

Outcome Evaluation: Measuring CalFresh Healthy Living, UC's Intervention Success via Adult and Youth Evaluation Tools

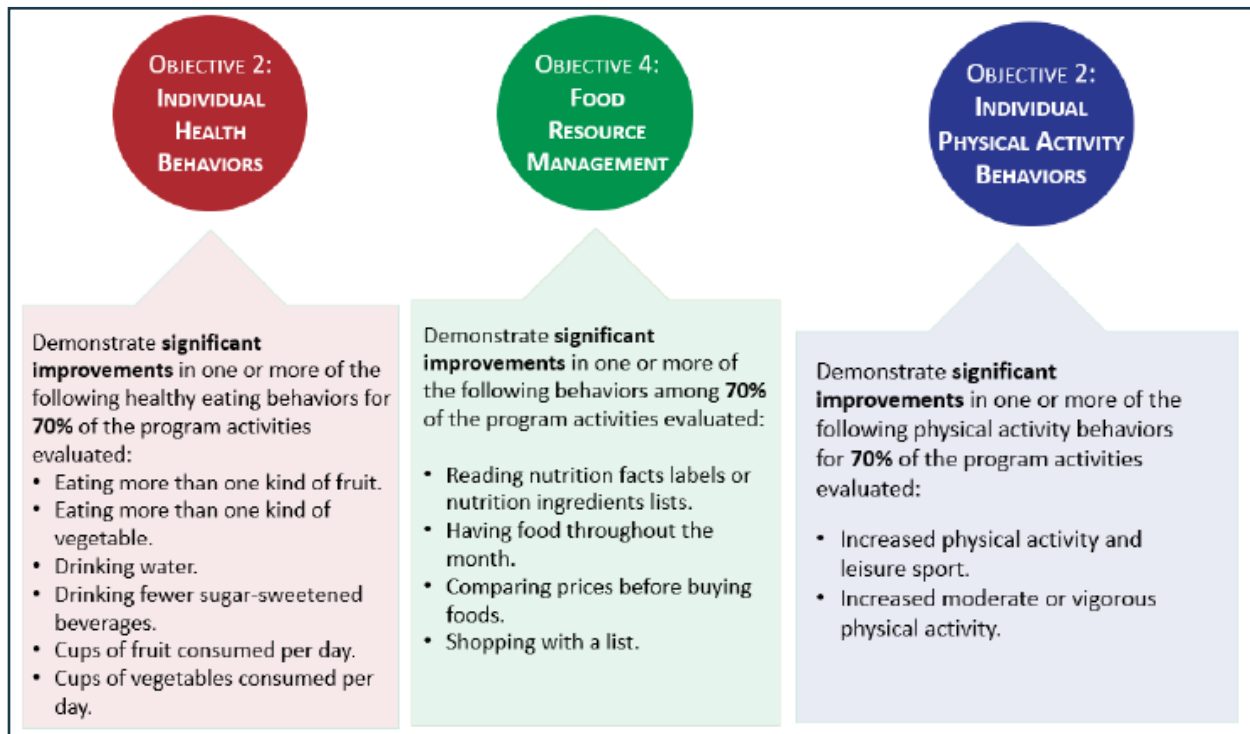
Project Goals:

All 34 CalFresh Healthy Living, UC Cooperative Extension (UCCE) county programs conduct evaluation of their activities applying the CalFresh Healthy Living, UC Evaluation Taskforce recommended evaluation tool(s) and Specific, Measurable, Appropriate, Realistic, and Time-specific (SMART) objectives assigned to the specific curricula or workshop topic they are implementing. The project goals for these evaluation activities are as follows:

- Clearly define the healthy eating, food resource management and physical activity behaviors program services are aiming to promote,
- Recommend evaluation tools for assessing these behaviors appropriate to the intervention strategies being implemented and the age of participants,
- Set SMART targets for expected improvements for the various commonly used evaluation tools,
- Assess progress towards these promoted behaviors and targets among program participants, and
- Program teams review county-specific evaluation results to identify areas for further strengthening and/or emphasis.

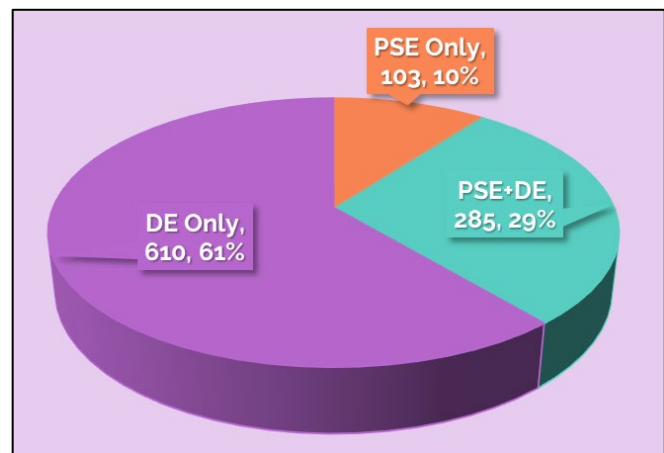
This evaluation-related work most directly pertains to the following California SNAP-Ed State Level Goals for FFY 2020-2023:

- **Goal 1:** Empower low-income Californians toward healthful dietary choices and promote the growth of Californian agriculture.
 - **Objective 2** – Demonstrate significant improvement in one or more of the Healthy Eating behaviors.
 - **Objective 4** – Demonstrate significant improvement in one or more of the Food Resource Management behaviors.
- **Goal 2:** Promote physically active lifestyles for low-income Californians.
 - **Objective 2** – Demonstrate significant improvement in one or more of the Physical Activity behaviors.



The CalFresh Healthy Living, UC's (CFHL, UC) statewide evaluation was originally developed to evaluate the performance and effectiveness of the direct education services. Recommended evaluation tools align with specific curriculum. Additionally, UCCE teams have worked hard to make their programming more comprehensive by incorporating evidence-based policy, systems and environmental (PSE) change strategies. As UCCE county programs support partners to adopt nutrition and physical activity related PSE changes at the same sites where direct education is delivered, the statewide evaluation tools are increasingly capturing the combined effects of direct education and PSE-related work.

In FFY2023, CFHL, UC programs provided services at nearly 1,000 unique site-settings (n=998). CFHL, UC county programs delivered direct education in combination with the implementation of PSE efforts at almost one-third (29%, n=285) of these sites. CFHL, UC has moved collection of several surveys to PEARS which will allow better analysis and comparison of the specific services received and evaluation results. Direct education alone is delivered at over half (61%, n=610) of sites and 10% (n=103) focus solely on PSE implementation.



Evaluation Design:

Depending on the direct education curricula and/or education format being delivered, UCCE county programs administer (in-person or online) the recommended evaluation tool and, when collected in-person, enter the hard copy surveys throughout the year into statewide data entry portals. The CFHL, UC state office analyze and share back with the UCCE county/cluster programs county-specific results and aggregated state-level evaluation results relative to the SMART objectives and SNAP-Ed Evaluation Framework indicators. Most of the evaluation results collected align with the SNAP-Ed Evaluation Framework indicators. However, a few supplemental measures are also collected by UCCE teams assessing important precursors to dietary behavior change such as child feeding practices.

A variety of practitioner-oriented evaluation methods are used including pre/post surveys, retrospective surveys, teacher observations, and brief surveys administered at the end of single session workshops or immediately following taste tests. Historically, most of the evaluation instruments are administered in written form – paper and pencil or pen – but during FFY 2023 online data collection was also used for curricula delivered virtually.

The FFY 2023 CFHL, UC direct education evaluation results are summarized below with the youth program findings presented first, followed by the adult program findings.

Results:

Evaluation of Youth Programming

The majority of CFHL, UC nutrition education is provided to preschool and school age children. This summary includes results from the two youth evaluation tools most commonly used across multiple direct education curricula and typically completed by teaching staff (Teacher Observation Tool -TOT and Youth Taste Test Tool - YTTT), as well as two additional taste test tools for food tasting conducted in the cafeteria setting and with youth children (Large Group Taste Test Tool - LG TTT and Preschool Taste Test Tool - Pre-K TTT), a youth pre/post behavioral survey for older students grades 4th and higher (Eating and Activity Tool for Students - EATS), and a youth physical activity observation tool completed by teachers (Physical Activity Teacher Observation Tool - PA TOT).

Teacher Observation Tool (TOT)

The TOT tool was developed to create a retrospective evaluation measure that could be used with the various curriculum delivered by CFHL, UC youth programs. Teachers, youth program leaders, and other extenders at the participating sites are trained to deliver UCCE nutrition curricula such as *Go, Glow, Grow, CATCH, Discover MyPlate, My Amazing Body, and Good for Me and You*. The TOT collects information on teachers' perceptions and observations related to the changes in knowledge and behavior among students as well as changes in their own nutrition and physical activity related practices

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after delivering UC developed nutrition curricula. The TOT is especially appropriate for the lower grade levels where administering student pre/post surveys is not feasible. The TOT is typically collected at the end of the school year.

In FFY 2023, 363 teachers completed the retrospective TOT questions on behalf of their 7,571 students across 17 counties. Twenty-three percent of these students were preschool students, 20% were Kindergartens, 40% were 1st-3rd graders, and 17% were 4th-6th graders.

As a result of CFHL, UC nutrition education, the following percentage of teachers “Strongly Agree” or “Agree”¹ that compared to the beginning of the year more students now:

- 98% - Are able to identify healthy food choices,
- 88% - Are willing to try new foods offered at school,
- 85% - Wash hands more often before handling food,
- 66% - Choose fruits and/or vegetables in the cafeteria or during classroom parties, and
- 66% - Bring fruit and/or veggies as a snack.

Furthermore, compared to the beginning of the school year teachers also reported changes in their own behaviors. Some highlights include teachers who report “A lot more often”² engaging in the following:

- 59% - Encourage students to be physically active,
- 56% - Encourage students to eat breakfast,
- 48% - Make healthier personal food choices,
- 43% - Remind families to bring healthy snacks for school parties, and
- 32% - Offer healthy food choices to students (at parties, snacks, rewards).

Many of these positive changes in teacher and child behaviors move beyond the individual factors of the Socio-Ecological Model (SEM) and are affecting environmental settings. Additionally, these findings are supported by FFY 2023 PSE reporting, which highlight improved access and quality of structured PA and PE as well as increased opportunities for unstructured PA time/free play, classroom PA breaks, PA during recess, and improved physical activity facilities; access to and utilization of edible gardens and fresh/local produce, as well as distributions of seedlings for home gardening, and closer collaboration between classroom and cafeteria through coordinated tastings; Smarter Lunchrooms Movement strategies to expand point of decision and meal server prompts for healthy eating and improved menus/recipes and dining areas or facilities; and CFHL, UC staff participation on school and district School Wellness Committees resulting in

¹ Response scale for frequencies excludes “Unable to discover / NA”.

² Response scale for frequencies excludes “Not sure / No outside food allowed in class”.

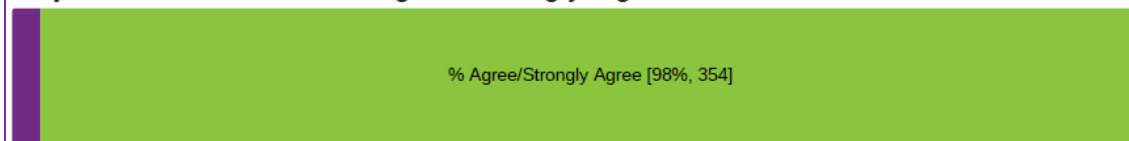
improvements to district wellness policies and offering districtwide professional development trainings for teaching staff related to gardens and structured PA.

Statewide and county specific TOT results are examined against **two SMART objectives**:

1. 75% or more “Agree” or “Strongly Agree” that compared to the beginning of the school year, more students can now identify healthy food choices, and
2. 75% or more “Agree” or “Strongly Agree” that compared to the beginning of the school year, more students are now willing to try new foods offered at school.

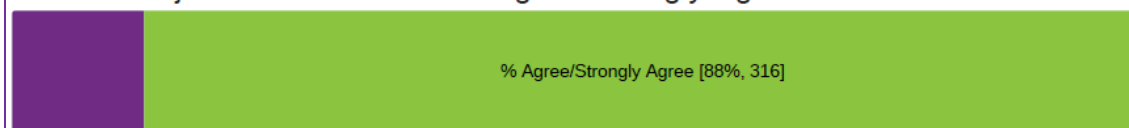
In FFY 2023, ninety-eight percent of teachers statewide either “strongly agreed” or “agreed” that more students now can **identify healthy food choices**, while eighty-eight percent stated that more students now are **willing to try new foods offered at school** compared to the beginning of the school year. These findings surpass both of the SMART Objectives set at 75% or more.

More Students Now Can Identify Healthy Food Choices: Met SMART Objective if 75% or more Agree/Strongly Agree



Note: The analysis for this SMART Objective excludes those reporting "Unable to discover or N/A" when presenting the % who "Agree"/"Strongly Agree"

More Students Now Are Willing to Try New Foods Offered at School: Met SMART Objective if 75% or more Agree/Strongly Agree

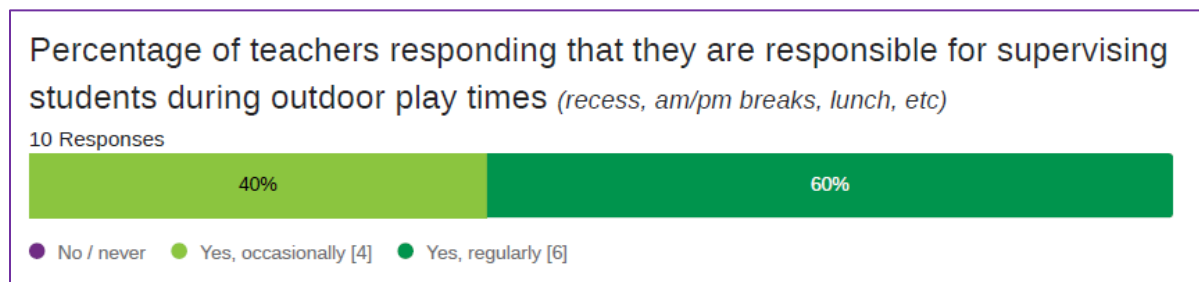


Note: The analysis for this SMART Objective excludes those reporting "Unable to discover or N/A" when presenting the % who "Agree"/"Strongly Agree"

Physical Activity Teacher Observation Tool (PA TOT)

The PA TOT evaluates structured physical activity interventions (such as CATCH or SPARK) that aim to improve youth physical activity behaviors and opportunities at ECE, school, and afterschool sites. CFHL, UC county programs began piloting this new tool in FFY 2019 with limited use during the past few years due to the impacts of COVID on programming and evaluation, so there are currently no SMART Objectives established.

The PA TOT results speak to the various physical activity (PA) related behavior changes teachers are observing in their students as well as changes in their own behaviors. In FFY 2023, 10 PA TOTs were collected from teaching staff in ECE sites, schools, and afterschool programs representing observations of 143 youth from 4 counties. All but one of the teaching staff surveyed delivered structured PA through CATCH (n=9) and half reported (n=5) delivering Go, Glow, Grow as well. As shown below, all teaching staff indicated being responsible for supervising outdoor play times either “occasionally” or “regularly”. In addition, the two schoolteachers surveyed also reported being responsible for providing some or all the PE for students in their class.

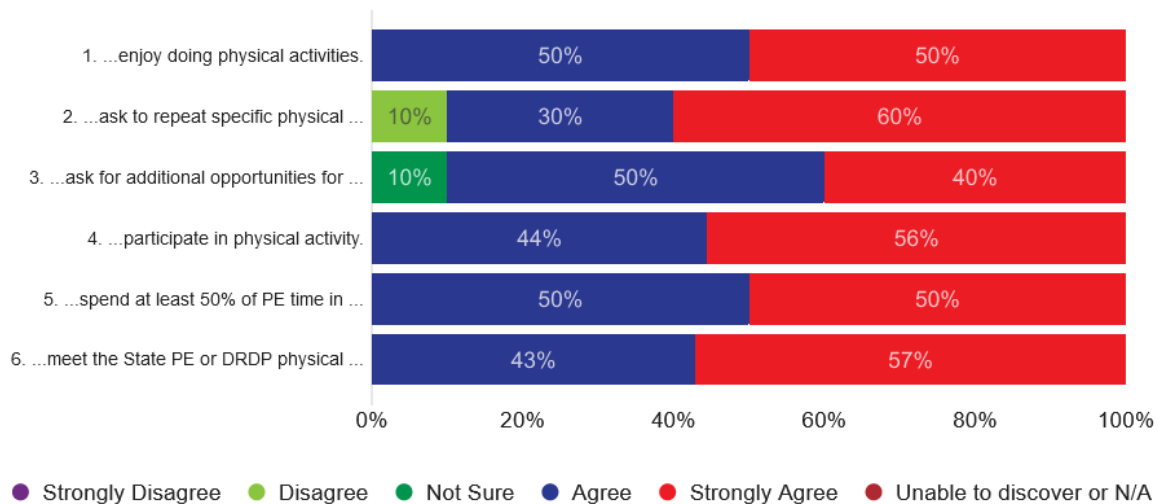


As shown below, 90-100% of the teaching staff³ statewide either “agreed” or “strongly agreed” that more students now enjoy and participate in PA, as well as **ask to repeat specific physical activities** introduced during the year and **for additional opportunities for PA** compared to the beginning of the school year. For the PA TOTs collected at schools (n=2), both teachers surveyed either “agreed” or “strongly agreed” that more students now spend at least 50% of physical education (PE) time in moderate or vigorous PA (MVPA) compared to the beginning of the school year. All the school and ECE teaching staff (n=7) surveyed also “agreed” or “strongly agreed” that more students now meet State PE or Desired Results Developmental Profile (DRDP) PA standards.

³ Response scale includes “Unable to discover or N/A”.

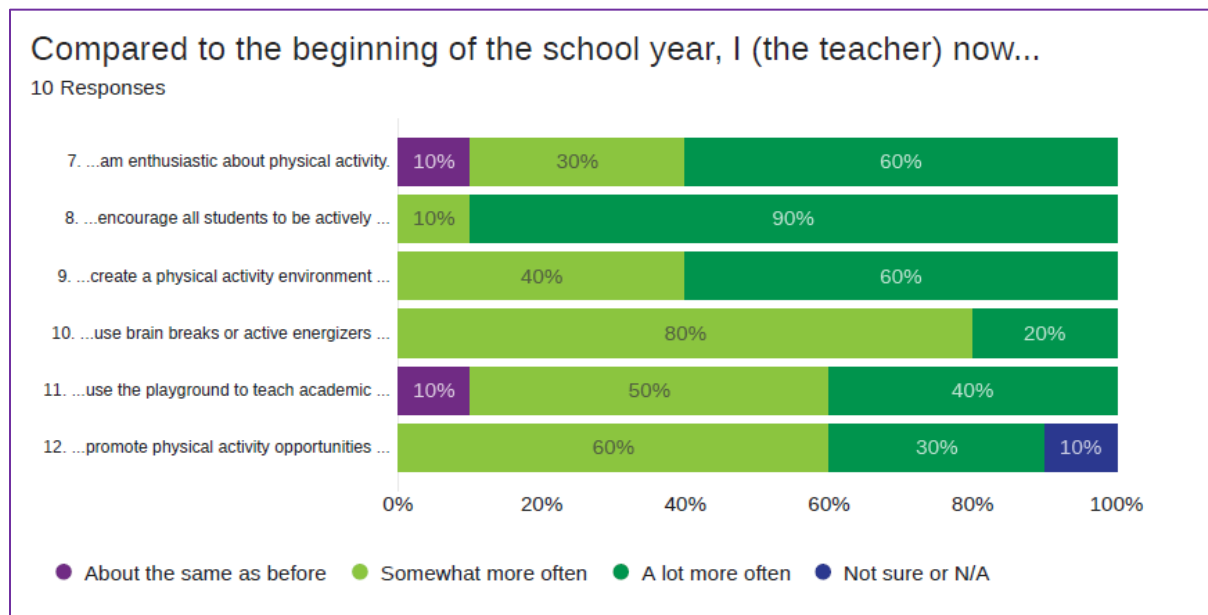
Compared to the beginning of the school year, more students now...

10 Responses



Of those responding, 90-100% of teaching staff reported differences in their behaviors compared to the beginning of the school year that support student physical activity.⁴ These include 90% of teachers reporting either “Somewhat more often” or “A lot more often” that they are now **enthusiastic about PA, use the playground to teach academic concepts** through movement, and **promote PA opportunities outside of the school day**. While all teachers surveyed (100%) reported they **encourage all students to be actively involved during PE/structured play times, create a PA environment that supports students at all ability levels, and use brain breaks or active energizers with their classes** (in schools and afterschool programs) either “Somewhat more often” or “A lot more often”. These findings represent key outcomes of the CATCH program which promotes a fun, engaging, inclusive, and safe environment for physical activity among all children participating.

⁴ Response scale includes “Not sure or N/A”.



Youth Taste Test Tool (YTTT)

In collaboration with the UCCE Evaluation Taskforce members, CFHL, UC has developed and validated a simple YTTT to evaluate youth response to food tastings that are coupled with classroom nutrition education. These findings are included in a paper published in *the Journal of the Academy of Nutrition and Dietetics*.⁵

Exposure to healthy foods is particularly important for children in low-income households where availability of fruits and vegetables is low, and limited resources discourage parents from experimenting with new foods that their children might reject. A goal of the CFHL, UC youth program is to increase willingness to try new healthy foods and encourage children to ask for these foods at home. Other studies have shown willingness to try fruits and vegetables and children asking parents to buy these foods are associated with greater household purchases of fruits and vegetables⁶ and fruit and vegetable consumption in school-aged children⁷.

Overall, 3,233 tastings were conducted with 66,748 students from 29 counties in FFY 2023. These numbers are compiled from multiple tastings in classrooms – sometimes with the same students. Of the students participating in food tastings, 2% were preschool

⁵ Kaiser LL, Schneider C, Mendoza C, George G, Neelon M, Roche B, Ginsburg D. Development and Use of an Evaluation Tool for Taste Testing Activities by School-Aged Children, *J Acad Nutr Diet* 2012; 112:2028-2034

⁶ Busick DB, Brooks J, Pernecky S, Dawson R, Petzoldt J. Parent food purchases as a measure of exposure and preschool-aged children's willingness to identify and taste fruit and vegetables. *Appetite* 2008; 51(3): 468-473.

⁷ Sandeno C, Wolf G, Drake T, Reicks M. Behavioral strategies to increase fruit and vegetable intake by fourth- through sixth-grade students. *J Am Diet Assoc.* 2000;100(7): 828-830.

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students, 16% were kindergarten students, 39% were in 1st-3rd grades, 26% in 4th-6th grades, 5% in 7th-8th grades, and 11% came from multiple or mixed grade groups.

Across all categories of healthy food items tasted in the CFHL, UC youth program:

- 35% of youth reported having tasted the target food before,
- 95% tried the food featured for the tasting,
- 70% reported willingness to eat the food again, and
- 64% reported being willing to ask for the food at home.

The results are promising in determining students' willingness to try the target foods and their willingness to ask for this food at home. The findings also underscore the great variety of taste testing opportunities the program is providing. County programs can use their YTTT results to make informed choices about which foods and food groups to target next year. Findings can also be used to increase the variety of food preferences by pairing foods less desired or novel with those generally considered as highly appealing for food tastings to reinforce the nutrition education messages delivered. Additionally, county programs can use their YTTT results to inform PSE opportunities on the school campus such as foods offered in the cafeteria or on the salad bar, to inform orders for locally grown produce, or other ways to collaborate with food services.

Statewide and county specific YTTT results are examined against **three SMART objectives**:

1. 40% or less will have not tasted the food before,
2. More than 75% will be willing to eat the food again, and
3. More than 60% will be willing to ask for this food at home.

In FFY 2023, the findings surpassed one of the three SMART Objectives which focused on youth intentions related to a willingness to ask for the target food item at home. One of the SMART objectives for this evaluation tool is to have greater than 75% of students report that they would be willing to eat the item again. Although this objective was not achieved in FFY 2023, results were just short of the goal at 70% of students and research supports these findings indicating that it often takes multiple exposures to a new food to change children's food preferences⁸. Another of the SMART objectives for this evaluation tool is to have 40% or less of students reporting they have not tasted the food before to put an emphasis on continuing to introduce new, appealing foods. However, as shown in the research cited above, it is sometimes equally important to provide multiple exposures to the same food to improve food preferences among children. These results will be discussed with the CFHL, UCCE Evaluation Workgroup to determine whether the

⁸ Birch L, Savage JS, Ventura A. Influences on the Development of Children's Eating Behaviours: From Infancy to Adolescence. Can J Diet Pract Res. 2007; 68(1): s1–s56.

guidance and/or SMART objectives related to food tasting may need to be updated to reflect current taste test practices among students.

Large Group Taste Test Tool (LG TTT)

In FFY 2023, UCCE teams resumed using the Large Group Taste Test Tool (LG TTT) to conducting food tastings in partnership with School Food Services Programs with large groups of students rather than solely in the classroom setting. Often, these groups include multiple grades and are typically done in the cafeteria but also possibly in an afterschool or playground setting. The tool includes five different sets of questions so UCCE teams can tailor the questions they select to collect student feedback. One or more sets of questions are selected, depending on what is most appropriate to the setting and purpose. A participatory “voting” approach is most often used with students either dropping their food sample cup in small buckets with either two or three smiley faces. Other approaches are also used such as a voting booth, iPad or tablet with a “thumbs up” or “thumbs down” icon, or a large wall-size laminated poster for capturing post-it note or sticker “votes”. As with each of the taste test evaluation tools, responses are aggregated and reported for a specific food tasting “event”.

The question sets included:

- Three types of *preference* questions:
 1. “Tell us what you think about [food/recipe]” with 3 response options
 2. “Tell us what you think about [food/recipe]” with 2 response options
 3. “Would you like to see [food/recipe] on the menu?”
- One *intention* question:
 1. “What you try [food/recipe] again?”
- One *change-over-the-year* question:
 1. “Since the start of this school year...”

For additional details about this evaluation tool, please review the [LG TTT](#) instructions and questions posted on our website.

Overall, 199 food tastings were evaluated using the LG TTT in 13 counties during FFY 2023. Taste tests were most often conducted in support of Smarter Lunchrooms Movement, Farm to School local procurement and/or garden efforts, Harvest of the Month, Farmers Markets at schools, the Fresh Fruit and Vegetable Grant Program, and Rethink Your Drink efforts. Almost three-quarters of the foods tasted were single, uncooked food items and just over one-quarter were mixed food or menu items. UCCE teams could include more than one set of questions on the LG TTT during each tasting. Across all CFHL, UC youth program food tastings assessed with the LG TTT, results are presented below by each question set.

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Preference Question Results

A total of 163 surveys were collected from 31,539 students using the 3-response option preference question, “Tell us what you think about [food/recipe].” Student responses included:

- 69% - *I loved it!* – with large smile face
- 17% - *I liked it* – with smaller smile face
- 14% - *Not today* – face not smiling

For the 2-response option version of the, “Tell us what you think about [food/recipe],” preference question set, 29 surveys were collected with 5,949 students. Student responses included:

- 81% - *I liked it!* smile face or thumbs up
- 19% - *I don’t like it!* face no smile or thumbs down

Eleven surveys were collected using the third preference question set, “Would you like to see [food/recipe] on the menu?” with a total of 1175 students. Student responses included:

- 76% - *Yes or Liked or Thumbs Up or Smiley Face*
- 24% - *No or Disliked or Thumbs Down or Face No Smile*

Intention Question Results

In total, 7 surveys were collected utilizing the one *intention* question, “Would you try [food/recipe] again?” with 978 students. Student responses included:

- 76% - *Yes or Thumbs Up*
- 24% - *No or Thumbs Down*

Change-Over-The-Year Question Results

The change-over-the-year question, “Since the start of this school year...” was not utilized by any counties in FFY 2023.

The results are promising in determining participating students’ acceptance of targeted foods, as well as the ability to reach a greater student population while efficiently capturing evaluation results. This information can help the school and cafeteria to quickly capture feedback regarding what types of new foods are appealing to students and ideal for introducing into school meals to ensure a wider variety of healthy foods is available to students. Coordinating cafeteria tasting with food service staff can also assist with identifying appealing recipes or preparations of new, locally-grown produce that students may not have tasted and help improve preferences for any produce items that are not being selected and/or eaten by students.

Preschool Taste Test Tool (Pre-K TTT)

In FFY 2023, UCCE teams resumed using the simplified Preschool Taste Test Tool (Pre-K TTT) to evaluate taste tests conducted with younger children. In the past, these data were collected using the YTTT, but UCCE teams recommended designing a simplified

and developmentally appropriate tool and approach for preschool children to ensure the accuracy of the data collected.

In total, 315 surveys were collected from 9 counties, representing 4,895 preschoolers participating in taste tests. Again, these numbers are compiled from multiple tastings in classrooms – sometimes with the same students. On average, across the surveys a large majority (90%) of the children tried the target food and over three-quarters (82%) of them expressed a willingness to eat the item again.

These results are promising in determining the participating children’s willingness to not only try new foods, but their willingness to eat the item again. County programs can use their Pre-K TTT results to make informed choices about which foods and food groups to target next year; as well as to inform PSE opportunities at the site such as foods offered as snacks or meals and the types of produce to plant in edible gardens; and potential collaboration with parents to reinforce healthy food consumption at home.

Eating and Activity Tracking Survey (EATS)

The Eating and Activity Tool for Students (EATS) was a new youth pre/post behavioral survey used by three State Implementing Agencies (SIAs) beginning in FFY 2020. As part of their evaluation work with CDPH, NPI developed and tested EATS based on the Youth Nutrition and Physical Activity Survey that had been administered in California for many years (see SNAP-Ed Connections Resource Library [here](#)). CFHL, UC introduced EATS to CFHL, UC Cooperative Extension (UCCE) programs for use with students in grades 4th and higher. CFHL, UC adapted the administration protocol and instrument to utilize a modular approach and include recall prompts for physical activity. Depending on the intervention focus, UCCE teams selected which of the three EATS modules to administer the: Fruit and Vegetable Module (7 items), Sugar Sweetened Beverages (6 items) and Water (1 item) Module, and/or Physical Activity Module (4 items).

In FFY 2023, many CFHL, UCCE programs resumed collecting EATS both in-person at elementary schools and both in-person and online in middle and high schools. In total, 1,500 youth participants (4th-12th grade) across 15 counties completed the EATS pre and post surveys resulting in 1,484 Fruit and Vegetable Module respondents, 1,116 Sweetened Beverages and Water Module respondents, and 1,242 Physical Activity Module respondents.

Fruit and Vegetable Module Results

The Fruit and Vegetable Module assesses students’ success eating fresh, frozen, canned, and dried fruits and vegetables more times from the pre to post survey. Over a quarter to one-third of students (28-36%) reported an increased frequency in eating most of the fruits and vegetables asked about, including starchy vegetables (potatoes, corn, or peas), orange vegetables (carrots, squash, sweet potatoes), green vegetables (spinach, broccoli, green beans), “other” vegetables (tomatoes, peppers, cucumbers, celery), fruit, and 100% fruit juice. The smallest increase in students reporting more frequent

consumption of the promoted fruits or vegetables from pre to post was for beans (pinto, refried, baked), with only one in five (20%) students reporting that they consumed beans more frequently on the post-survey. On average, youth increased their consumption of fruits, 100% juice, vegetables, and beans from 5.55 times at pre to 6.15 times at post which was a statistically significant increase (+0.60 times, $p < .001$). Significant gains were found from pre to post in the number of times students consumed vegetables both with and without beans included in the total vegetables. Significant gains were also found from pre to post in the number of times students consumed fruits including 100% juice (+0.14, $p < .05$). When examining individual question items, there were statistically significant increases ($p < .05$) reported for each vegetable item as well as for fruit (fresh, frozen, canned, dried). The only individual fruit or vegetable item that did not show a significant increase was 100% fruit juice which showed little change between the pre and post surveys (+0.03).

Sweetened Beverage and Water Module Results

The Sweetened Beverage and Water Module assesses students' success drinking sweetened beverages fewer times and water more times from pre to post. Reductions in the reported frequency of consuming sweetened beverages from the pre to post survey ranged from 14% of students drinking energy drinks and diet soda fewer times to nearly one-third (30%) of students drinking fruit drinks (lemonade, sports drinks) fewer times. In fact, there was a statistically significant decrease in total sweetened beverages including flavored milk from pre to post (-0.41, $p < .001$). Almost one-third (30%) of students reported drinking fruit drinks such as lemonade less often and over one-quarter (26%) drank regular soda fewer times from pre to post. The percentage of youth reporting improvements for each type of beverage is presented below in declining order.

Beverage Type	Improvement in Percentage Points
Fruit Drinks	-30%
Flavored Milks	-28%
Regular Soda	-26%
Sweetened Coffee/Tea	-25%
Diet Soda	-14%
Energy Drinks	-14%
Water	+20%

In contrast to the reductions observed in sweetened beverage consumption from pre to post, one in five (20%) of the youth surveyed reported drinking water more times when completing the post-survey.

Physical Activity Module Results

The Physical Activity Module focused on the number of days and amount of time that students were physically activity, including in and out of the school setting. Improvements

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in youth physical activity from pre to post were most reported for the number of days in the past week students were active for at least 60 minutes (47%). The percentages of students who reported being more physically active from the pre to post survey are presented below in declining order.

Physical Activity Type	Improvement in Percentage Points
Days with 60+ minutes of physical activity (last week)	
Days with classroom physical activity breaks (last week)	+31%
Days of physical education (PE) (last week)	+29%
Time in PE spent doing physical activities (last week)	+28%

Statistically significant increases were found in the mean number of days students reported being physically active for 60 or more minutes (+0.49 days, $p<.001$), days with PE (+0.27 days, $p<.001$), and time in PE spent doing physical activities (+0.10 gain in mean score, $p<.01$). Of the 4 physical activity related items, only days with classroom physical activity breaks did not show a statistically significant improvement during FFY 2023.

In addition, statewide and county specific EATS results are examined against **four SMART objectives** as a reference for gauging program performance. These include:

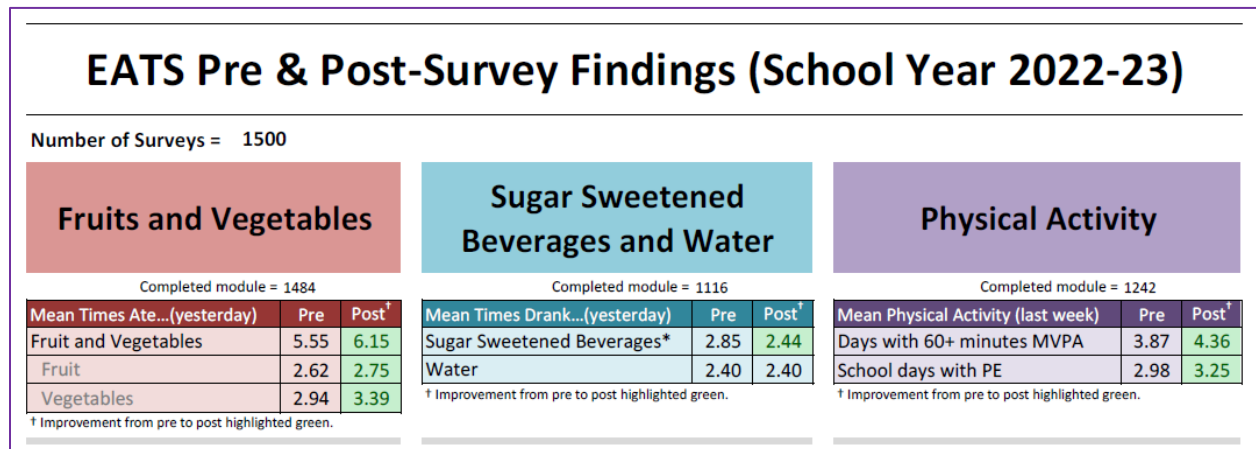
1. At least 30% will increase the frequency of fruit (including 100% juice) consumed the previous day,
2. At least 30% will increase the frequency of vegetables (including beans) consumed the previous day,
3. At least 30% will decrease the frequency of sweetened beverages (including flavored milk) consumed the previous day, and
4. At least 35% will increase the number of days with 60+ minutes of physical activity in the last week.

Across the 15 counties collecting EATS pre/post surveys, each of the four SMART objectives were met and exceeded with:

- 41% increasing the frequency of fruit (including 100% juice) consumed the previous day,
- 43% increasing the frequency of vegetables (including beans) consumed the previous day,
- 47% decreasing the frequency of sweetened beverages (including flavored milk) consumed the previous day, and
- 47% increasing the number of days with 60+ minutes of physical activity in the last week.

At the statewide level, positive and significant outcomes were demonstrated among youth completing the EATS survey in both the areas of healthy eating and PA with all four SMART objectives being achieved.

The graphic below shows a user-friendly presentation of the EATS pre and post survey findings developed to highlight summary results from the 2022-2023 school year. County programs are encouraged to share their EATS results with stakeholders in the communities they serve using this engaging new visual format. These results can be filtered and displayed by classroom, grade, or school to best meet partner needs and facilitate collaboration on program improvement.





What Did You Learn? (WDYL)

In FFY 2023, UCCE teams continued to use the 2-item WDYL retrospective survey as an innovate option for collecting open-ended qualitative feedback from students. The questions include: 1) “*What, if anything, is one thing that you learned from these classes?*” and 2) “*What, if anything, is one thing that you do differently because of these classes?*”.

In total, 2,010 surveys were collected across 15 counties. Youth respondents ranged from 4th-12th grade although most (72%) were in the 4th to 6th grades. This flexible evaluation tool was used for a variety of curricula most commonly with two hundred or more youth being:

- EatFit (6-8th grade)
- Up4It! – Level 1 (4-5th grade) and Level 2 (5th-6th grade),
- TWIGS (K-8th grade) (garden enhanced nutrition education), and
- Nutrition Pathfinders/Let’s Eat Healthy Video Series (5-6th grade)

Additional primary curricula identified, but less frequently reported by fewer than 100 youth included:

- Learn! Grow! Eat! Go! (2nd to 5th grade),
- CATCH (K-5),
- Food Smarts for Kids (K-12th grade),
- Hunger Attacks/ Money Talks (9-12)
- 4-H Cooking 101 (4-6)
- Cooking For Health Academy
- Power Play! School Idea and Resource Kit (SIRK) (Campaign Resources) (4-5) and Community Youth Organization Idea and Resource Kit (CYO Kit), and
- Common Threads: Small Bytes Program (grades pre-K - 8).

Because student responses typically reflected the specific curricula and learning activities being implemented, WDYL results are most useful for providing class, site, or curricula specific feedback to community educators at the local level. The open-ended responses provide insight into what information and actions are most memorable or notable to students. Overall, students shared a great variety of specific responses about what they had learned from the CFHL, UC classes.

Evaluation of Adult Programming

CalFresh Healthy Living, UC adult education focuses on healthy eating, food resource management (FRM), physical activity (PA), and family-centered education including child feeding practices. For the healthy food and beverage behaviors, adult evaluation results come from two evaluation tools during FFY23 (Intent to Change – ITC and Food Behavior Checklist – FBC). The FBC survey also included three Expanded Food and Nutrition Education Program (EFNEP) survey questions used to measure potential changes in adult physical activity behaviors (FBC+PA). FRM education is one of the most requested educational trainings that UCCE county/cluster programs offer eligible adults. Successfully procuring healthy foods throughout the month while reducing instances of food insecurity can be positively influenced by an individual's ability to assess nutritional values of available food resources, plan meals in advance, budget their limited food dollars, and critically assess the impact of food marketing on their buying behaviors. UCCE county/cluster programs deliver FRM education using *Making Every Dollar Count* and *Plan, Shop, Save, & Cook* and evaluate these curricula with a pre/post survey assessing FRM behaviors. In addition, adult education focused on child feeding practices is delivered using the *Healthy Happy Families* curriculum and evaluated using a curriculum specific pre/post parent survey.

Like with youth data collection, the state office continues to see a rebound in the number and types of adult surveys collected during FFY 2023 compared to previous years' challenges collecting evaluation data due to COVID-19. Over 2,700 ITC surveys and approximately 1,650 matched pre-post surveys were collected from adult participants.

UCCE county/cluster programs continue to provide virtual direct education as part of their program delivery options and use online adult evaluation tools with virtual distance learning classes. Spanish and English language versions of each of the adult evaluation tools are available in PEARS for adult participants to complete online using the public survey links or QR codes.

Intent to Change (ITC) Surveys

The Intent to Change (ITC) surveys are used to evaluate either single session or short duration (less than one month) education. The findings can be used to report against the SNAP-Ed Evaluation Framework short-term goal and intention indicators related to healthy eating, food resource management and physical activity.

The brief – only three question – survey focuses on a single behavior. Collected at the end of the lesson, participants are asked about their current or recent practices related to the behavior e.g. “During the past week, did you drink a sweet beverage (regular sodas, sports drinks, fruit punches, teas or other drinks sweetened with sugar) every day?” with “Yes”/“No” response options. The next question asks about participants’ future intentions: “Within the next week, how often will you drink a sweet beverage?” with “Same as before”/“Less often” response options. The final open-ended question asks participants to share how the workshop will help them and their families.

While not designed to measure change in participants’ behaviors, the ITCs do provide useful information about participants’ current behaviors and their readiness to change. Examining the intention responses for just those participants not currently practicing the promoted or desirable behavior is especially valuable for identifying potential for improvement. Additionally, asking participants to reflect upon and report their intentions regarding a specific behavior can help to “nudge” or encourage participants to take action. Finally, responses to the open-ended question provide insight into the aspects of the workshop participants found most valuable to allow for further program strengthening. Participant observations and quotes are also useful for program materials and reports.

The FFY 2023 ITC statewide results (n=2,738) collected across 19 counties have been organized into summary tables reporting:

- the number of participants surveyed,
- the percentage not currently practicing the desirable behavior, and
- of those not currently practicing the desirable behavior, the percentage who reported the intention to practice the desirable behavior “more often” in the next week.

Results are summarized below for the 10 ITCs collected in PEARS. Of the three ITC healthy eating behaviors for which ITCs were reported (Table 1), eating foods from all five food groups each day had the highest percentage of participants (27%) reporting that they **did not** practice the desirable behavior during the past week. Of those participants not already practicing these three healthy eating behaviors, the large majority (79-84%)

reported the intention to do so “more often” in the next week after participating in CFHL, UC nutrition education.

Table 1. Intent to Change for Behaviors Related to Increasing the Consumption of Healthy Foods and Beverages





ITC BEHAVIOR	CURRENT PRACTICE	INTENT TO CHANGE
Eat foods from all five food groups each day 	Of the 271 respondents who completed a survey, 27% reported NOT eating foods from all five food groups each day in the past week.	Of the 73 respondents who had not eaten foods from all five food groups each day, 84% reported they will eat foods from all five food groups each day more often within the next week.
Eat fruit two times per day 	Of the 76 respondents who completed a survey, 18% reported NOT eating fruit at least two times a day in the past week.	Of the 14 respondents who had not eaten fruit two times a day, 79% reported they will eat fruit more often within the next week.
Eat more than one kind of vegetable each day 	Of the 299 respondents who completed a survey, 20% reported NOT eating more than one kind of vegetable each day in the past week.	Of the 59 respondents who had not eaten more than one kind of vegetable each day, 80% reported they will eat more than one kind of vegetable each day more often within the next week.

Table 2 displays the ITC topic related to the consumption of sugar sweetened beverages. Over two-thirds (69%) of participants reported drinking sugar sweetened beverages every day over the past week suggesting there is considerable room for improvement to reduce the consumption of sugar sweetened beverages. Of those who practiced this less desirable behavior during the past week, three quarters (75%) of participants reported the intention to drink sweetened beverages “less often” within the next week after participating in CFHL, UC nutrition education.

Table 2. Intent to Change for Behaviors Related to Reducing the Consumption of Sugar Sweetened Beverages

Drink a sweet beverage every day 	Of the 343 respondents who completed a survey, 69% reported drinking a sweet beverage every day in the past week.	Of the 238 respondents who had drank a sweet beverage every day, 75% reported they will drink a sweet beverage less often within the next week.
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The next set of ITC topics focus on current and future practices related to Food Resource Management (FRM) behaviors (Table 3). Just over half (55%) of the adult surveyed reported that they **did not** practice the FRM skill of using the “Nutrition Facts” on the food label when choosing foods, while just over a third **did not** practice the skills related to comparing unit prices and almost half **did not** make a list or plan meals before food shopping. Of those not currently practicing these behaviors, the large majority (63-78%)

intended to do so the next time they shopped or choose food after participating in CFHL, UC FRM education.

Table 3. Intent to Change for Behaviors Related to Food Resource Management



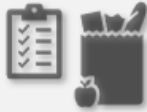



<p>Use "Nutrition Facts" on food label to choose foods</p> 	<p>Of the 630 respondents who completed a survey, 55% reported NOT using the "Nutrition Facts" on the food label to choose foods the last time they shopped.</p>	<p>Of the 348 respondents who did not use the "Nutrition Facts" on the food label, 63% reported they will use the "Nutrition Facts" on the food label to choose foods the next time they go shopping.</p>
<p>Compare unit prices before choosing foods</p> 	<p>Of the 109 respondents who completed a survey, 37% reported NOT comparing unit prices before choosing foods the last time they bought food.</p>	<p>Of the 40 respondents who did not compare unit prices, 78% reported they will compare unit prices the next time they shop before choosing foods.</p>
<p>Make a list before going to the store</p> 	<p>Of the 363 respondents who completed a survey, 46% reported NOT making a list before going to the store the last time they bought food.</p>	<p>Of the 168 respondents who did not make a list, 67% reported they will make a list before going to the store the next time they buy food.</p>
<p>Plan meals before going to the store</p> 	<p>Of the 350 respondents who completed a survey, 45% reported NOT planning meals before going to the store the last time they bought food.</p>	<p>Of the 157 respondents who did plan their meals, 73% reported they will plan meals before going to the store the next time they buy food.</p>

Table 4. Intent To Change for Behaviors Related to Physical Activity

<p>Engage in moderate physical activity for 2½ hours per week</p> 	<p>Of the 49 respondents who completed a survey, 24% reported NOT being physically active for at least 2 1/2 hours in the past week.</p>	<p>Of the 12 respondents who had not been physically active, 50% reported they will engage in moderate physical activity more often within the next week.</p>
<p>Engage in moderate physical activity for 30 mins per day</p> 	<p>Of the 248 respondents who completed a survey, 29% reported NOT being physically active for at least 30 minutes most days in the past week.</p>	<p>Of the 72 respondents who had not been physically active, 78% reported they will be physically active for at least 30 minutes a day more often within the next week.</p>

Two ITC surveys focus on participants' physical activity (PA) (Table 4). Because the PA recommendation is described two different ways in approved curricula – minutes per day or hours per week – two separate ITCs are available for evaluating adult programs depending on the specific PA messaging in the education materials being used. When examining current behavior, almost a quarter (24%) of participants reported not meeting the moderate PA recommendation of 2½ hours per week and almost one in three (29%) adults reported not meeting the recommendation of at least 30 minutes of PA most days.

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However, for those **not currently practicing** the desired behavior, half to just over three quarters of participants (50% and 78%) reported their intention to engage in moderate physical activity for at least 2½ hours and to be physically active for at least 30 minutes most days in the following week after participating in CFHL, UC nutrition and PA education.

Beginning in FFY 2023 the statewide and county specific ITC results were examined against **ten SMART objectives** as a reference for demonstrating the value added when delivering single sessions or workshops offered to adult participants. These SMART objectives were developed in conjunction with the CFHL, UCCE evaluation workgroup and apply the criterion that half (50% or more) of adult participants not already practicing the desirable behaviors will intend to increase their frequency of the desirable behaviors over the next week or next time they shop or buy food following the single session or workshop. As shown below, **all ITC SMART objectives were exceeded** in FFY 2023.

OVER THE PAST WEEK...OUT OF THOSE WHO	N	CFHL, UC SMART OBJECTIVE	PERCENT WHO INTEND TO IMPROVE NEXT WEEK
Did NOT eat foods from all 5 food groups each day	73	50% or more intend to increase frequency	84%
Did NOT eat fruit at least 2 times per day	14	50% or more intend to increase frequency	79%
Did NOT eat more than 1 kind of vegetable each day	59	50% or more intend to increase frequency	80%
Did NOT engage in moderate physical activity for at least 2½ hours	12	50% or more intend to increase frequency	50%
Did NOT engage in moderate physical activity for at least 30 minutes most days	72	50% or more intend to increase frequency	78%
Drank a sweet beverage (regular sodas, sports drinks, fruit punches, teas, or other drinks sweetened with sugar) every day	238	50% or more intend to decrease frequency	75%
LAST TIME YOU WENT SHOPPING...	N	CFHL, UC SMART OBJECTIVE	PERCENT WHO INTEND TO IMPROVE NEXT TIME THEY SHOP
Did NOT use the "Nutrition Facts" on the food label to choose foods	348	50% or more intend to increase frequency	63%
Did NOT compare unit prices before choosing foods	40	50% or more intend to increase frequency	78%
LAST TIME YOU BOUGHT FOOD...	N	CFHL, UC SMART OBJECTIVE	PERCENT WHO INTEND TO IMPROVE NEXT TIME THEY BUY FOOD
Did NOT make a list before going to the store	168	50% or more intend to increase frequency	67%
Did NOT plan meals before going to the store	157	50% or more intend to increase frequency	73%
Note: Percents highlighted green met the SMART objective. When less than 10 surveys were collected (N<10), you will see "n/a" displayed because the sample size is too small to interpret the SMART Objectives using percents.			

Adult Taste Test Tool (Adult TTT)

Many of the UCCE delivered lessons and workshops include food tastings in an effort to increase exposure, willingness, preferences, and ultimately consumption of healthy foods such as vegetables. The Adult TTT was developed to capture adults' response to the taste test.

This evaluation tool aims to capture adult responses to food tastings to demonstrate increases in exposure to new foods and healthy recipes, as well as willingness to try again and serve healthy foods at home. UCCE educators fill out the Adult TTT by asking participants four questions about their taste testing experience.

In FFY 2023, 14 counties utilized this tool during 195 tastings with 2,239 adult participants and found the following:

- 35% had ever tried the target food prior to the tasting,
- 96% actually tried the target food in the tasting,
- 94% would be willing to try the food again, and
- 92% were willing to serve the target food at home to their families.

These results demonstrate that a large majority of adults (96%) tried the novel, healthy foods featured during the food tastings (even though only one-third had tried previously) and most found them acceptable enough to try again in the future (94%) and would serve them to their families (92%). Successful food tastings offer a means of increasing the quantity and variety of foods recommended on USDA's MyPlate to the CalFresh population. Sharing recipes featuring the target food provides information and skills required to incorporate the food into the household. In each county, CFHL, UC strives to use vegetables and fruits grown locally in taste testing and to encourage planting a garden with region/climate appropriate fruits and vegetables. In FFY 2023, county programs continue to work on incorporating and supporting the promotion of local farmers' markets that accept CalFresh EBT and Market Match. These aspects of the CFHL, UC program help to create important linkages within the community and environmental spheres of the Socio-Ecological Model (SEM).

Food Behavior Checklist and Physical Activity (FBC+PA)

The visually enhanced FBC pre/post survey is a statewide evaluation tool required for outcome evaluation of series-based nutrition curricula with 4 or more lessons delivered over at least 4 weeks. The FBC measures reported behavior change in food and dietary practices and is used to evaluate several adult curricula including *Eat & Play Together*, *Eating Smart Being Active*, *Eat Smart Live Strong*, *UCCE Connects to You!*, *Eat Healthy Be Active Community Workshops*, *MyPlate for My Family*, and *Food Smarts for Adults*. Among these, the *Eating Smart Being Active* curriculum is the most delivered adult series. The curricula currently evaluated by the FBC also target physical activity (PA) behaviors. Therefore, PA outcomes were also collected with the FBC. The Adult Physical Activity Survey was originally piloted in FFY 2019 by CFHL, UC county/cluster programs to

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evaluate series-based direct education and PSE interventions delivered over at least 4 weeks that target improvements in PA behaviors among adults. With promising PA outcomes observed among adult participants in FFY 2019 and 2020, these three PA questions were added to the FBC and administration of the FBC+PA pre/post survey began in FFY 2021. The FBC dietary questions were reviewed in collaboration with CDSS and other CA SIAs in FFY 2021 and the consensus was to remove dietary questions with smaller effect sizes less commonly targeted by the current nutrition curricula delivered. A reduced length 11 item FBC+PA survey was introduced in FFY 2022 and used in FFY 2023.

The FBC+PA pre/post survey is administered before an intervention begins and following the last session. For the pre and post surveys, participants are asked to report the frequency that they ate or drank a variety of foods and beverages as well as respond to questions about their food security and PA behaviors (e.g., # of days/week with MVPA for 30+ minutes and muscle strengthening as well as frequency of making small changes to be more active). Results were analyzed in two ways:

- Percentage of participants showing improvement from pre to post survey: First, the percentage of participants with any increase or improvement in their responses from pre to post is reported. We defined the percent with improved behavior as the percentage of participants with any increase in the reported frequency of desirable behaviors and with any decrease in the frequency of undesirable behaviors. For example, an increase in a desirable behavior would be if a participant responded “no” to the question “Do you eat more than one kind of fruit each day?” for the pre-survey but for the post-survey responded either “yes, sometimes”, “yes, often”, or “yes, everyday”. An example of an improvement in an undesirable behavior would be a participant who responded “yes, everyday” to the question “Do you drink regular soda?” in the pre-survey and then at the post-survey responded “yes, sometimes”.
- Statistically significant change from pre to post survey: Analysis was also conducted to compare the means of matched pre and post surveys and identify statistically significant differences set at $p < .05$.

In addition, statewide and county specific FBC results are examined against **six SMART objectives** as a reference for gauging program performance. Two new PA focused SMART objectives were developed with the CFHL, UCCE evaluation workgroup during FFY 2023 and are being reported for the first time this year. The SMART objectives include:

1. At least 50% will increase their frequency of using the “Nutrition Facts” on the food label to choose foods,
2. At least 40% will increase the variety of fruit consumed daily,
3. At least 40% will increase the variety of vegetables consumed daily,

4. At least 20% will report greater food security (not running out of food at the end of the month),
5. At least 35% will increase the days reporting 30+ minutes of moderate and vigorous PA, and
6. At least 35% will increase the days reporting muscle strengthening activities.

The PA questions are also analyzed to assess the proportion of adult participants meeting the *Physical Activity Guidelines for Americans*⁹. The two 2018 PA guidelines measured by this tool include:

1. adults should do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity PA and
2. adults should also do muscle-strengthening activities of moderate or greater intensity and that involve all major muscle groups on 2 or more days a week.

In FFY 2023, 11 counties collected matched surveys from 546 adult participants. Participants making improvements in any of the desirable dietary or PA behaviors ranged from over one-third (36% drink regular soda) to approximately two-thirds (67% increase cups of fruits and vegetables eaten) of the FBC+PA survey respondents. The percentage of participants who reported improved frequencies of the desirable eating, PA, and FRM behaviors are presented below in declining order:

- 67% - Increase in daily fruit and vegetables eaten (cups),
- 59% - Increase in daily fruit eaten (cups),
- 57% - Increase in daily vegetables eaten (cups),
- 57% - Increase in number of days exercised for 30 or more minutes,
- 57% - Increase in number of days built and strengthened muscles
- 54% - Increase in frequency of making small changes to be more active,
- 54% - Increase in frequency of using nutrition facts labels when shopping,
- 47% - Eat more than one kind of vegetable each day more often, and
- 45% - Eat more than one kind of fruit each day more often.

The percentage of participants who reported improvement from pre to post by reporting less frequently practicing the undesirable behaviors and experiencing the food security condition were:

- 38% - Drank fruit drinks, sport drinks or punch less frequently,
- 36% - Drank regular soda less frequently, and
- 32% - Ran out of food before the end of the month less frequently.

All six SMART objectives were met in FFY 2023. More than 40% of participants reported an increased frequency of **(1) eating more than one kind of vegetable** and **(2) more than one kind of fruit** each day. Over 35% of the adults surveyed reporting an

⁹ U.S. Department of Health and Human Services. *Physical Activity Guidelines for Americans*, 2nd edition. Washington, DC: U.S. Department of Health and Human Services; 2018.

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increase in the number of days they **(3) exercised for at least 30 minutes** and **(4) engaged in muscle strengthening** activities. With just under one-third (32%) of survey participants reporting improved food security (e.g., being less likely to run out of food before the end of the month), the SMART objective that 20% or more participants would report **(5) improved food security** was also exceeded. Lastly, over half (54%) of the adults surveyed reported **(6) using “Nutrition Facts” labels more often** when they shop exceeding the at least 50% criterion set for this FRM SMART objective.

When examining the two *Physical Activity Guidelines for Americans* in the pre-survey results, just one-quarter (25%) of adult respondents reported exercising for at least 30 minutes on five or more days in the past week and just over one-third (37%) reported building and strengthening muscles on two or more days in the past week. After attending CFHL, UC series-based education, the proportion of adults achieving these PA recommendations improved significantly from the pre-survey findings (increasing 10% and 33% percentage points respectively, $p < .001$).

When comparing the mean FBC behavioral changes and conditions from the pre to post survey, there were statistically significant gains of approximately half a cup in adult participants' mean daily fruit intake (+0.44 cups, $p < .001$) and vegetable intake (0.48 cups, $p < .001$) with a total increase of nearly a cup (+0.92 cups, $p < .001$) of fruits and vegetables per day. The FBC+PA findings showed statistically significant reductions in the mean score for the frequency of drinking sweetened beverages for both fruit/sport drinks (-0.36 difference, $p < .001$) and regular soda (-0.34 difference, $p < .001$) as well as running out of food before the end of the month (-0.33 difference, $p < .001$), and statistically significant increases in the mean score for the frequency of using the Nutrition Facts label when food shopping (+0.64 difference, $p < .001$) and eating more than one kind of fruit (+0.36 difference, $p < .001$) and more than one kind of vegetable (+0.46 difference, $p < .001$). There were also statistically significant gains from pre to post in the mean number of days adults exercised for at least 30 minutes (+0.88 days, $p < .001$) and reported strengthening muscles (+0.99 days, $p < .001$), as well as in the frequency of making small intentional changes to be more active (+0.68, $p < .001$).

In summary, all six of the FBC SMART objectives were exceeded in FFY 2023, including the two new PA focused SMART objectives. These findings demonstrate the positive outcomes of UCCE adult education including significant gains in healthy dietary and PA behaviors, reductions in the consumption of high sugar, low nutrient beverages, improved FRM practices, increased likelihood of meeting the *Physical Activity Guidelines for Americans*, as well as the positive impact on food security among adult program participants.

Food Resource Management (FRM) Evaluation

UCCE county/cluster programs deliver FRM education using the *Plan, Shop, Save, & Cook* (PSSC) and *Making Every Dollar Count* (MEDC) curricula. Evaluation of PSSC and

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MEDC consists of a 7-item FRM behavior pre/post survey. For the pre and post surveys, participants are asked to rate the frequency on a scale of 1 (Never) to 5 (Almost Always) in which they engage in food behaviors related to resource management and meal planning. The percent with improved behavior is the percentage of participants with any increase or improvement on the scale of 1 to 5 from the pre to post survey. For example, a participant could indicate “3-Sometimes” in response to the question “How often do you plan meals ahead of time?” at the pre survey and then at the post survey indicate “4-Most of the time”, and that participant would be counted as a participant with an improvement.

In FFY 2023, 18 counties collected matched pre and post surveys from 1,009 participants who attended series-based FRM education using the PSSC and/or MEDC curricula. Of these participants, the majority identified as female (87%) and reported an ethnic background of Hispanic or Latino descent (81%). Participants reported improvements in the six FRM behaviors and a single food security condition question that ranged from just over a third (34% improved food security by running out of food less often) to almost two-thirds (65% improved frequency of using MyPlate to make food choices) of the survey participants. The percentage of participants who reported improved frequency of FRM behaviors and the food security condition are presented below in declining order:

- 65% - Use MyPlate to make food choices,
- 62% - Use “Nutrition Facts” label to make food choices,
- 54% - Plan meals ahead of time,
- 54% - Shop with a grocery list,
- 52% - Compare unit prices before buying food,
- 51% - Think about healthy food choices when feeding your family, and
- 34% - Run out of food before the end of the month **less often**.

Statewide and county specific FRM behavioral outcomes are examined against **six SMART objectives** as a reference for gauging program performance. These include:

1. At least 40% will increase their frequency of meal planning,
2. At least 40% will increase their frequency of using a grocery list when shopping,
3. At least 50% will increase their frequency of using the “Nutrition Facts” on the food label to choose foods,
4. At least 35% will increase their frequency of comparing unit food prices,
5. At least 30% will report that when deciding what to feed their family, they think about healthy food choices, and
6. At least 30% will report greater food security (not running out of food at the end of a month).

The FFY 2023 results indicate that **all six SMART objectives were exceeded**. Of the 983 participants completing all the FRM behavioral pre/post survey questions, the vast majority (87%) reported improvement in the frequency of using at least one of the five FRM behaviors (e.g., plan, prices, shop, think, or facts).

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When examining FRM behavioral changes from the pre to post survey using mean scores, there were statistically significant ($p<.001$) increases in how often participants reported practicing each of the six FRM behaviors assessed. Pre and post responses are measured on a 5-point scale (scored as Never=0, Seldom=1, Sometimes=2, Most of the time=3, Almost always=4). The mean scores increased from pre to post by:

- 1.18 for using MyPlate to make food choices,
- 0.93 for using “Nutrition Facts” label to make food choices,
- 0.78 for shopping with a grocery list,
- 0.68 for comparing unit prices before buying food,
- 0.67 for planning meals ahead of time, and
- 0.62 for thinking about healthy food choices when feeding your family.

Lastly, there was a statistically significant improvement in the mean score for food security from pre to post with survey participants reporting that they **run out of food before the end of the month less often** after participating in these FRM classes (-0.29 difference, $p<.001$). Although food security is impacted by a multitude of factors beyond FRM behaviors, over a third (34%) of the adults surveyed reported greater food security from pre to post, thereby surpassing the SMART objective ($\geq 30\%$) for “not running out of food at the end of a month”. Taken together, these findings demonstrate both the significant gains in FRM practices as well as the positive impact on food security among adults participating in the PSSC and MEDC series-based education.

Healthy Happy Families (HHF)

The HHF curriculum consists of eight mini-lessons focused on child feeding practices to help parents promote healthy eating habits in preschool-aged children. When delivered over at least four weeks, evaluation of HHF consists of a 10-item pre/post survey completed by parents regarding their child feeding practices. The questions were adapted from the UCCE “My Child at Meal Time” survey¹⁰ for the parents of 3- to 5-year old children. For the pre and post surveys, parents are asked to rate the frequency of their child feeding practices on a scale of 1 (No/rarely) to 4 (Very often). The HHF data were analyzed two ways examining both: (1) the percentage of participants showing improvement from the pre to post survey and (2) statistically significant changes in mean scores from the pre to post survey. We defined the percent with improved behavior as the percentage of participants with any increase or improvement on the scale of 1 to 4 from the pre to post survey. For example, a parent could indicate “1-No/rarely” to the question “My child sits and eats meals with an adult” during the pre-survey and then at the post-survey mark “2-Sometimes”, and that parent would be counted as a participant with an improvement.

¹⁰ Ontai L, Sitnick SL, Sylva K, Leavens L, Davidson C, Townsend MS. University of California Cooperative Extension (UCCE) “My Child at Meal Time” pre/post survey for 3 to 5-year old children.

In FFY 2023, UCCE administered the HHF in five counties with 96 parents completing a pre and post survey. Between 21% to 41% of parents reported improvements in child feeding practices. The percentage of participants who reported improved child feeding practices are presented below in declining order:

- 41% - child eats dinner at about the same time every day - **more** often,
- 40% - child eats snack at about the same time every day - **more** often,
- 39% - parent avoids serving foods the child doesn't like - **less** often,
- 34% - child sees parent eat vegetables - **more** often,
- 33% - child sits and eats meals with an adult - **more** often,
- 33% - parent warns child of no treat if they don't eat - **less** often,
- 32% - parent reminds child to keep eating food - **less** often,
- 31% - parent begs child to eat food - **less** often,
- 24% - child skips meals - **less** often
- 21% - parent prepares at least one food the child will eat - **more** often,

Statewide and county specific HHF results are examined against **seven SMART objectives** as a reference for gauging program performance. After participation in at least six lessons or a four-lesson series (selecting among lessons #1-#3 and #6, #7 or #8) parents will show the following improvements:

1. At least 25% of the parents will report that their children eat meals more often with an adult.
2. At least 25% of the parents will report that they intervene less often with how much their children should eat by:
 - a. **NOT warning** child no treat if don't eat,
 - b. **NOT begging** child to eat food, or
 - c. **NOT reminding** child to keep eating food.
3. At least 25% of the parents will report that their children eat **a. meals** and/or **b. snacks** on a regular schedule more often.
4. At least 25% of parents will report offering their child foods previously rejected more often.

The FFY 2023 results indicate that **all seven SMART objectives were exceeded**. When examining behavioral changes among this small sample of class participants, there were statistically significant gains ($p < .05$) from pre to post in the mean scores for nine of the ten child feeding practices targeted by the HHF curriculum. No change was observed from pre to post among parents begging their child to eat their food. Taken together, these findings demonstrate the significant gains in the recommended child feeding practices among the HHF class participants surveyed even given the limited number of surveys collected during FFY 2023.



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