



Fuel for Fun: Cooking with Kids Plus Parents and Play

L. Cunningham-Sabo, B. Lohse, S. Smith, J. Clifford, M. Balgopal, R. Browning, K. Kelly, C. Nigg, E. Strutz, S. Baker, T. Rempe, C. Schneider, L. Walters, L. Zenner



YEAR 3

Background

Fuel for Fun: Cooking with Kids Plus Parents and Play is an integrated research, extension, education project targeting 4th-grade students. Its long-term goal of reducing the risk of childhood obesity will be addressed by promoting healthful food and activity environments, policies and behaviors through: 1) evaluating the efficacy of a 4th grade comprehensive school-based intervention, 2) designing, implementing, and evaluating a family-based intervention, 3) applying it to an after-school setting to broaden its reach, and, 4) disseminating both versions through outreach. This experiential school-based program, designed to enhance fruit and vegetable preference, self-efficacy and attitudes toward cooking, and physical activity levels, has 5 components:



- 1. CWK – Colorado** – hands-on cooking and tasting classroom lessons 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** – physical activity program designed to encourage maximum participation for every player, regardless of ability.
- 3. Fuel for Fun (FFF) Cafeteria** – classroom lessons linked to healthful foods in the school cafeteria to encourage students to make more healthful choices.
- 4. Fuel for Fun (FFF) Family** – program that engages parents and reinforces what students experience through the classroom, recess, and cafeteria components.
- 5. About Eating (AE)** – on-line healthy eating and activity resource for parents.

Dissemination of Study Findings

Published Manuscripts

Lohse, B, Belue, Smith, S, SL, Wamboldt, PA, Cunningham-Sabo, L. About Eating: An online program with evidence of increased food resource management skills for low-income women. 2015. *Journal of Nutrition Education and Behavior*. epublication ahead of print.

Presentations

The Academy of Nutrition and Dietetics, Food and Nutrition Conference and Expo 2014

Support to extend SNAP-Ed eligibility to schools below the current threshold of 50% participation in free and reduced school lunch program*

The Obesity Society 2014

Fuel for Fun improved self-efficacy, attitude and preference for fruits and vegetables in impact assessment using cohort delayed intervention design

Accepted Abstracts

World Social Marketing Conference 2015

The Primary Barriers and Motivators to more Healthful Eating at Home: Formative Research to Inform the *Fuel for Fun* Intervention

American College of Sports Medicine 2015

Exploring the Relationship Between Parent and Child Physical Activity[†]

International Society of Behavioral Nutrition and Physical Activity 2015

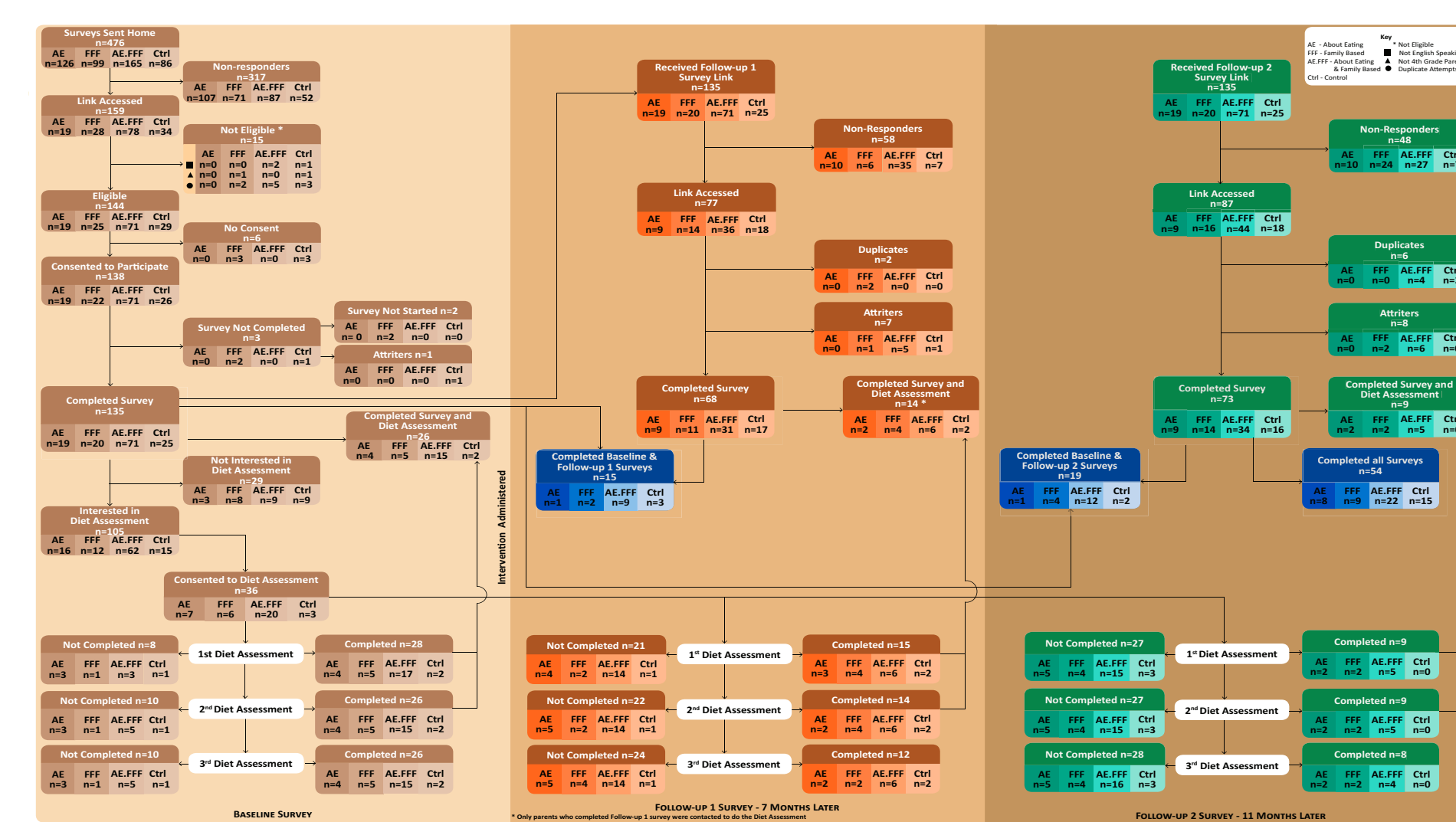
Fuel for Fun: Variability in Teachers' Nutrition Beliefs and Practices in the Elementary School Environment Warrant Attention in Impact Assessment
Vegetable preference in 4th grade children is coupled with cooking and food related attitudes and behaviors but not vegetable availability in the home

Society of Nutrition Education and Behavior 2015

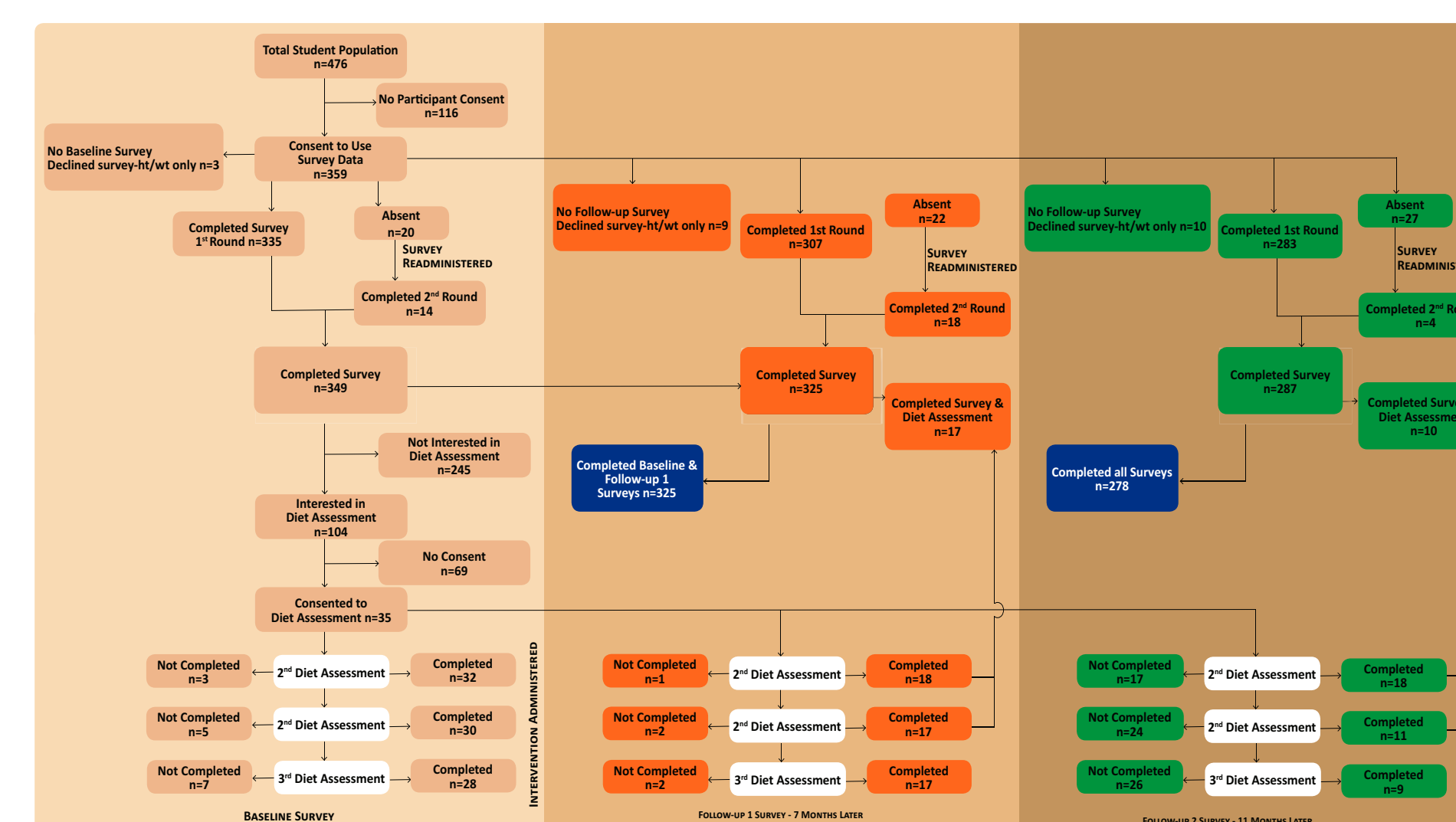
Fuel for Fun impact assessment affirmed positive effect on self-efficacy for and attitude toward cooking in school age youth
Interviews Inform Translation of In-School Intervention for Out-of-School Settings: Staff, Student and Curricular Challenges[†]
Measuring Recess Activity Using SOPLAY Revealed Sex and Seasonal Differences, Challenges in *Fuel for Fun* Impact Assessment[†]
Process Evaluation Measures Effectively Assess Fidelity of *Fuel for Fun* Classroom Lessons
Fruit and Vegetable Weights or Pan Weights are Valid Methods to Estimate Elementary Student Self-Service Salad Bar Portions[†]

[†] Student-led abstract/presentation; * Student participated in abstract/presentation development

Cohort 2 (2013-2014)



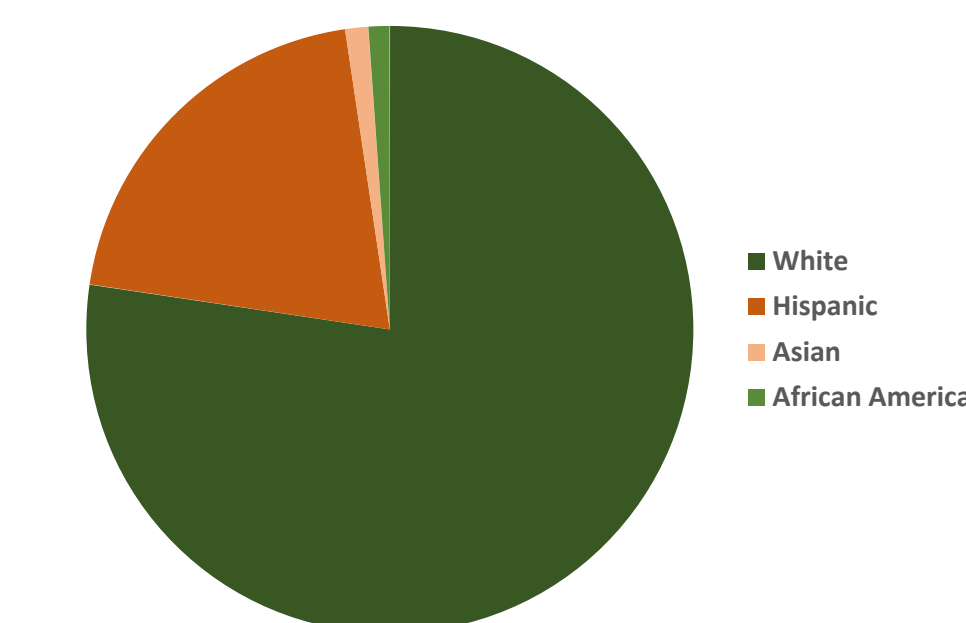
Parent Surveys & Diet Assessments



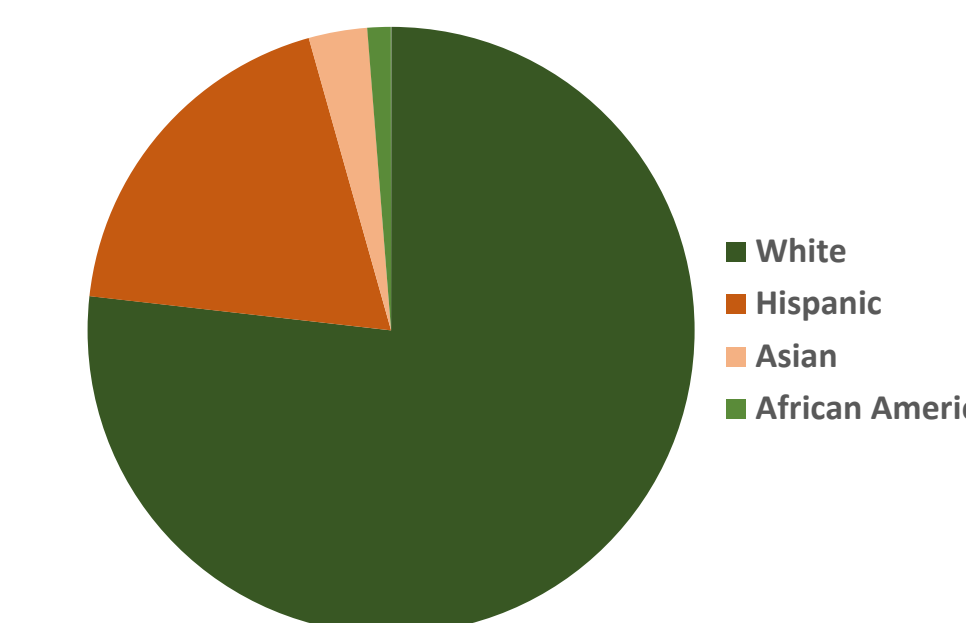
Student Surveys & Diet Assessments

Eight schools (20-70% of students eligible for free or reduced-priced school meals), four from each district. Approximately 440 4th and 440 5th grade students will participate each year.

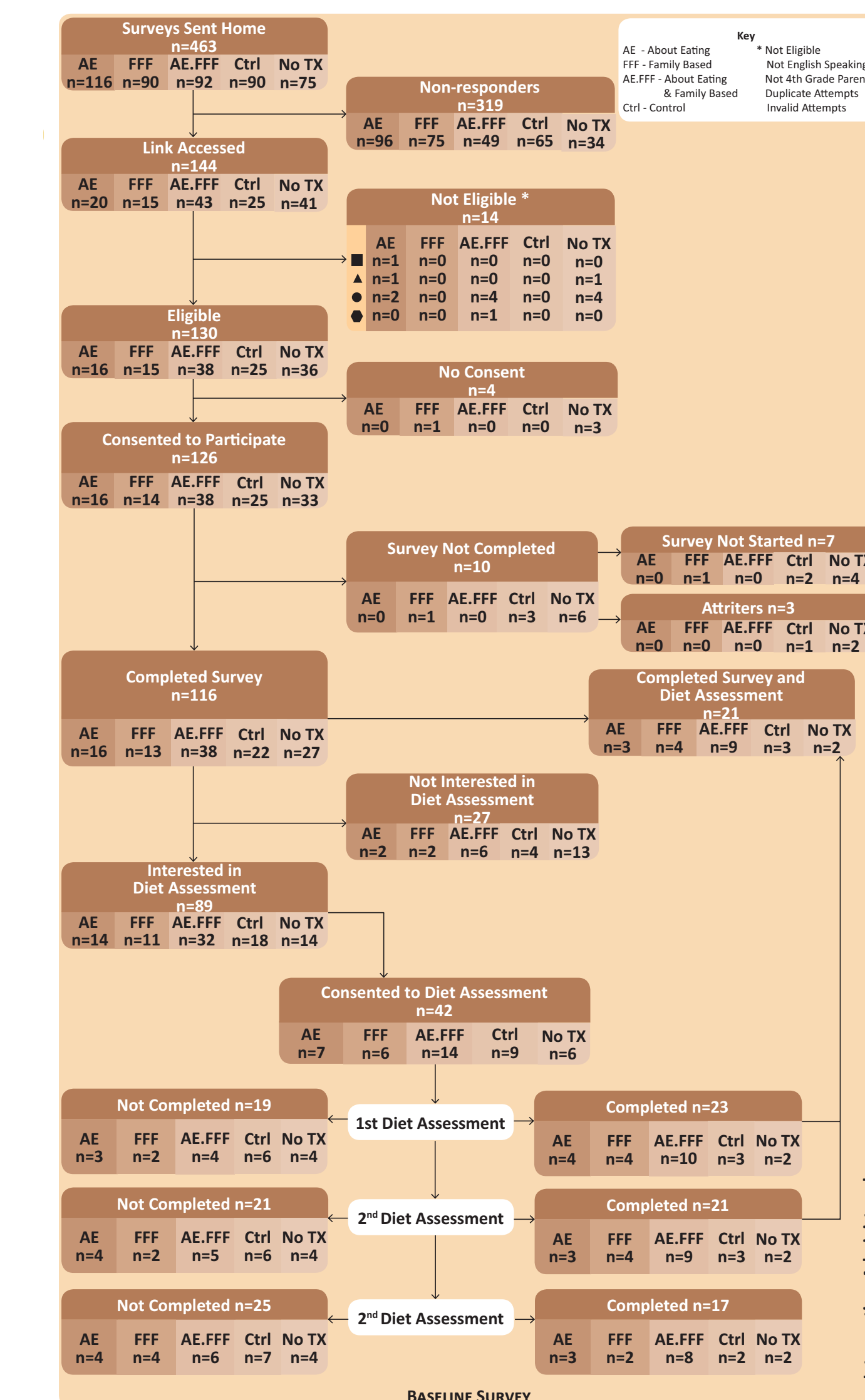
Thompson School District



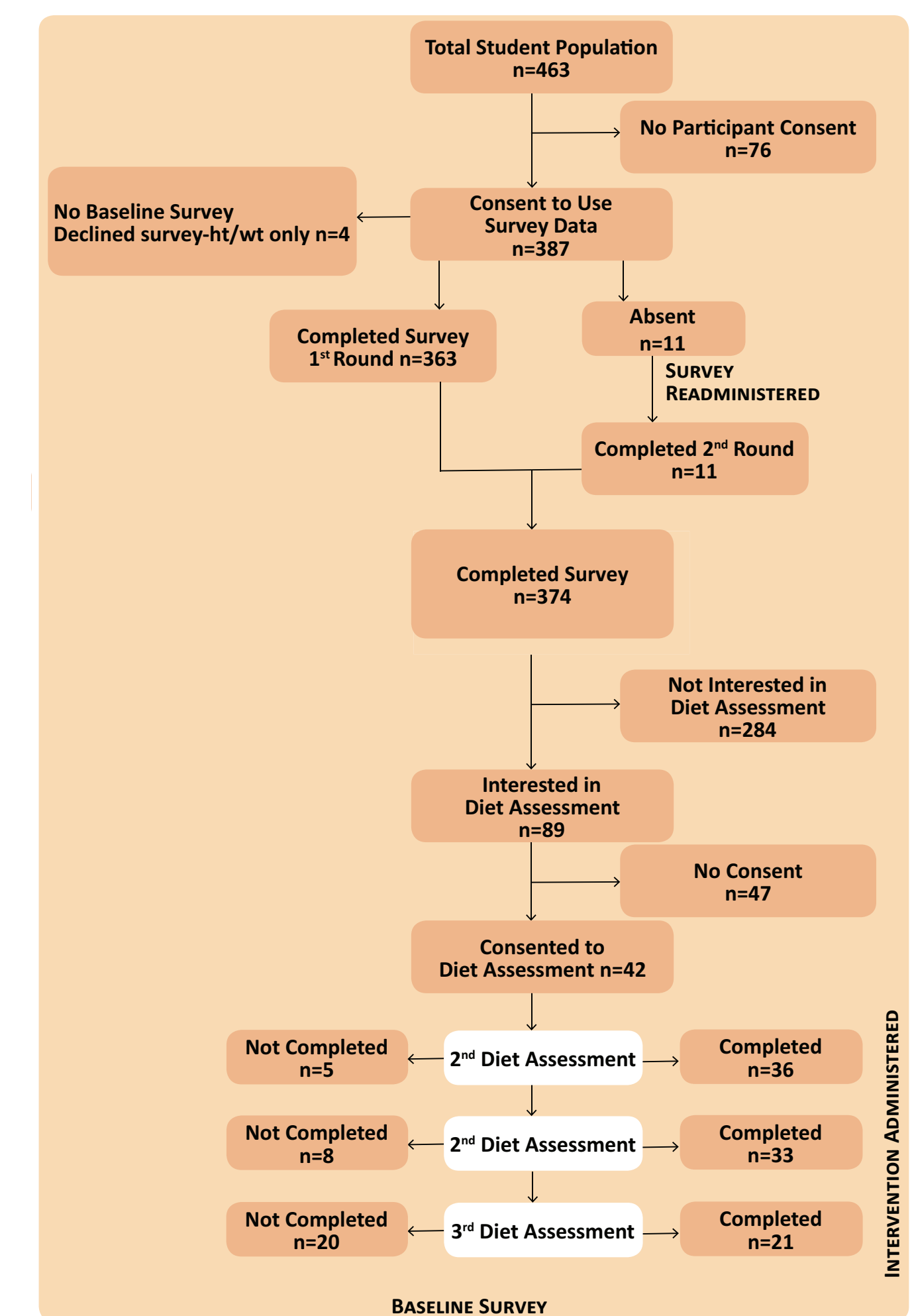
Poudre School District



Cohort 3 (2014-2015)



Parents Surveys & Diet Assessments



Students Surveys & Diet Assessments

Accomplishments and Results

Data Collection and Analysis

- ✓ Average student participation rate of 81% for Cohort 3 (C3), 73% for Cohort 2 (C2), 80% for Cohort 1 (C1)
- ✓ 349 C2 students completed baseline (BL) surveys and Ht/Wt, 325 at follow-up 1 (FU1), and 287 at follow-up 2 (FU2); 374 C3 students completed BL surveys
- ✓ 135 C2 parents completed BL survey, 68 at FU1, 73 at FU2; 116 C3 parents completed BL survey
- ✓ 26 C2 student/parent pairs completed BL 24-hour recalls, 15 completed FU1, and 9 completed FU2 ; 23 C3 pairs completed BL 24-hour recalls
- ✓ Accelerometry data (ACC) gathered at 3 schools: 130 C2 students and 110 parents at BL, 110 students and 89 parents at FU1. 126 C3 students and 103 parents at BL, 109 students and 80 parents at FU1
- ✓ SOPLAY observation of students' recess activity 16 completed times for each school
- ✓ Plate waste assessed from 739 C3 student lunch trays
- ✓ Process measures completed for all intervention components
- ✓ All outcome data dual-entered, managed and analyzed in SPSS

Intervention Implementation

- ✓ Implemented 19 introductory, 76 tasting and 95 CWK-Colorado cooking lessons, representing 86% of project goal. One school declined the intervention but participated in measurement activities.
- ✓ Conducted SPARK during recess average of 4 days/week/school (100% of project goal for participating schools).
- ✓ Implemented FFF cafeteria intervention: FV promotional signs, verbal prompts from staff, and staff clothing (chef coats and T-shirts).
- ✓ Developed and implemented FFF family-based component in 3 schools (187 families). Elements included family nights, take-home action packs, and a weekly parent blog.
- ✓ Collected process and outcome data from parents participating in *About Eating*.

Education

- ✓ Conducted trainings for 4 graduate student Food Educators and 18 undergraduate students on FFF program implementation
- ✓ Enrolled 18 undergraduate Food Science and Human Nutrition students in FFF practicum, gained experience in program implementation, process and outcome evaluation, and data entry
- ✓ Trained 13 Health and Exercise undergraduate students to implement SPARK recess games and conduct SOPLAY observation
- ✓ Completed 5 graduate student projects
 - Development and Administration of a Survey to Measure Elementary School Teachers' Nutrition Beliefs and Practices in the School Environment
 - Validating Portion Size Assessment Methods in Elementary Schools with Self-Service Salad Bars
 - *Fuel for Fun* Spring Family Night Technical Report
 - The Development, Implementation and Evaluation of *Fuel for Fun* Action Packs
 - The Development, Implementation and Evaluation of a Blog Tailored to Parents of Children Participating in the *Fuel for Fun* Program

Extension

- ✓ Conducted 11 interviews with potential adopters of FFF to identify barriers and facilitators for statewide dissemination
- ✓ Began piloting and determining changes necessary for after-school and Youth EFNEP adoption

Next Steps

- Add cohort 4 to replicate cohort 1—as a control group for students and parents with half of parents assigned to *About Eating*
- Continue data analysis, interpretation, and dissemination through publications and presentations
- Explore opportunities for program sustainability locally
- Develop and pilot versions for Youth EFNEP and out-of-school audiences
- Assess Community Readiness to adopt *Fuel for Fun* in other Colorado communities

Acknowledgements

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