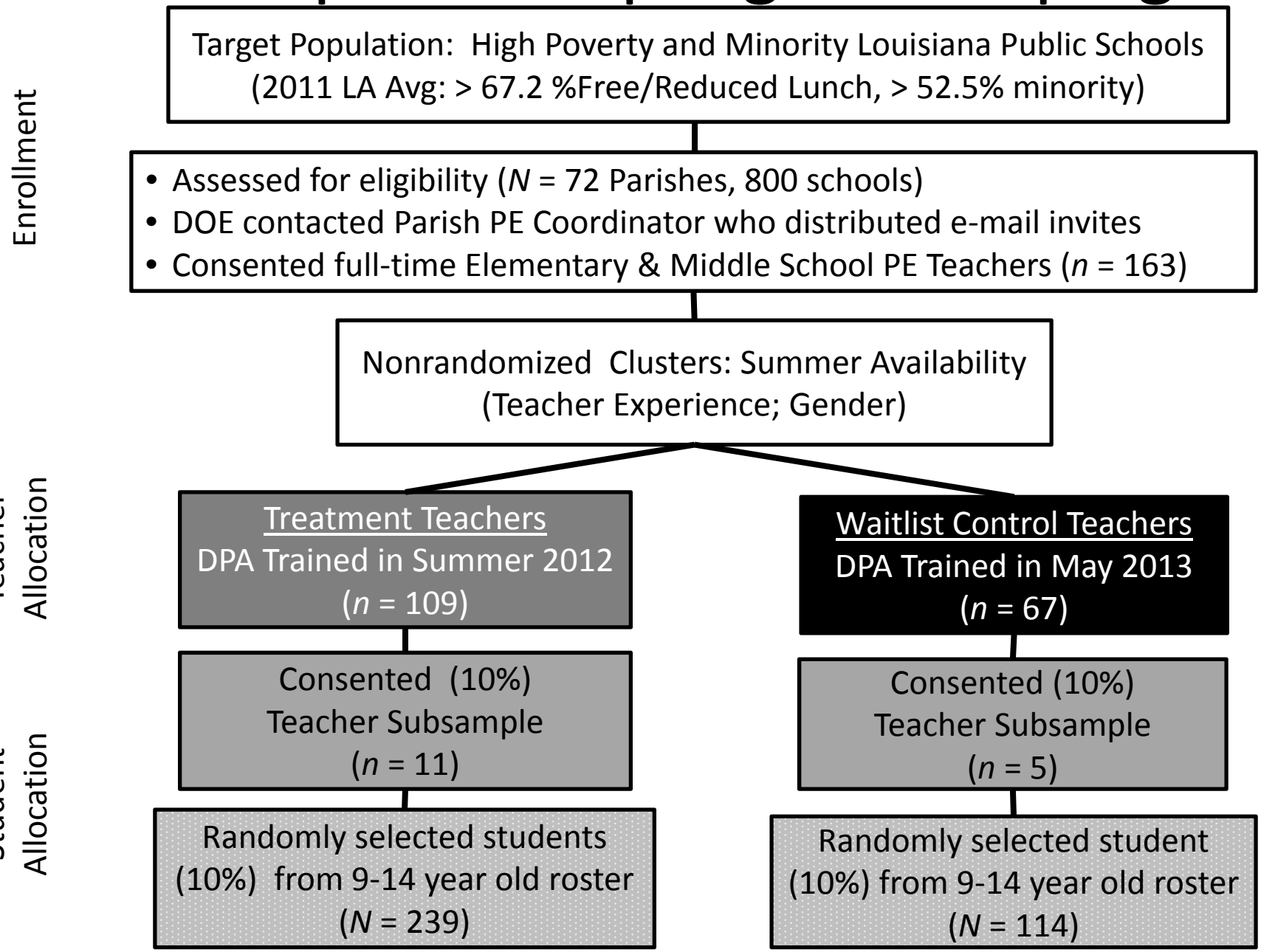
≤ 5 schools

Active Living Research Rapid Response Project '12-'13

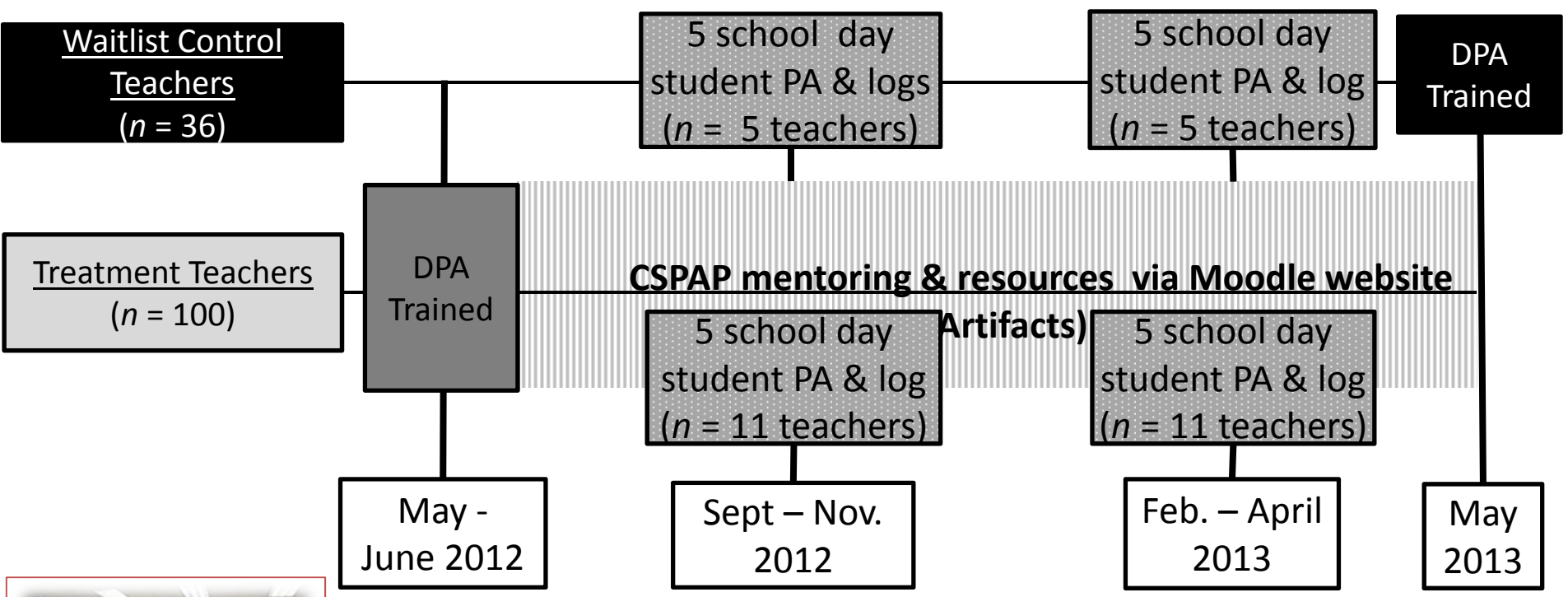
Aim #1: PD Impact on Youth PA

- The purpose of this quasi-experimental, cluster controlled study was to evaluate the impact of the CSPAP PD program on changes in the PA levels of underserved 9-14 year-old children for one academic year post training.

Participant Sampling & Grouping



Overall Research Design



Participants

- 16 teachers:

2 Groups	F	M	Novice (1-5 yr)	Veteran (6-20 yr)	Senior (21+ yr)	Elem	MS	District Poverty	District Minority
11 Treatment	7	4	3	3	5	4	7	73%	66%
5 Control	4	1	2	0	3	5	0	71%	57%
Total	11	5	5	3	8	9	7	72%	61%

- 353 students:

F	M	Age (yrs)	Height (inches)	Weight (lbs)	BMI (kg/m^2)	Grade	Minority
198	155	11.0	58.8	103.7	20.9	5th	218
		(1.4)	(4.8)	(33.9)	(5.3)	(4^{th}-8^{th})	62%

Sample CSPAP interventions during treatment

CSPAP component	New PA opportunity
Physical Education	
During School	Classroom exercises (*n*=3)
	PA curricular integration
	PA off lunch period
	Pedometer challenge
Staff/During School	Student/teacher yoga class
Before School	
Family/Community	Family wellness night

Data Preparation & Analyses

- Wear time validation
  - 2+ days
  - Freedson child cut points (2005) for epochs
- Sample reduced to 339
  - Complete baseline/post data
- Three-level, Mixed Model Regression
  - Observations<=Children<=Teacher
    - Null:18% of variance in MVPA explained by teacher
    - Null: 22% of variance in sedentary explained by teacher
  - Covariates: Pre-test age, race, BMI
  - Outcomes: MVPA & Sedentary

Descriptive Data by Groups

Variable	Control (n = 111)		Treatment (n = 228)		Total (N = 339)	
	Mean	SD	Mean	SD	Mean	SD
Baseline						
Race (% non-white)	**51%**	-	**66%**	-	61%	-
Age (yrs)	**9.9**	1.0	**11.6**	1.3	11.0	1.4
Height (inches)	**56.4**	3.9	**59.9**	4.8	58.8	4.8
Weight (lbs)	**91.2**	27.7	**110.0**	35.0	103.8	34.0
BMI (kg/m^2)	**20.0**	4.9	**21.4**	5.4	20.9	5.3
Total PA (% wear time)	**26%**	5%	**23%**	5%	24%	5%
MVPA (% wear time)	**18%**	4%	**16%**	4%	17%	4%
Sedentary (% wear time)	**74%**	5%	**77%**	5%	76%	5%
Posttest						
Total PA (% wear time)	20%	9%	21%	5%	21%	7%
MVPA (% wear time)	14%	6%	15%	4%	14%	5%
Sedentary (% wear time)	80%	9%	79%	5%	79%	7%

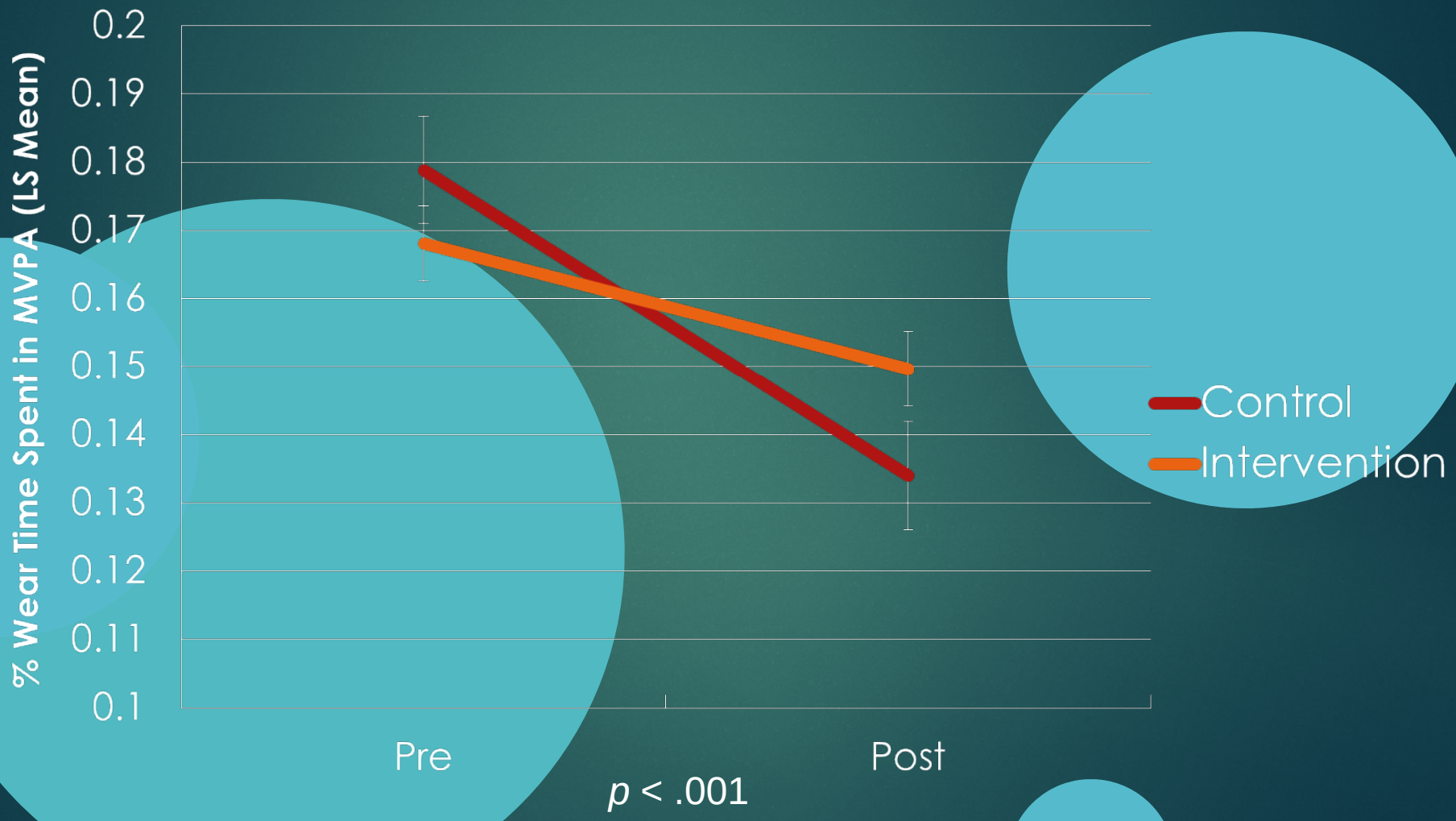
Values is **bold** significantly different by group

Regression results for % time spent in MVPA

MVPA (%)	Unstandardized coefficient	*SE*	*p*	95% CI	
Condition	-0.011	0.010	0.276	-0.030	0.009
Time	**-0.045**	0.005	<0.001	-0.054	-0.036
Condition X Time	**0.026**	0.006	<0.001	0.015	0.038
Age (pre)	**-0.005**	0.002	0.008	-0.009	-0.001
BMI (pre)	**-0.001**	0.000	<0.001	-0.002	-0.001
White	-				
Black	**-0.017**	0.004	<0.001	-0.025	-0.008
Other	-0.013	0.007	0.053	-0.026	0.000
Constant	0.271	0.022	<0.001	0.227	0.315
ρ (teacher)	0.11	0.05		0.04	0.26
ρ (student)	0.35	0.06		0.24	0.47
log-likelihood	1168.72				
AIC	-2315.45				
BIC	-2265.87				
df	11				

Values is **bold** significantly at $p<0.001$

MVPA


% Wear Time Spent in MVPA (LS Mean)
0.2
0.19
0.18
0.17
0.16
0.15
0.14
0.13
0.12
0.11
0.1
Pre
Post
Control
Intervention

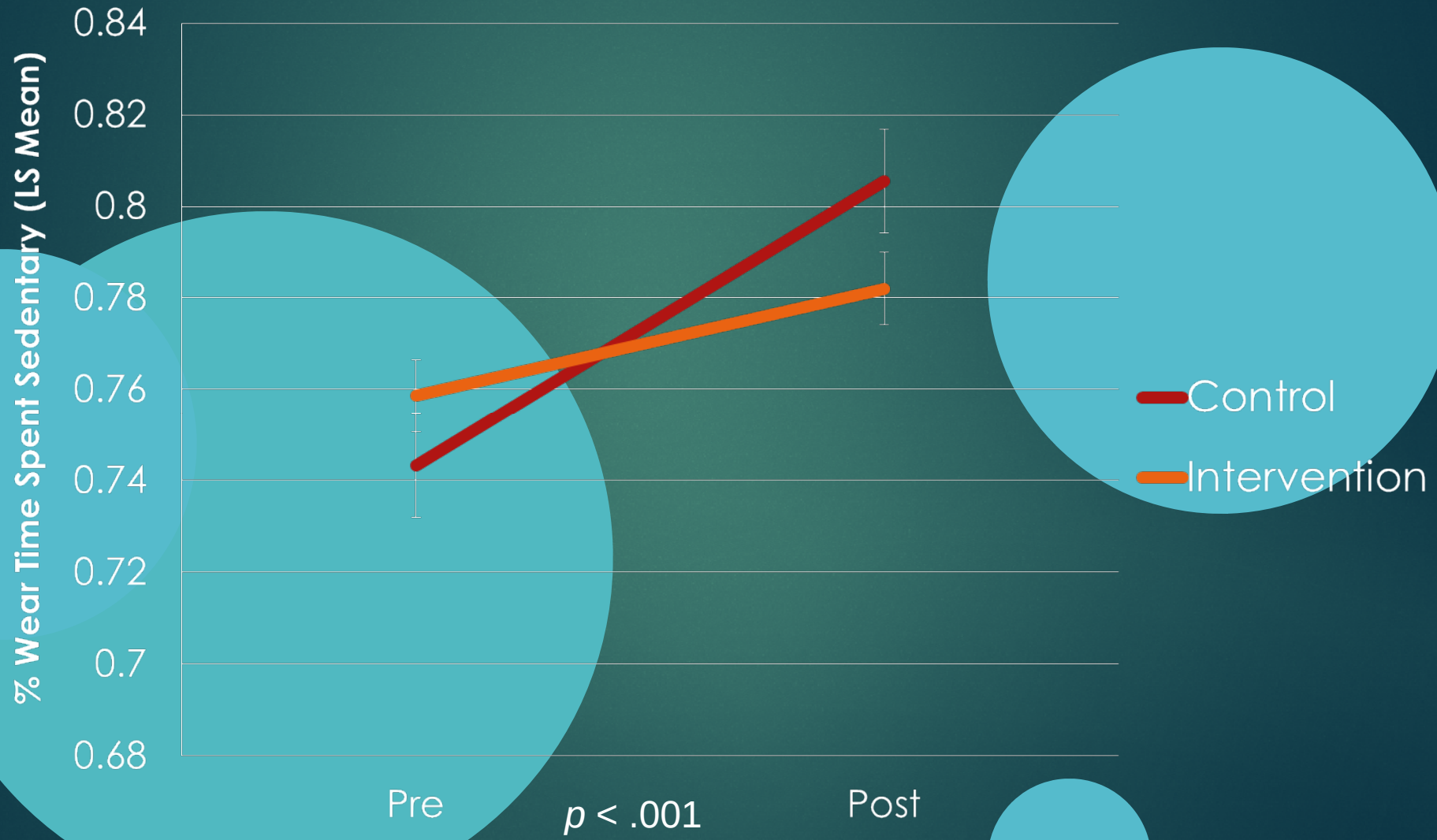
$p < .001$

Regression results for % time spent sedentary

Sedentary (%)	Unstandardized coefficient	*SE*	*p*	95% CI	
Condition	0.015	0.014	0.280	-0.012	0.043
Time	**0.062**	0.006	<0.001	0.050	-0.074
Condition X Time	**-0.039**	0.007	<0.001	-0.053	-0.024
Age (pre)	**0.008**	0.003	0.002	0.003	0.013
BMI (pre)	**0.002**	0.000	<0.001	0.001	0.003
White	-				
Black	**0.019**	0.006	0.001	0.008	0.030
Other	0.012	0.009	0.170	0.005	0.029
Constant	0.606	0.030	<0.001	0.546	0.665
ρ (teacher)	0.14	0.05		0.06	0.31
ρ (student)	0.36	0.06		0.25	0.49
log-likelihood	989.14				
AIC	-1956.27				
BIC	-1906.66				
df	11				

Values is **bold** significant at $p<0.001$

Sedentary Time



DISCUSSION POINTS

- Some preliminary evidence of CSPAP training effectiveness
  - Mandated testing in Spring
- CSPAP PD blunted:
  - The reduction of MVPA from Fall to Spring
  - The increase of sedentary behavior overtime
- CSPAP PD & interventions need time to take effect

(Carson et al, in progress, *Preventive Medicine*)

Implications for Practice & Policy

- Glimpse for the CSPAP potential
  - Creating a PD framework for the future
  - Menu with fine-tuned interventions

Physical Activity Leader

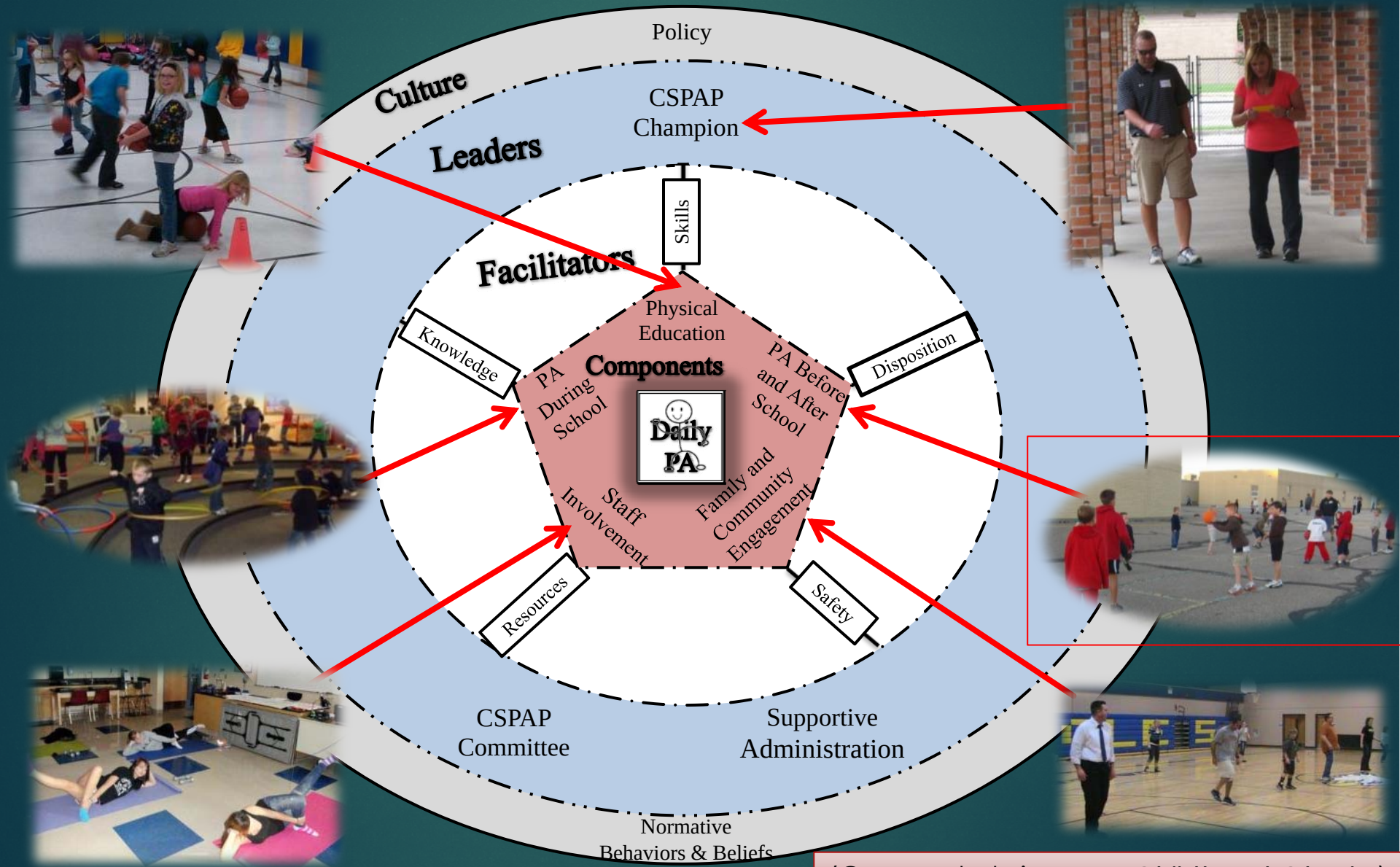
- Help convince teachers to assume this role
  - Incentivize: PD, time
  - **United Front** supporting PA in schools
  - Long-term sustainable strategies
    - Localized, in-person assistance
    - Teacher education

An Opportunity

Schools may never be asked again

Quality PE + School PA

A Roadmap for Research & Practice



(Carson et al., in press. *Childhood Obesity*)

Acknowledgments

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Active Living Research

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Louisiana Believes

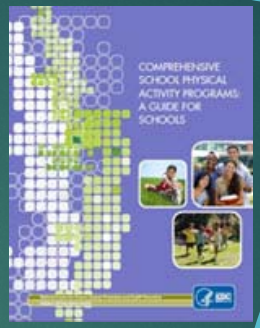
SHAPE America


2011-2013
Training Participants

Join the CSPAP Movement

Schools and School Leaders:

- *www.letsmoveschools.org*
- CDC CSPAP Guide



School-based PA Researchers:

- CSPAP symposium: SHAPE America, St. Louis, April 2014
- CSPAP special issue: *JTPE* Oct. 2014
- CSPAP special interest group

American Alliance for Health, Physical Education, Recreation and Dance

Journal of Teaching in Physical Education

Thank You!

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