

## GOALS & OBJECTIVES

**Long-term goals** of Cooking with Kids 2.0: Plus Parents and Play (CWK 2.0), are to **reduce the risk of childhood obesity** by promoting healthful food and activity environments, policies and behaviors through:

- 1) building and testing the efficacy of a 4th grade comprehensive school- and family-based intervention,
- 2) applying it to an after-school setting, and,
- 3) disseminating both versions through outreach efforts.

## Research Objectives (Years 1-3)

### Accomplished

- 1) Conduct a **review of the *Cooking with Kids* upper-elementary curriculum and assessment tools** for alignment with:
  - a. Colorado academic content standards
  - b. Tenets of effective nutrition education
  - c. Components that strengthen neuro-cognitive skills involved in self-regulated and goal-directed health behavior;
- 2) Based on this review, **revise the *Cooking with Kids* curriculum (CWK 2.0) and assessment tools;**

### In Progress

- 3) **Combine *CWK*-inspired school lunch recipes with a behavioral economics approach** to improve student choices in the cafeteria;
- 4) **Implement the 3-part school-based intervention:** *CWK 2.0* curriculum + *SPARK Active Recess* + cafeteria program in 8 low-to-moderate-income schools for 2 years;
- 5) **Develop a family-based companion program** to the school intervention (f. *CWK 2.0*);
- 6) **Test the impact of the *CWK 2.0* school-based intervention with and without *About Eating*,** or f.*CWK 2.0* progress against non-treatment groups.

## Education Objectives (Years 1 – 5)

- 1) **Develop, implement, and evaluate effective and sustainable *CWK 2.0* curriculum training sessions** for 4th grade teachers, cafeteria training for school foodservice staff, *SOPLAY* and *SPARK Active Recess* training for community partners and
- 2) Provide evidence-based childhood obesity prevention training and research **experiences to graduate and undergraduate** nutrition/dietetics, exercise science, and pre-service education students.

## Extension Objectives (Years 4-5)

- 1) Effectively apply research-derived *CWK 2.0* products and processes to an **after-school setting;**
- 2) Provide Community Readiness training to **Colorado FCS and 4-H extension agents;**
- 3) Utilize Community Readiness strategies to **identify school districts and communities ready to adopt** the *CWK 2.0* school- or after-school program; and
- 4) **Design, disseminate, and evaluate** *CWK 2.0* program and training resources for stakeholders at the local, state, and national levels.

## PARTICIPANTS

Eight low-to-moderate-income schools (20-60% of students eligible for free or reduce-priced school meals) were recruited, 4 from each district. Based on current enrollment, we estimate 55 students will participate per grade, for a total of 440 4th and 440 5th grade students each year.



## INTERVENTION COMPONENTS

- 1) ***CWK 2.0 Classroom*** – hands-on cooking and tasting lessons developed to enhance cooking skills and provide positive experiences with a wide variety of wholesome, healthy foods.
- 2) ***Sports, Play, and Active Recreation for Kids (SPARK) Active Recess program*** – promotes quality, daily, physical activity in youth and is designed to encourage maximum participation for every player, regardless of ability.
- 3) ***CWK 2.0 Cafeteria*** – links the classroom lessons to healthful foods in the school cafeteria and uses a variety of strategies to encourage students to make more healthful choices.
- 4) ***CWK 2.0 Family*** – designed to engage parents, encourage their participation and reinforce what students experience through the *CWK 2.0* classroom, recess, and cafeteria components.
- 5) ***About Eating*** – a 6-lesson, on-line healthy eating and activity resource for parents.

## RESEARCH DESIGN

Year 1 Grade	Year 1 Activity	Year 2 Activity	Year 3 Activity	Year 4 Activity	Year 5 Activity	
4 <sup>th</sup> Grade Group A	A1 No s.CWK 2.0 *, **	A2 No s.CWK 2.0 †				
	A1 About Eating *, **	A2 Assess Only †				
3 <sup>rd</sup> Grade Group B		B2 s.CWK 2.0 *, **	B3 No s.CWK 2.0 †			
		B2a About Eating *, **	B2b Assess Only *, **	B3a Assess Only †	B3b Assess Only †	
		B2c f.CWK 2.0 *, **	B2d About Eating & f.CWK 2.0 *, **	B3c Assess Only †	B3d Assess Only †	
2 <sup>nd</sup> Grade Group C			C3 s.CWK 2.0 *, **	C4 No s.CWK 2.0 †		
			C3a About Eating *, **	C3b Assess Only *, **	C4a Assess Only †	C4b Assess Only †
			C3c f.CWK 2.0 *, **	C3d About Eating & f.CWK 2.0 *, **	C4c Assess Only †	C4d Assess Only †
1 <sup>st</sup> Grade Group D				D4 Develop/ pilot a.CWK 2.0	D5 a.CWK 2.0 *, **	
				D4 Select parent-based components	D5 Implement D4 findings *, **	

s.CWK 2.0 = school-based *Cooking with Kids 2.0*; f.CWK 2.0 = family-based *Cooking with Kids 2.0*; a.CWK 2.0 = after school-based *Cooking with Kids 2.0*. For each group, top row (light shading) is child activity and bottom row (shaded background) is parent activity. \* = Time 1 assessment, \*\* = Time 2 assessment, † = Time 3 assessment. Assessments include surveys and measured BMI, and Accelerometry on a subsample of children and parents. Year 1 parent survey in Feb; administered to all participating schools.

## ACCOMPLISHMENTS & RESULTS

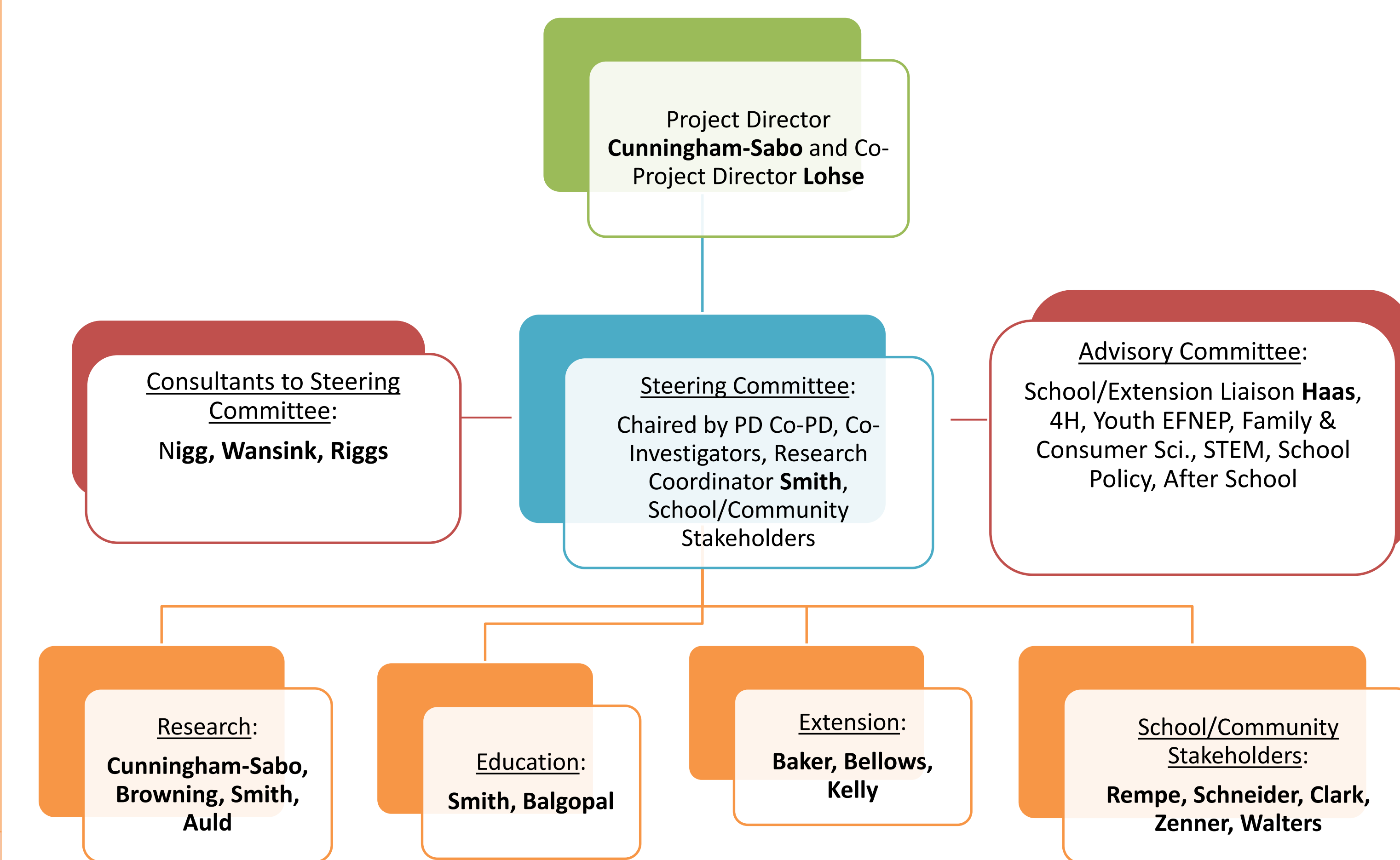
### Year 1 Accomplishments

- Based on all consents returned average participation rate of 82%;
- 409 students completed survey and height/weight data ;
- Administered parent surveys online (88 parents took the pre-survey and 32 took follow-up survey). Developed follow-up telephone interview for 25 parents.
- Accelerometry data gathered at 3 schools from 130 children/110 parents ;
- *SOPLAY* assessments completed at all 8 schools;
- Plate waste assessed from 634 student trays ;
- Produced: a database to house all student & parent level data; a plate waste database; and Qualtrics to facilitate *SOPLAY* data entry and the creation of a *SOPLAY* database.
- Adapted 5 cooking and 5 tasting classroom lessons to meet CO academic standards;
- Finalized the *About Eating* online parent program;
- Drafted and pilot tested the booths and activities to be included in Family Fun Night;
- Conducted social marketing assessment to develop program branding (Fuel for Fun)

### Results from Fall 2012 Student Survey

- From the year 1 cohort pre-surveys, we examined the link between cooking/food prep experience and gender on 4th-grade self-efficacy (SE), attitudes (AT) toward cooking, and fruit and vegetable preferences (FP, VP).
- Our previously tested survey with 4 scales was administered in 22 classrooms in 8 schools. Surveys were completed by 409 students (47% boys; 76% white).
- Mean scores differed significantly by gender (boys, girls respectively).
- VP was similar between genders.
- For all measures, cooking was associated with higher scores (P < .003).
- Proportion reporting prior cooking experience was 3:1 girls; none was 3:1 boys.
- Controlling for gender revealed all scores continued significantly higher for cooking students. Also, SE and AT gender and cooking interactions were significant.
- Cooking boys scored 3.5 to 4.2 AT points higher; this difference was < 2.5 for girls.
- Difference in SE scores of those with and without participation in family food prep was 6.5 for boys and 3.7 for girls.

## PROJECT TEAM



## ACKNOWLEDGEMENTS

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