



**NATIONAL 4-H HEALTHY LIVING:  
SUMMARY OF WALMART-FUNDED  
PROJECTS**

*PRESENTED TO  
NATIONAL 4-H COUNCIL*

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## National 4-H Healthy Living: Summary of Walmart-Funded Projects

### Executive Summary

*Overview* – Through the generous support of Walmart, National 4-H Council has engaged Cooperative Extension 4-H programs throughout the country in local efforts aimed to improve the nutrition knowledge, food choices, and physical activity of young people. Grantees are implementing programs to improve specific behaviors (e.g., eating vegetables for a snack, reducing consumption of high-fat foods, and balancing calories with physical activity) that lead to a healthy lifestyle.

The grantees are required to use the *4-H Common Measures* software and instruments for data collection. The data collection includes two instruments completed by youth participants, one for grades 4-7 and another for grades 8-12. Both instruments cover nutrition knowledge, physical activity, and food choices; the instrument for grades 8-12 also includes awareness of community, culture, and engagement and understanding.

*Purpose* – The purpose of this project was to analyze data files from participating states and create a national picture of the 4-H Healthy Living programs funded by Walmart.

*Methodology* – Evaluation data was entered by state grantees in the *4-H Common Measures* software. National 4-H Council transmitted Statistical Package for the Social Sciences (IBM SPSS Statistics) files to the University of Tennessee for analysis. SPSS version 21.0 was used for the data analysis. The 4-7<sup>th</sup> grade instrument had 14 items, and the 8<sup>th</sup>-12<sup>th</sup> grade instrument had 20 items. Not all states used all questions, and some states used additional questions. Missing values were ignored through pairwise deletion; deleting only those missing values for a case rather than excluding the case from the entire data set. Only descriptive statistics were used, for example, mean and percentage.

*Findings/Conclusion* – The data file held 23,335 cases. The majority of students (66.1%) reported that they were in grades 4-7 with a mean of sixth grade. Among 4<sup>th</sup> – 7<sup>th</sup> graders, seven in ten (70.2%) were in their first year of 4-H participation. Among 8<sup>th</sup> – 12<sup>th</sup> grade respondents, half (50.8%) were in their first year of 4-H participation. The majority of the 4<sup>th</sup> – 7<sup>th</sup> grade participants were female (53.8%; n=10341), and the majority of the 8<sup>th</sup> – 12<sup>th</sup> grade participants were female (59.7%; n=1829). The mean age of 4<sup>th</sup> – 7<sup>th</sup> grade participants was 11.30 years, and the mean age of 8<sup>th</sup> – 12<sup>th</sup> grade participants was 14.44 years. In regards to race, the majority of participants were white for both the 4<sup>th</sup> – 7<sup>th</sup> graders (61.0%) and the 8<sup>th</sup> – 12<sup>th</sup> graders (53.0%). The majority of both 4<sup>th</sup> – 7<sup>th</sup> graders (72.2%) and 8<sup>th</sup> – 12<sup>th</sup> graders (86.5%) were not Hispanic or Latino.

The project produced many positive outcomes for young people. The youth responses to the project's outcome indicators indicate a progression from learning (knowledge and attitudes) to action (choices and behaviors). Among the 20,061 participants in grades 4 – 7, the outcomes included:

*Nutrition Knowledge*

- 89.9% learned how to make healthy food choices.
- 89.4% learned why it is important for to eat a healthy diet.

*Nutrition Choices/Behaviors*

- 93.4% encourage their family to eat meals together.
- 86.2% drink more water.
- 82.4% eat more fruits and vegetables.

*Physical Activity Attitudes*

- 91.9% reported “being active is good for me.”
- 90.7% reported “physical activity will help me stay fit.”

*Physical Activity Behaviors*

- 80.0% report they “always” or “usually” do moderate physical activities like walking, helping out around the house, raking leaves, or using the stairs.
- 65.6% report they “always” or “usually” exercise every day.

Among the project's 3,274 participants in grades 8 – 12, the following outcomes were reported:

*Nutrition Knowledge*

- 85.6% learned the foods they should eat every day.
- 85.3% learned why it is important for to eat a healthy diet.

*Nutrition Choices/Behaviors*

- 78.2% make healthy food choices whenever they can.
- 76.0% think about what their body needs during the day.

*Civic Engagement Knowledge and Skills*

- 95.3% respect people from other cultures.
- 89.5% really care about their community.

*Civic Engagement Intentions*

- 59.3% are encouraged to volunteer more.
- 59.3% are interested in a career that helps others.

Participants in grades 8 – 12 were specifically asked about the amount of time they spend playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on a school day. The mean number was 2.51 (S.D.=1.692). However, more than one in five respondents

(21.1%, n=602) spent five or more hours playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day.

*Recommendations* – The extent to which the outcomes were achieved indicate that the program was successfully implemented. Given the positive youth outcomes produced for nutrition, physical activity, and civic engagement, these programs should continue. The size and scope of this data file (23,335 individual records) suggests that the *4-H Common Measures* approach is a valuable evaluation and reporting solution for projects funded by National 4-H Council and for the Cooperative Extension System in general. All of the institutions made a uniform use of the *4-H Common Measures* instruments, and it is recommended that this consistency continue for future projects. Youth programs must consider how youth spend their time using technology. It is recommended that state and local 4-H professionals and volunteers discuss approaches to mediate this phenomenon and its potential influences on youth health.

## Introduction

National 4-H Council, through the generous support of Walmart, funded 24 grantees in the 4-H Healthy Living initiative. These grantees were requested to use the same *4-H Common Measures* instruments (Le Menestrel & Walahoski, 2013) for program evaluation purposes. One tool was provided for participants in grades 4-7 and a different tool for participants in grades 8-12.

The tool for grades 8-12 includes sections of the Citizenship Common Measures survey to assess leadership development by the teens engaged with program planning and delivery. The goal was 84,000 youth participating in Walmart programming at the elementary and middle school levels and 1,500 teens engaged as leaders. For program evaluation purposes, the goal was at least 20% participation in the evaluation. Program dosage was set at six hours for youth participants to have their impact assessed. Evaluation data was entered by state grantees in the *4-H Common Measures* software.

## Research Questions

The following questions guided this study:

1. What was the demographic composition and 4-H experience of participants?
2. How were 4<sup>th</sup> – 7<sup>th</sup> grade participants influenced by the program, if at all, in regards to their nutrition and physical activity?
3. How were 8<sup>th</sup> – 12<sup>th</sup> grade participants influenced by the program, if at all, in regards to their nutrition, physical activity, and civic engagement?

## Methods

As previously stated, the project goal was 84,000 youth participating in Walmart programming at the elementary and middle school levels and 1,500 teens engaged as leaders. For program evaluation purposes, the goal was at least 20% participation in the evaluation. Program dosage was set at six hours for youth participants to have their impact assessed. Evaluation data was entered by state grantees in the *4-H Common Measures* software. National 4-H Council transmitted Statistical Package for the Social Sciences (IBM SPSS Statistics) files to the University of Tennessee for analysis. SPSS version 22.0 was used for the data analysis.

The 4-7<sup>th</sup> grade instrument had 14 items (Appendix A), and the 8<sup>th</sup>-12<sup>th</sup> grade instrument had 20 items (Appendix B). Not all states used all questions, and some states used additional questions. Any additional questions were not considered in this analysis. It should be noted that the total number of respondents per question varies as not all respondents answered all questions. Percentages listed throughout this report describe the total number of respondents who answered the question rather than the total group of students participating in the survey.

Missing values were ignored through pairwise deletion; deleting only those missing values for a case rather than excluding the case from the entire data set. Only descriptive statistics were used, for example, mean, mode, and percentage; inferential statistics were not reported. The summary provided here uses text, tables, and graphs to address the research questions. In some cases, the

strongly disagree and disagree responses were collapsed to show disagreement, and agree and strongly agree responses were collapsed to show agreement which is a common method for simplifying and describing responses (Donaldson, 2014).

## Results

### Research Question One – What was the demographic composition and 4-H experience of participants nationally?

Of the 22,154 youth surveyed who answered the question regarding grade, the majority of students (66.1%) were in grades 4-7 with a mean of sixth grade ( $\mu$ : 6.05; S.D.: 2.358). The largest single grade of participants was the 5<sup>th</sup> grade (n=4540; 20.5%), followed by the 4<sup>th</sup> grade (n=4474; 20.2%), and 6<sup>th</sup> grade (n=3007; 13.6%). The smallest group of respondents by grade were 12<sup>th</sup> graders (n=406; 1.8%). See Table 1 for program participants' grades in school.

Table 1

#### *Grades in School of Program Participants*

Grade	N (22,154)	% (100%)	$\mu$ (S.D.)
4 <sup>th</sup> grade	4474	20.2	6.05 (2.358)
5 <sup>th</sup> grade	4540	20.5	
6 <sup>th</sup> grade	3007	13.6	
7 <sup>th</sup> grade	2623	11.8	
8 <sup>th</sup> grade	2500	11.3	
9 <sup>th</sup> grade	948	4.3	
10 <sup>th</sup> grade	844	3.8	
11 <sup>th</sup> grade	648	2.9	
12 <sup>th</sup> grade	406	1.8	
Other <sup>a</sup>	2164	9.8	

<sup>a</sup> Includes all other answers provided.

*Note.* The above chart reflects students' self-identified grades, and may not reflect their true grades.

Among 4<sup>th</sup> – 7<sup>th</sup> graders, seven in ten (n=12818; 70.2%) were in their first year of 4-H participation. Less than two in ten (n=3245; 17.8%) were in the second year of 4-H and more than one in ten (n=2202; 12.1%) had been in 4-H three or more years. The mean was 1.42 years of 4-H participation.

Among 8<sup>th</sup> – 12<sup>th</sup> grade respondents, the mean was 1.83 years of 4-H participation. Half of the participants (n=1380; 50.8%) were in their first year of 4-H participation, followed by participants with three or more years of experience (n=921; 33.9%) and second year participants (n=418; 15.4%).

Regarding weekly hours spent in 4-H, the 8<sup>th</sup> – 12<sup>th</sup> graders ( $\mu=1.83$ ; S.D.=.795) tended to spend slightly more time than the 4<sup>th</sup>-7<sup>th</sup> graders ( $\mu=1.65$ ; S.D.=.741). The highest percentage of both 4<sup>th</sup> – 7<sup>th</sup> graders (n=9286; 50.9%) and 8<sup>th</sup> – 12<sup>th</sup> graders (n=1244; 41.2%) reported spending less than one hour per week in 4-H. The highest percentage of 4<sup>th</sup> – 7<sup>th</sup> graders were involved in in-school 4-H programs (n=10954; 54.6%), followed by clubs (n=4449; 22.2%), after-school programs (n=3602; 18.0%), and community service projects (n=2144; 10.7%). The highest percentage of 8<sup>th</sup> – 12<sup>th</sup> graders were involved in in-school programs (n=1397; 42.7%), followed by clubs (n=1264; 38.6%), and camps (n=865; 26.4%). Interestingly, 18.4% of 8<sup>th</sup> – 12<sup>th</sup> graders (n=604) reported working on projects at home compared to 7.8% of 4<sup>th</sup> – 7<sup>th</sup> graders (n=1573). See Table 2.

Table 2

*4-H Experiences of Program Participants*

4-H Experiences	4 <sup>th</sup> – 7 <sup>th</sup> grade participants			8 <sup>th</sup> – 12 <sup>th</sup> grade participants		
	N	%	$\mu$ (S.D.)	N	%	$\mu$ (S.D.)
Years Participating in 4-H	<b>18265</b>	<b>100</b>	1.42(.696)	<b>2719</b>	<b>100</b>	1.83(.904)
First Year	12818	70.2		1380	50.8	
Second Year	3245	17.8		418	15.4	
Three or More Years	2202	12.1		921	33.9	
Weekly Hours Spent in 4-H	<b>18259</b>	<b>100</b>	1.65(.741)	<b>3017</b>	<b>100</b>	1.83(.795)
Less than one hour	9286	50.9		1244	41.2	
Between one and three hours	6033	33.0		1029	34.1	
More than three hours	2940	16.1		744	24.7	
4-H Involvement <sup>a</sup>						
Clubs	4449	22.2		1264	38.6	
Camps	1892	9.4		865	26.4	
After-school programs	3602	18.0		784	23.9	
In-school programs	10954	54.6		1397	42.7	
Local fairs/events	1728	8.6		807	24.6	
Community service projects	2144	10.7		636	19.4	
Working on projects at home	1573	7.8		604	18.4	
Other	1794	8.9		649	19.8	

<sup>a</sup>4-H Involvement does not equal 100% as respondents were asked to indicate each method that applied to them.



The mean age of 4<sup>th</sup> – 7<sup>th</sup> grade participants was 11.30 years (S.D.=2.193), and the mean age of 8<sup>th</sup> – 12<sup>th</sup> grade participants was 14.44 years (S.D.=1.834). The majority of the 4<sup>th</sup> – 7<sup>th</sup> grade participants were female (53.8%; n=10341), and the majority of the 8<sup>th</sup> – 12<sup>th</sup> grade participants were female (59.7%; n=1829). The largest percentage of 4<sup>th</sup> – 7<sup>th</sup> grade participants were white (n=9072; 61.0%) followed by black or African-American (n=4277; 28.8%). Similarly, the largest percentage of 8<sup>th</sup> – 12<sup>th</sup> grade participants were white (n=1440; 53.0%) followed by black or African-American (n=1015; 37.4%). The majority of both 4<sup>th</sup> – 7<sup>th</sup> graders (n=13390; 72.2%) and 8<sup>th</sup> – 12<sup>th</sup> graders (n=2514; 86.5%) were not Hispanic or Latino. Table 3 shows the number of respondents by age, gender, race, and ethnicity.

Table 3

*Age, Gender, Race, and Ethnicity of Program Participants*

	4 <sup>th</sup> – 7 <sup>th</sup> grade participants			8 <sup>th</sup> – 12 <sup>th</sup> grade participants		
	N	%	μ (S.D.)	N	%	μ (S.D.)
Age	<b><u>19099</u></b>	<b><u>100</u></b>	11.30(2.193)	<b><u>3143</u></b>	<b><u>100</u></b>	14.44(1.834)
≤9	3409	17.9		27	<1	
10	4002	21.0		69	2.1	
11	4197	22.0		37	1.1	
12	2944	15.4		105	3.2	
13	2039	10.7		745	23.7	
14	831	4.4		778	24.8	
15	620	3.2		509	16.2	
16	508	2.7		425	13.5	
17	283	1.5		276	8.8	
18	109	<1		150	4.8	
Other	157	<1		22	<1	
Gender	<b><u>19227</u></b>	<b><u>100</u></b>		<b><u>3064</u></b>	<b><u>100</u></b>	
Female	10341	53.8		1829	59.7	
Male	8886	46.2		1235	40.3	
Ethnicity	<b><u>18541</u></b>	<b><u>100</u></b>		<b><u>2905</u></b>	<b><u>100</u></b>	
Hispanic or Latino	5151	27.8		391	13.5	
Not Hispanic or Latino	13390	72.2		2514	86.5	
Race	<b><u>14866</u></b>	<b><u>100</u></b>		<b><u>2715</u></b>	<b><u>100</u></b>	
American Indian or Alaskan Native	1066	7.2		199	7.3	
Asian	269	1.8		38	1.4	
Black or African American	4277	28.8		1015	37.4	
Native Hawaiian or Other Pacific Islander	182	1.2		23	<1	
White	9072	61.0		1440	53.0	

*Note.* Row percentages may not total 100.0 due to rounding.

*Note.* Age totals represent students' self-identified ages.

Regarding residence of 4<sup>th</sup> – 7<sup>th</sup> graders, the highest percentage (n=8524; 44.8%) reported residence in a town or city with a population 10,000 – 50,000, followed by rural non-farm with a population less than 10,000 (n=5201; 27.3%). Regarding residence of 8<sup>th</sup> – 12<sup>th</sup> graders, the highest percentage (n=1123; 37.7%) reported town or city with a population 10,000 – 50,000 followed by rural non-farm residence, population less than 10,000 (n=1020; 34.2%). Table 4 shows residence of program participants.

Table 4

*Residence of Program Participants*

Residence	4 <sup>th</sup> – 7 <sup>th</sup> grade participants		8 <sup>th</sup> – 12 <sup>th</sup> grade participants	
	N	%	N	%
	<b><u>19044</u></b>	<b><u>100</u></b>	<b><u>2981</u></b>	<b><u>100</u></b>
Farm	2437	12.8	414	13.9
Rural (non-farm residence, pop. <10,000)	5201	27.3	1020	34.2
Town or City (pop. 10,000 – 50,000)	8524	44.8	1123	37.7
Suburb of a City (pop. > 50,000)	886	4.7	151	5.1
City (pop. >50,000)	1996	10.5	273	9.2

*Note.* Row percentages may not total 100.0 due to rounding.

The following 24 Land Grant Universities provided 4<sup>th</sup>-7<sup>th</sup> grade data for this project: Alcorn State University, Clemson University, Cornell University, Delaware State University, Fort Valley State University, Kentucky State University, Louisiana State University, Oklahoma State University, Prairie View A&M University, University of Puerto Rico, Rutgers University, Southern University, Tuskegee University, University of Arkansas, University of Arizona, University of Connecticut, University of Delaware, University of Idaho, University of Illinois, University of Maine, University of Maryland, University of Tennessee, Virginia Tech, and West Virginia State University.

The following 20 Land Grant Universities provided 8<sup>th</sup>-12<sup>th</sup> grade data for this project: Alcorn State University, Clemson University, Cornell University, Delaware State University, Fort Valley State University, Louisiana State University, Oklahoma State University, University of Puerto Rico, Rutgers University, Southern University, Tuskegee University, University of Arkansas, University of Arizona, University of Connecticut, University of Idaho, University of Maine, University of Maryland, University of Tennessee, Virginia Tech, and West Virginia State University.

Table 5 shows participation by Land Grant University.

Table 5

*Participation by Land Grant University*

LGU	4 <sup>th</sup> – 7 <sup>th</sup> grade participants		8 <sup>th</sup> – 12 <sup>th</sup> grade participants	
	N	%	N	%
Alcorn State University	304	1.5	112	3.4
Clemson University	1987	9.9	315	9.6
Cornell University	1625	8.1	83	2.5
Delaware State University	201	1.0	76	2.3
Fort Valley State University	1164	5.8	148	4.5
Kentucky State University	250	1.2	-	-
Louisiana State University	783	3.9	117	3.6
Oklahoma State University	1978	9.9	399	12.2
Prairie View A&M University	2532	12.6	-	-
Puerto Rico	1491	7.4	51	1.6
Rutgers University	211	1.1	33	1.0
Southern University	329	1.6	756	23.1
Tuskegee University	597	3.0	363	11.1
University of Arkansas	660	3.3	91	2.8
University of Arizona	472	2.4	178	5.4
University of Connecticut	668	3.3	87	2.7
University of Delaware	1266	6.3	-	-
University of Idaho	663	3.3	8	<1
University of Illinois	991	4.9	-	-
University of Maine	139	<1	52	1.6
University of Maryland	233	1.2	16	<1
University of Tennessee	462	2.3	1	<1
Virginia Tech	432	2.2	310	9.5
West Virginia State University	623	3.1	78	2.4
<b>Total</b>	<b>20061</b>	<b>100</b>	<b>3274</b>	<b>100</b>

## Research Question Two – How were 4<sup>th</sup> – 7<sup>th</sup> grade participants influenced by the program, if at all, in regards to their nutrition and physical activity?

This section describes responses to the 4<sup>th</sup> – 7<sup>th</sup> grade instrument which focused on two constructs: healthy nutrition choices (i.e., eating fruit for a snack) and physical activity (i.e., exercising 60 minutes every day).

### Nutrition (4<sup>th</sup> – 7<sup>th</sup> grade participants)

Participants were asked how hard it was to make a given nutrition choice because of the 4-H Healthy Living Program. Answer choices were “not hard at all,” “a little hard,” and “very hard”. The following percentages of participants surveyed indicated that as a result of the 4-H Healthy Living program, the following nutrition choices were “not hard at all” –

- 79.2% eat fruit for a snack.
- 64.1% eat a low-fat snack like pretzels instead of chips.
- 59.4% drink less Kool-Aid
- 57.8% choose a small instead of a larger order of French fries.
- 57.0% choose water instead of soda pop or Kool-Aid when thirsty.
- 53.5% drink less soda pop.

Regarding future program planning, one in five participants surveyed reported it was “very hard” drink less soda pop and eat smaller servings of high fat foods like French fries, chips, snack cakes, cookies, or ice cream. Table 6 shows responses for nine different nutrition choices.

Table 6

*Nutrition Choices of 4<sup>th</sup> – 7<sup>th</sup> Grade Participants*

How hard would it be for you to	<u>Not hard at all</u>		<u>A little hard</u>		<u>Very hard</u>	
	N	%	N	%	N	%
Eat fruit for a snack (N: 19417)	15380	79.2	3118	16.1	919	4.7
Eat vegetables for a snack (N: 19154)	8881	46.4	7059	36.9	3214	16.8
Choose water instead of soda pop or Kool-Aid when you are thirsty (N: 19596)	11176	57.0	5195	26.5	3225	16.5
Drink 1% or skim milk instead of 2% or whole milk (N: 19088)	10558	55.3	4935	25.9	3595	18.8
Choose a small instead of a large order of French fries (N: 19079)	11035	57.8	4677	24.5	3367	17.6
Eat smaller servings of high fat foods like French fries, chips, snack cakes, cookies, or ice cream (N: 19257)	8946	46.5	6551	34.0	3760	19.5
Eat a low-fat snack like pretzels instead of chips (N: 19054)	12209	64.1	4700	24.7	2145	11.3
Drink less soda pop (N: 19305)	10325	53.5	5113	26.5	3867	20.0
Drink less Kool-Aid (N: 19476)	11560	59.4	4613	23.7	3303	17.0

*Note.* Row percentages may not total 100.0 due to rounding.

Participants were asked to respond to four nutrition items that measured general learning that resulted from participation in the 4-H Healthy Living program. The scale was 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree, and a separate answer choice was provided to indicate “not applicable to my 4-H experience”. The following percentages of participants surveyed indicated “strongly agree” or agree” to these statements:

- 90.4% learned the foods they should eat every day.
- 89.9% learned how to make healthy food choices.
- 89.4% learned why it is important for to eat a healthy diet.
- 86.8% learned what makes up a balanced diet.

See Table 7 for the nutrition knowledge items, responses, percentages, means, and standard deviations.

Table 7

*Nutrition Knowledge of 4<sup>th</sup> – 7<sup>th</sup> Grade Participants*

Knowledge Items <sup>a</sup>	<u>Strongly Agree/Agree</u>		<u>Strongly Disagree/Disagree</u>		<u>Not Applicable to My 4-H Experience</u>		μ (S.D.)
	N	%	N	%	N	%	
I learned the foods I should eat every day (N: 19385)	17528	90.4	1231	6.4	626	3.2	1.57(.672)
I learned what makes up a balanced diet (N: 19361)	16810	86.8	1829	9.4	722	3.7	1.62(.727)
I learned why it is important for me to eat a healthy diet (N: 19327)	17284	89.4	1431	7.4	612	3.2	1.51(.706)
I learned how to make healthy food choices (N: 19330)	17383	89.9	1343	6.9	604	3.1	1.52(.700)

*Note.* Row percentages may not total 100.0 due to rounding.

<sup>a</sup>Collapsed data; scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree.

Participants were asked to respond to six nutrition behaviors that measured general change that resulted from participation in the 4-H Healthy Living program. The scale was 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree, and a separate answer choice was provided to indicate “not applicable to my 4-H experience”. The following percentages of participants surveyed indicated “strongly agree” or “agree” to these statements:

- 93.4% encourage their family to eat meals together.
- 86.2% drink more water.
- 82.4% eat more fruits and vegetables.
- 73.5% eat more whole grains.
- 68.9% eat less junk food.

Table 8 shows the nutrition behaviors, responses, percentages, means, and standard deviations.

Table 8

*Nutrition Behaviors of 4<sup>th</sup> – 7<sup>th</sup> Grade Participants*

Nutrition Behaviors <sup>a</sup>	<u>Strongly Agree/Agree</u>		<u>Strongly Disagree/Disagree</u>		<u>Not Applicable to My 4-H Experience</u>		μ (S.D.)
	N	%	N	%	N	%	
I eat more fruits and vegetables (N:19385)	15967	82.4	2903	15.0	515	2.7	1.75(.794)
I eat more whole grains (N:19267)	14162	73.5	4423	23.0	682	3.5	1.95(.842)
I eat less junk food (N:19175)	13216	68.9	5352	27.9	607	3.2	2.05(.920)
I drink more water (N:19233)	16588	86.2	2175	11.3	470	2.4	1.61(.782)
I encourage my family to eat meals together (N:19217)	14097	93.4	4154	21.6	966	5.0	1.88(.904)

*Note.* Row percentages may not total 100.0 due to rounding.

<sup>a</sup>Collapsed data; scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree.



**Physical Activity (4<sup>th</sup> – 7<sup>th</sup> grade participants)**

Participants were asked to respond to two items that measured physical activity changes that resulted from participation in the 4-H Healthy Living program. Response categories were always, usually, sometimes, and never. Regarding moderate physical activities like walking, helping out around the house, raking leaves, or using the stairs, the highest percentage indicated “always” (n=10788; 55.7%), followed by “usually” (n=4727; 24.4%), “sometimes” (n=3253; 16.8%) and “never” (616; 3.2%). For the item, “I exercise 60 minutes every day,” the highest percentage responded “always” (n=8921; 43.2%) followed by “sometimes” (n=4709; 24.5%), “usually” (n=4292; 22.4%), and “never” (n=1891, 9.9%); see Table 9.

Table 9

*Physical Activity Behaviors of 4<sup>th</sup> – 7<sup>th</sup> Grade Participants*

	<u>Always</u>		<u>Usually</u>		<u>Sometimes</u>		<u>Never</u>	
	N	%	N	%	N	%	N	%
I do moderate physical activities like walking, helping around the house, raking leaves, or using the stairs (N:19384)	10788	55.7	4727	24.4	3253	16.8	616	3.2
I exercise 60 minutes every day (N:19183)	8291	43.2	4292	22.4	4709	24.5	1891	9.9

*Note.* Row percentages may not total 100.0 due to rounding.

Participants were asked to respond to three physical activity items that measured general attitudes toward physical activity. The following percentages of participants surveyed indicated that they “agreed” to these statements:

- 91.6% reported “being active is good for me.”
- 90.7% reported “physical activity will help me stay fit.”
- 88.2% reported “being active is fun.”

See Table 10.

Table 10

*Physical Activity Attitudes of 4<sup>th</sup> – 7<sup>th</sup> Grade Participants*

Items	I agree		I’m not sure		I do not agree	
	N	%	N	%	N	%
Being active is fun (N:19342)	17055	88.2	1753	9.1	534	2.8
Being active is good for me (N:19317)	17690	91.6	1226	6.3	401	2.1
Physical activity will help me stay fit (N:19275)	17480	90.7	1323	6.9	472	2.4

*Note.* Row percentages may not total 100.0 due to rounding.

### Research Question Three – How were 8<sup>th</sup> – 12<sup>th</sup> grade participants influenced by the program, if at all, in regards to their nutrition, physical activity, and civic engagement?

#### Nutrition (8<sup>th</sup> – 12<sup>th</sup> grade participants)

Participants were asked to respond to six nutrition items that measured general learning that resulted from participation in the 4-H Healthy Living program. The scale was 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree, and a separate answer choice was provided to indicate “not applicable to my 4-H experience”. The following percentages of participants surveyed indicated “strongly agree” or “agree” to these statements:

- 85.6% learned the foods they should eat every day.
- 85.3% learned why it is important for to eat a healthy diet.
- 85.0% learned how to make healthy food choices.
- 83.8% learned the importance of fruits and vegetables in their diet.
- 82.3% learned what makes up a balanced diet.
- 78.9% learned the importance of whole grains in their diet.
- 73.4% learned how many calories they need to eat each day.

Slightly less than one in five reported they did not learn how many calories they need to eat each day (n=519; 17.0%). See Table 11 for the nutrition knowledge items, responses, percentages, means, and standard deviations.

Table 11

*Nutrition Knowledge of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

Knowledge Items <sup>a</sup>	<u>Strongly Agree/Agree</u>		<u>Strongly Disagree/Disagree</u>		<u>Not Applicable to My 4-H Experience</u>		μ (S.D.)
	N	%	N	%	N	%	
I learned the foods I should eat every day (N:3077)	2635	85.6	190	6.2	252	8.2	1.62(.660)
I learned what makes up a balanced diet (N:3071)	2527	82.3	293	9.5	251	8.2	1.69(.710)
I learned why it is important for me to eat a healthy diet (N:3064)	2613	85.3	204	6.7	247	8.1	1.57(.673)
I learned how to make healthy food choices (N:3064)	2604	85.0	213	7.0	247	8.1	1.60(.673)
I learned how many calories I need to eat each day (N:3044)	2234	73.4	519	17.0	296	9.7	1.82(.792)
I learned the importance of fruits and vegetables in my diet (N:3046)	2552	83.8	239	7.8	255	8.4	1.60(.702)
I learned the importance of whole grains in my diet (N:3040)	2398	78.9	364	12.0	278	9.1	1.70(.750)

*Note.* Row percentages may not total 100.0 due to rounding.

<sup>a</sup>Collapsed data; scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree.

Participants were asked to respond to seven food choices that measured general behaviors that resulted from participation in the 4-H Healthy Living program. The scale was 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree, and a separate answer choice was provided to indicate “not applicable to my 4-H experience”. The following percentages of participants surveyed indicated “strongly agree” or “agree” to these statements:

- 78.2% make healthy food choices whenever they can.
- 76.0% think about what their body needs during the day.
- 71.3% make food choices based on what they know their body needs.
- 70.5% encourage their family to eat meals together.

See Table 12 for the nutrition knowledge items, responses, percentages, means, and standard deviations.

Table 12

*Food Choices of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

Food Choices <sup>a</sup>	<u>Strongly Agree/Agree</u>		<u>Strongly Disagree/Disagree</u>		<u>Not Applicable to My 4-H Experience</u>		μ (S.D.)
	N	%	N	%	N	%	
I think about what foods my body needs during the day (N:3039)	2311	76.0	489	16.1	239	7.9	1.85(.756)
I make food choices based on what I know my body needs (N:3032)	2163	71.3	629	20.7	240	7.9	1.94(.791)
I make healthy food choices whenever I can (N:3044)	2380	78.2	437	14.4	227	7.5	1.80(.760)
I match my food intake to the number of calories I need to eat each day (N:3032)	1764	58.2	990	32.7	278	9.2	2.16(.922)
I encourage my family to eat meals together (N:3030)	2135	70.5	620	20.5	275	9.1	1.90(.880)

*Note.* Row percentages may not total 100.0 due to rounding.

<sup>a</sup>Collapsed data; scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree.

Participants were asked to respond to five nutrition behaviors that resulted from participation in the 4-H Healthy Living program. The scale was 1=strongly agree, 2=agree, 3=disagree, 4=strongly disagree, and a separate answer choice was provided to indicate “not applicable to my 4-H experience”. The following percentages of participants surveyed indicated “strongly agree” or agree” to these statements:

- 83.5% eat more fruits and vegetables.
- 78.8% drink more water.
- 67.2% eat more whole grains.
- 64.6% drink less soda.
- 58.1% eat less junk food.

Table 13 shows the collapsed data for the nutrition behaviors of 8<sup>th</sup>-12<sup>th</sup> grade respondents.

Table 13

*Nutrition Behaviors of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

Behaviors <sup>a</sup>	<u>Strongly Agree/Agree</u>		<u>Strongly Disagree/Disagree</u>		<u>Not Applicable to My 4-H Experience</u>		μ (S.D.)
	N	%	N	%	N	%	
I eat more fruits and vegetables (N:3040)	2538	83.5	458	15.1	224	7.4	1.77(.777)
I eat more whole grains (N:3030)	2035	67.2	772	25.5	223	7.4	2.01(.851)
I eat less junk foods (N:3017)	1753	58.1	1030	34.1	234	7.8	2.19(.957)
I drink less soda (N:3025)	1953	64.6	833	27.5	239	7.9	2.04(.947)
I drink more water (N:3047)	2402	78.8	387	12.7	258	8.5	1.68(.800)

*Note.* Row percentages may not total 100.0 due to rounding.

<sup>a</sup>Collapsed data; scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree.

8<sup>th</sup> – 12<sup>th</sup> grade participants were asked if their family ate “at least one meal a day together,” and 68.8% (n=2060) responded yes (Table 14).

Table 14

*Family Meals of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

	<u>Yes</u>		<u>No</u>	
	N	%	N	%
My family eats at least one meal a day together (N:2996)	2060	68.8	936	31.2

**Physical Activity (8<sup>th</sup> – 12<sup>th</sup> grade participants)**

22.5% of participants (n=645) are physically active, for a total of at least 60 minutes, seven days of the week. The mean was 4.17 days (S.D.=2.208). The mean number of hours spent watching television on a school day was 2.06 hours (S.D.=1.515). The mean number of hours spent playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day was 2.51 (S.D.=1.692). More than one in five respondents (21.1%, n=602) spent five or more hours playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day.

Table 15

*Physical Activity Behaviors of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

Behaviors	8 <sup>th</sup> – 12 <sup>th</sup> grade participants		
	N	%	μ (S.D.)
Number of days in the past seven physically active for a total of at least 60 minutes per day	<b><u>2862</u></b>	<b><u>100</u></b>	4.17(2.208)
0 days	240	8.4	
1 day	175	6.1	
2 days	270	9.4	
3 days	368	12.9	
4 days	427	14.9	
5 days	529	18.5	
6 days	208	7.3	
7 days	645	22.5	
Number of hours spent watching television on an average school day	<b><u>2859</u></b>	<b><u>100</u></b>	2.06(1.515)
I do not watch TV on an average school day	450	15.7	
Less than one hour per day	721	25.2	
2 hours per day	721	25.2	
3 hours per day	446	15.6	
4 hours per day	217	7.6	
5 or more hours per day	304	10.6	
Number of hours spent playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day	<b><u>2854</u></b>	<b><u>100</u></b>	2.51(1.692)
I do not play video games or computer games or use a computer for something that is not school work	389	13.6	
Less than one hour per day	517	18.1	
2 hours per day	644	22.6	
3 hours per day	464	16.3	
4 hours per day	238	8.3	
5 or more hours per day	602	21.1	

### Civic Engagement (8<sup>th</sup> – 12<sup>th</sup> grade participants)

To measure community awareness, seven items were used. The scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree. The means ranged from 1.68 (“I really care about my community”) to 1.91 (“I talk to my friends about issues affecting my community, state, or world”) indicating agreement.

The following percentages of participants surveyed indicated “strongly agree” or “agree” to these statements:

- 89.5% really care about their community.
- 87.1% listen to everyone’s views whether they agree or not.
- 85.1% tries to figure out if they are just hearing one side of the story on a given issue.
- 84.4% are aware of the important needs in my community.
- 83.5% pay attention to news events that affect their community.
- 81.0% are interested in others’ opinions about public issues.
- 76.3% talk to their friends about issues affecting their community, state, or world.

Table 16 shows the responds for the community awareness indicators.



Table 16

*Community Awareness of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

	<u>Strongly Agree</u>		<u>Agree</u>		<u>Disagree</u>		<u>Strongly Disagree</u>		$\mu$ (S.D.)
	N	%	N	%	N	%	N	%	
I pay attention to news events that affect my community (N:1742)	669	38.4	786	45.1	228	13.1	59	3.4	1.81(.785)
I am aware of the important needs in my community (N:1689)	641	38.0	784	46.4	224	13.3	40	2.4	1.80(.753)
I really care about my community (N:1662)	739	44.5	748	45.0	140	8.4	35	2.1	1.68(.716)
I talk to my friends about issues affecting my community, state, or world (N:1668)	619	37.1	654	39.2	317	19.0	78	4.7	1.91(.861)
I'm interested in others' opinions about public issues (N:1670)	664	39.8	688	41.2	245	14.7	73	4.4	1.84(.832)
I listen to everyone's views whether I agree or not (N:1668)	726	43.5	727	43.6	166	10.0	49	2.9	1.72(.759)
When you hear about an issue, I try to figure out if they are just telling one side of the story (N:1670)	751	45.0	670	40.1	188	11.3	61	3.7	1.74(.799)

To measure cultural awareness, four items were used. The scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree. The means ranged from 1.49 (“I respect people from different cultures”) to 1.83 (“I explore cultural differences”) indicating strong agreement. The following percentages of participants surveyed indicated “strongly agree” or “agree” to these statements:

- 95.3% respect people from other cultures.
- 93.5% have learned about people who are different from themselves.
- 87.5% value learning about other cultures.
- 81.8% explore cultural differences.

Table 17 shows the responds for the cultural awareness indicators.

Table 17

*Cultural Awareness of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

	<u>Strongly Agree</u>		<u>Agree</u>		<u>Disagree</u>		<u>Strongly Disagree</u>		$\mu$ (S.D.)
	N	%	N	%	N	%	N	%	
I explore cultural differences (N:1654)	637	38.5	716	43.3	253	15.3	48	2.9	1.83(.790)
I value learning about other cultures (N:1662)	701	42.2	754	45.4	164	9.9	43	2.6	1.73(.742)
I respect people from different cultures (N:1661)	957	57.6	626	37.7	53	3.2	25	1.5	1.49(.636)
I have learned about people who are different from me (N:1638)	867	52.9	664	40.5	74	4.5	33	2.0	1.56(.677)

An additional measure of civic engagement was general engagement and understanding. Six items were used to measure this construct. The scale was 1=strongly agree, 2=agree, 3=disagree, and 4=strongly disagree. The means ranged from 1.56 (“I help make sure everyone gets an opportunity to say what they think”) to 1.65 (“I can apply knowledge in ways that solve ‘real-life’ problems through community service”) indicating strong agreement. The following percentages of participants surveyed indicated “strongly agree” or “agree” to these statements:

- 93.7% can help make sure everyone gets an opportunity to say what they think.
- 93.3% treat everyone fairly and equally when in charge of a group.
- 91.3% can make a difference in their communities through community service.
- 90.7% can apply knowledge in ways that solve “real-life” problems through community service.
- 90.7% are able to lead a group in making a decision.

- 89.4% have gained skills through community service that will help them in the future.

Table 18 shows the responds for the civic engagement and understanding construct.

Table 18

*Engagement and Understanding of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

	<u>Strongly Agree</u>		<u>Agree</u>		<u>Disagree</u>		<u>Strongly Disagree</u>		$\mu$ (S.D.)
	N	%	N	%	N	%	N	%	
I can make a difference in my community through community service (N:1648)	835	50.7	670	40.7	113	6.9	30	1.8	1.60(.698)
I can apply knowledge in ways that solve “real-life” problems through community service (N:1642)	758	46.2	731	44.5	125	7.6	28	1.7	1.65(.695)
I gained skills through serving my community that will help me in the future (N:1641)	796	48.5	671	40.9	138	8.4	36	2.2	1.64(.728)
I treat everyone fairly and equally when I am in charge of a group (N:1635)	841	51.4	685	41.9	71	4.3	38	2.3	1.58(.686)
I am able to lead a group in making a decision (N:1692)	877	51.8	657	38.8	112	6.6	46	2.7	1.60(.732)
I help make sure everyone gets an opportunity to say what they think (N:1711)	894	52.3	709	41.4	70	4.1	38	2.2	1.56(.679)

The civic engagement intentions were measured using seven items. The responses were “definitely,” “maybe,” “probably not,” and “definitely not.” The following percentages represent the respondents who answered “definitely” to the following civic engagement intentions:

- 59.3% are encouraged to volunteer more.
- 59.3% are interested in a career that helps others.
- 57.4% will continue to better their community after high school.
- 51.3% plan to work on projects to better their community.
- 51.1% would enjoy hosting someone from another culture.
- 42.7% can contact someone they have never met before to get their help with a problem.
- 37.5% are interested in working in government – such as school board, Director of parks and rec, legislator, legislative aide, intern.

Table 19 shows the civic engagement intentions.

Table 19

*Civic Engagement of 8<sup>th</sup> – 12<sup>th</sup> Grade Participants*

Intentions	<u>Definitely</u>		<u>Maybe</u>		<u>Probably Not</u>		<u>Definitely Not</u>	
	N	%	N	%	N	%	N	%
I would enjoy hosting someone from another culture (N:1684)	861	51.1	653	38.8	128	7.6	42	2.5
I can contact someone I’ve never met before to get their help with a problem (N:1637)	699	42.7	606	37.0	250	15.3	82	5.0
I plan to work on projects to better my community (N:1629)	835	51.3	621	38.1	134	8.2	39	2.4
I am encouraged to volunteer more (N:1633)	969	59.3	508	31.1	112	6.9	44	2.7
After high school I will continually work to better my community (N:1670)	958	57.4	557	33.4	114	6.8	41	2.5
I am interested in a career that helps others (N:1626)	965	59.3	522	32.1	103	6.3	36	2.2
I am interested in working in government – such as school board, Director of parks and rec, legislator, legislative aide, intern. (N:1708)	641	37.5	591	34.6	281	16.5	195	11.4

## Summary

This section discusses conclusions and recommendations for future programming.

### Conclusions

The data file held 23,335 cases. The majority of students (86.0%) were in grades 4-7 with a mean of sixth grade. Among 4<sup>th</sup> – 7<sup>th</sup> graders, seven in ten (70.2%) were in their first year of 4-H participation. Among 8<sup>th</sup> – 12<sup>th</sup> grade respondents, three in ten (33.9%) had been in 4-H three or more years. The majority of the 4<sup>th</sup> – 7<sup>th</sup> grade participants were female (53.8%; n=10341), and the majority of the 8<sup>th</sup> – 12<sup>th</sup> grade participants were female (59.7%; n=1829). The mean age of 4<sup>th</sup> – 7<sup>th</sup> grade participants was 11.30 years, and the mean age of 8<sup>th</sup> – 12<sup>th</sup> grade participants was 14.44 years. In regards to race, the majority of participants were white for both the 4<sup>th</sup> – 7<sup>th</sup> graders (61.0%) and the 8<sup>th</sup> – 12<sup>th</sup> graders (53.0%). The majority of both 4<sup>th</sup> – 7<sup>th</sup> graders (72.2%) and 8<sup>th</sup> – 12<sup>th</sup> graders (86.5%) were not Hispanic or Latino.

The project produced many positive outcomes for young. The youth responses to the project's outcome indicators indicate a progression from learning (knowledge and attitudes) to action (choices and behaviors). **Among the 20,061 participants in grades 4 – 7, the outcomes listed below were achieved.**

#### *Nutrition Knowledge*

- 90.4% learned the foods they should eat every day.
- 89.9% learned how to make healthy food choices.
- 89.4% learned why it is important for to eat a healthy diet.
- 86.8% learned what makes up a balanced diet.

#### *Nutrition Choices/Behaviors*

- 93.4% encourage their family to eat meals together.
- 86.2% drink more water.
- 82.4% eat more fruits and vegetables.
- 79.2% eat fruit for a snack.
- 73.5% eat more whole grains.
- 68.9% eat less junk food.
- 64.1% eat a low-fat snack like pretzels instead of chips.
- 59.4% drink less Kool-Aid
- 57.8% choose a small instead of a larger order of French fries.
- 57.0% choose water instead of soda pop or Kool-Aid when thirsty.
- 53.5% drink less soda pop.

#### *Physical Activity Attitudes*

- 91.6% reported “being active is good for me.”
- 90.7% reported “physical activity will help me stay fit.”
- 88.2% reported “being active is fun.”

### *Physical Activity Behaviors*

- 80.0% report they “always” or “usually” do moderate physical activities like walking, helping out around the house, raking leaves, or using the stairs.
- 65.6% report they “always” or “usually” exercise every day.

**Among the project’s 3,274 participants in grades 8 – 12, the following outcomes were reported.**

### *Nutrition Knowledge*

- 85.6% learned the foods they should eat every day.
- 85.3% learned why it is important for to eat a healthy diet.
- 85.0% learned how to make healthy food choices.
- 83.8% learned the importance of fruits and vegetables in their diet. 82.3% learned what makes up a balanced diet.
- 78.9% learned the importance of whole grains in their diet.
- 73.4% learned how many calories they need to eat each day.

### *Nutrition Choices/Behaviors*

- 83.5% eat more fruits and vegetables.
- 78.8% drink more water.
- 78.2% make healthy food choices whenever they can.
- 76.0% think about what their body needs during the day.
- 71.3% make food choices based on what they know their body needs.
- 70.5% encourage their family to eat meals together.
- 67.2% eat more whole grains.
- 64.6% drink less soda.
- 58.1% eat less junk food.

### *Civic Engagement Knowledge and Skills*

- 95.3% respect people from other cultures.
- 93.7% can help make sure everyone gets an opportunity to say what they think.
- 93.5% have learned about people who are different from themselves.
- 93.3% treat everyone fairly and equally when in charge of a group.
- 91.3% can make a difference in their communities through community service.
- 90.7% are able to lead a group in making a decision.
- 90.7% can apply knowledge in ways that solve “real-life” problems through community service.
- 89.5% really care about their community.
- 89.4% have gained skills through community service that will help them in the future.
- 87.5% value learning about other cultures.
- 85.1% tries to figure out if they are just hearing one side of the story on a given issue.
- 84.4% are aware of the important needs in my community.
- 83.5% pay attention to news events that affect their community.
- 81.0% are interested in others’ opinions about public issues.
- 81.8% explore cultural differences.

- 76.3% talk to their friends about issues affecting their community, state, or world.

#### *Civic Engagement Intentions*

- 59.3% are encouraged to volunteer more.
- 59.3% are interested in a career that helps others.
- 57.4% will continue to better their community after high school.
- 51.3% plan to work on projects to better their community.

Participants in grades 8 – 12 were specifically asked about the amount of time they spend watching TV, playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on a school day. In this study, the mean number of hours spent watching television on a school day was 2.06 hours (S.D.=1.515). The mean number of hours spent playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day was 2.51 (S.D.=1.692). A group of super-users was noted. More than one in five respondents (21.1%, n=602) spent five or more hours playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day.

#### **Recommendations**

The Walmart-funded Healthy Living programs produced positive youth outcomes regarding nutrition, physical activity, and civic engagement, and these programs should continue. It is recommended that the *4-H Common Measures* tools continue to be used to measure the results of 4-H Healthy Living programs. The size and scope of this data file (23,335 individual records) suggests that the *4-H Common Measures* approach is a valuable evaluation and reporting solution for projects funded by National 4-H Council and for the Cooperative Extension System in general. The continued development of *4-H Common Measures* is imperative. It provides collective impact, and it is a high-quality tool for multi-site evaluation and reporting. Data collected for this report could be used for benchmarking program outcomes, setting outcome targets, and comparing program performance in subsequent years. All of the institutions consistently used the *4-H Common Measures* instruments, and it is recommended that this uniform use continue.

Youth programs must consider how youth spend their time using technology. More than 20% of the 8<sup>th</sup> – 12<sup>th</sup> graders reported spending five or more hours playing video games, looking at a computer, smartphone, or tablet (for something that is not for school) on an average school day. A large contributor to this number may be text messaging. Nonetheless, this is an alarming number. It is recommended that state and local 4-H professionals and volunteers discuss and document approaches to mediate this phenomenon and its potential influences on youth health.

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## Acknowledgements

JoAnne Leatherman, Jill Walahoski, and Jessica Bauman are acknowledged for their valuable advice and assistance with this project. We appreciate Walmart for their generous support of 4-H Healthy Living programs, including this data analysis project, and we also acknowledge the contributions of the National 4-H Healthy Living Mission Mandate Management Team, National 4-H Council, and 4-H National Headquarters within the USDA's National Institute of Food and Agriculture. We are grateful for the state and local Extension professionals and volunteers who provided leadership for this project.



# Appendices

## Appendix A – 4<sup>th</sup> – 7<sup>th</sup> Grade Healthy Living Instrument



### 4-H Common Measures 4<sup>th</sup> – 7<sup>th</sup> Grade Healthy Living Items

Dear Participant:

You are being given this survey **because you are part of a 4-H program or project**, and we are surveying young people like you to learn about your experiences.

**This survey is voluntary.** If you do not want to fill out the survey, you do not need to. However, we hope you will take a few minutes to fill it out because your answers are important.

**This survey is private.** No one at your school, home, or 4-H program or project will see your answers. Please answer all of the questions as honestly as you can. If you are uncomfortable answering a question, you may leave it blank.

**This is not a test.** There are no right or wrong answers, and your answers will not affect your participation or place in the program in any way.

Thank you for your help!

#### Section I: Tell us about your 4-H Experience

Please select the responses that best describe you.

- 1. How many years have you been participating in 4-H?** (Mark one box )
  - This is my first year
  - This is my second year
  - Three or more years
- 2. Which one of the following best describes how many hours you typically spend in 4-H programs/projects each week?** (Mark one box )
  - Less than one hour
  - Between one and three hours
  - More than three hours
- 3. Which of the following best describes how you are involved in 4-H?** (Mark each box  that applies to you.)
  - Clubs

- Camps
- After-school programs
- In-school programs
- Local fairs/events
- Community service projects
- Working on my projects at home
- Other

**Section II: Healthy Choices**

4. **Please indicate how hard it would be to complete the following actions.** (Select one response in each row by marking the appropriate box ☒.)

<b>How hard would it be for you to...</b>	<b>Not hard at all</b>	<b>A little hard</b>	<b>Very hard</b>
Eat fruit for a snack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eat vegetables for a snack	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choose water instead of soda pop or Kool-Aid when you are thirsty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drink 1% or skim milk instead of 2% or whole milk	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Choose a small instead of a large order of French fries	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eat smaller servings of high fat foods like French fries, chips, snack cakes, cookies, or ice cream	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Eat a low-fat snack like pretzels instead of chips	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drink less soda pop	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Drink less Kool-Aid	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

5. **Please indicate to what extent you agree or disagree that your experience in this 4-H program or project has resulted in the following outcomes.** (Select one response in each row by marking the appropriate box ☒.)

<b>As a result of participating in a 4-H Healthy Living Program...</b>	<b><i>Strongly Agree</i></b>	<b><i>Agree</i></b>	<b><i>Disagree</i></b>	<b><i>Strongly Disagree</i></b>	<b><i>Not Applicable to my 4-H Experience</i></b>
I learned the foods that I should eat every day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned what makes up a balanced diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

As a result of participating in a 4-H Healthy Living Program...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Not Applicable to my 4-H Experience</i>
I learned why it is important for me to eat a healthy diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned how to make healthy food choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Please indicate to what extent you agree or disagree that your experience in this 4-H program or project has resulted in the following outcomes. (Select one response in each row by marking the appropriate box .)

As a result of participating in a 4-H Healthy Living Program I now take the following actions...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Not Applicable to my 4-H Experience</i>
I eat more fruits and vegetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I eat more whole grains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I eat less junk foods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I drink more water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I encourage my family to eat meals together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section III: Physical Activity**

7. Please tell us how often you complete the following tasks. (Select one response in each row by marking the appropriate box .)

Tell us about you...	<i>Always</i>	<i>Usually</i>	<i>Sometimes</i>	<i>Never</i>
I do moderate physical activities like walking, helping around the house, raking leaves, or using the stairs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I exercise 60 minutes every day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

8. Please indicate to what extent you agree or disagree that your experience in this 4-H program or project has resulted in the following outcomes. (Select one response in each row by marking the appropriate box .)

Tell us what you think...	<i>I agree</i>	<i>I'm not sure</i>	<i>I do not agree</i>
Being active is fun	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being active is good for me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Physical activity will help me stay fit	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section VI: Tell us about You**

Please select the responses that best describes you.

**9. How old are you?**

\_\_\_\_\_ Age (in years)

**10. What grade are you in?**

\_\_\_\_\_ Grade

**11. Which of the following best describes your gender? (Mark one box )**

- Female
- Male

**12. Which of the following best describe your race? (Mark each box  that applies to you.)**

- American Indian or Alaskan Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White

**13. Which of the following best describe your ethnicity? (Mark one box )**

- Hispanic or Latino
- Not Hispanic or Latino

**14. Which of the following best describes the primary place where you live? (Mark one box )**

- Farm
- Rural (non-farm residence, pop. < 10,000)
- Town or City (pop. 10,000 – 50,000)
- Suburb of a City (pop. > 50,000)
- City (pop. > 50,000)

**THANK YOU!**

Appendix B – 8<sup>th</sup> – 12<sup>th</sup> Grade Healthy Living Instrument**4-H Common Measures**  
**8<sup>th</sup> – 12<sup>th</sup> Grade Healthy Living Items**

Dear Participant:

You are being given this survey **because you are part of a 4-H program or project**, and we are surveying young people like you to learn about your experiences.

**This survey is voluntary.** If you do not want to fill out the survey, you do not need to. However, we hope you will take a few minutes to fill it out because your answers are important.

**This survey is private.** No one at your school, home, or 4-H program or project will see your answers. Please answer all of the questions as honestly as you can. If you are uncomfortable answering a question, you may leave it blank.

**This is not a test.** There are no right or wrong answers, and your answers will not affect your participation or place in the program in any way.

Thank you for your help!

**Section I: Tell us about your 4-H Experience**

Please select the responses that best describe you.

1. **How many years have you been participating in 4-H?** (Mark one box )
  - This is my first year
  - This is my second year
  - Three or more years
  
2. **Which one of the following best describes how many hours you typically spend in 4-H programs/projects each week?** (Mark one box )
  - Less than one hour
  - Between one and three hours
  - More than three hours
  
3. **Which of the following best describes how you are involved in 4-H?** (Mark each box  that applies to you.)
  - Clubs
  - Camps
  - After-school programs
  - In-school programs
  - Local fairs/events
  - Community service projects
  - Working on my projects at home
  - Other

**Section II: Nutrition Knowledge**

4. Please indicate to what extent you agree or disagree that your experience in this 4-H program or project has resulted in the following outcomes. (Select one response in each row by marking the appropriate box ☒ .)

As a result of participating in a 4-H Healthy Living Program...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Not Applicable to my 4-H Experience</i>
I learned the foods that I should eat every day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned what makes up a balanced diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned why it is important for me to eat a healthy diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned how to make healthy food choices	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned how many calories I need to eat each day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned the importance of fruits and vegetables in my diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I learned the importance of whole grains in my diet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section III: Food Choices**

5. Please indicate to what extent you agree or disagree that your experience in this 4-H program or project has resulted in the following outcomes. (Select one response in each row by marking the appropriate box ☒ .)

As a result of participating in a 4-H Healthy Living Program I now take the following actions...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Not Applicable to my 4-H Experience</i>
I think about what foods my body needs during the day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make food choices based on what I know my body needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I make healthy food choices whenever I can	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I match my food intake to the number of calories I need to eat each day	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I encourage my family to eat meals together	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

6. Please indicate to what extent you agree or disagree that your experience in this 4-H program or project has resulted in the following outcomes. (Select one response in each row by marking the appropriate box ☒.)

As a result of participating in a 4-H Healthy Living Program I now take the following actions...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>	<i>Not Applicable to my 4-H Experience</i>
I eat more fruits and vegetables	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I eat more whole grains	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I eat less junk foods	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I drink less soda	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I drink more water	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Please select the responses that best describe you.

7. **My family eats at least one meal a day together.**
- Yes
- No

#### Section IV: Physical Activity

Please select the responses that best describes you.

8. **During the past 7 days, how many days were you physically active for a total of at least 60 minutes per day? (Add up all the time you spent in any kind of physical activity that increased your heart rate and made you breathe hard some of the time)** (Mark one box ☒.)
- 0 days
- 1 day
- 2 days
- 3 days
- 4 days
- 5 days
- 6 days
- 7 days
9. **On an average school day, how many hours do you spend watching television?** (Mark one box ☒.)
- I do not watch TV on an average school day
- Less than one hour per day
- 2 hours per day
- 3 hours per day
- 4 hours per day
- 5 or more hours per day

10. On an average school day, how many hours do you play video games, looking at a computer, smartphone, or tablet for something that is not for school? (Mark one box ☒.)

- I do not play video games or computer games or use a computer for something that is not school work
- Less than one hour per day
- 2 hours per day
- 3 hours per day
- 4 hours per day
- 5 or more hours per day

**Section V: Awareness of Community**

1. Please indicate to what extent you agree or disagree that your experience in this 4-H Healthy Living program that has resulted in the following outcomes. (Select one response in each row by marking the appropriate box ☒.)

In this 4-H Healthy Living program...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I pay attention to news events that affect my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am of aware of the important needs in my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I really care about my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I talk to my friends about issues affecting my community, state, or world	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I'm interested in others' opinions about public issues	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I listen to everyone's views whether I agree or not	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
When hear about an issue, I try to figure out if they are just telling one side of the story	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section VI: Culture**

2. Please indicate to what extent you agree or disagree that your experience in this 4-H Healthy Living program that has resulted in the following outcomes. (Select one response in each row by marking the appropriate box ☒.)

In this 4-H Healthy Living program...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I explore cultural differences	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



I value learning about other cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I respect people from different cultures	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I have learned about people who are different from me	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section VII: Engagement and Understanding**

3. Please indicate to what extent you agree or disagree that your experience in this 4-H Healthy Living program that has resulted in the following outcomes. (Select one response in each row by marking the appropriate box ☒.)

In this 4-H Healthy Living program...	<i>Strongly Agree</i>	<i>Agree</i>	<i>Disagree</i>	<i>Strongly Disagree</i>
I can make a difference in my community through community service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can apply knowledge in ways that solve “real-life” problems though community service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I gained skills though serving my community that will help me in the future	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I treat everyone fairly and equally when I am in charge of a group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am able to lead a group in making a decision.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I help make sure everyone gets an opportunity to say what they think	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section VIII: Engagement**

4. Please indicate how likely you are to complete the following outcomes. (Select one response in each row by marking the appropriate box ☒.)

As a result of my experience in this 4-H H Healthy Living program...	<i>Definitely</i>	<i>Maybe</i>	<i>Probably Not</i>	<i>Definitely Not</i>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I would enjoy hosting someone from another culture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I can contact someone I've never met before to get their help with a problem	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I plan to work on projects to better my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am encouraged to volunteer more	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
After high school I will continue to work to better my community	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am interested in a career that helps others	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
I am interested in working in government (such as school board, Director of parks and rec, legislator, legislative aide, intern)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Section IX: Tell us about You**

Please select the responses that best describes you.

**11. How old are you?**

\_\_\_\_\_ Age (in years)

Please select the responses that best describes you.

**12. What grade are you in?**

\_\_\_\_\_ Grade

**13. Which of the following best describes your gender? (Mark one box )**

- Female
- Male

**14. Which of the following best describe your race? (Mark each box  that applies to you.)**

- American Indian or Alaskan Native
- Asian
- Black or African American
- Native Hawaiian or Other Pacific Islander
- White

**15. Which of the following best describe your ethnicity? (Mark one box )**

- Hispanic or Latino
- Not Hispanic or Latino

16. Which of the following best describes the primary place where you live? (Mark one box )

- Farm
- Rural (non-farm residence, pop. < 10,000)
- Town or City (pop. 10,000 – 50,000)
- Suburb of a City (pop. > 50,000)
- City (pop. > 50,000)

**THANK YOU!**

### **Appendix C – State Summary Information**

State summary information was sent to Ms. JoAnne Leatherman on May 12, 2014. Due to large file sizes, these summaries were not included in this document. Summary information included frequencies, percentages, means, and standard deviations on all items for both the 4-7<sup>th</sup> grade and 8<sup>th</sup>-12<sup>th</sup> grade instruments.

## Data Analysis Team

The data analysis team was composed of Dr. Joseph L. Donaldson, Assistant Professor, and Mr. Mitch Naylor, Student Staff Assistant, University of Tennessee Department of 4-H Youth Development, Agricultural Leadership, Education and Communications.

Dr. Donaldson is an accomplished program evaluator, teacher and researcher. Dr. Donaldson is an Assistant Professor for the University of Tennessee. He is the primary author of the *Program Evaluation Network*, online software used by 700 Extension employees at the four universities. He teaches the UT College of Agricultural Sciences and Natural Resources graduate course in program planning and evaluation, an online course with 25 graduate students. He has developed numerous staff development courses for Extension employees on needs assessment, program planning, evaluation and accountability topics. His online Extension courses have had enrollments of 800 employees at one time. He has published his research in the *Qualitative Report* and the *Journal of Extension*, among others. Donaldson has served as principal investigator for numerous projects including the *National 4-H Healthy Living Professional and Volunteer Development Needs Assessment: A Delphi Approach* (Donaldson, et. al, 2013). He is an active member of the National Association of Extension 4-H Agents, and he received the organization's Air Force Recruiting Salute Award in 2012. As an Extension 4-H Agent, he provided healthy living programs for 2,000 youth enrolled in 80 4-H clubs in Giles County, Tennessee.

Mr. Naylor is a senior at the University of Tennessee, Knoxville, majoring in Business Analytics in the Haslam College of Business. He is a native of Finger, Tennessee, and a graduate of Chester County High School.

## Contact Information

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