

Evaluation Report

Live Healthy Kids Program, Years 2016-2017; 2017-2018

COMCORPS, AN AMERICORPS PROGRAM

By

Josephine Njeri Mwangi, MA. Candidate, Masters of Public Health

Ohio Univeristy College of Health and Sciences.

Fall, 2018

Introduction

The evaluation report covers time period 2016-2017 and 2017-2018. The report describes the performance of the Live Healthy Kids Program over the two program years based on the pre- and post assessments. The report is divided into nine sections, that demonstrate the performance of the program in the various expected outcomes. The first section is an overview the evaluation report. The second section captures the process evaluation using the logic model. The third to the eighth section offers a detailed evaluation of the expected outcomes of short term behavior change which include: knowledge acquisition, attitude towards healthy food, preference, performance of health behavior, trying new food, impacts of Live Healthy Kids on groceries and nutrition culture at homes, impacts of having another child previously enrolled in Live Healthy Kids. The ninth section is the recommendation section which identifies better assessment approaches for future programs.

Purpose of the report

The report is a practicum assignment for Josephine Njeri assigned by Lauren Borovicka, program manager of COMCorps to carry out a two year evaluation report of the Live Healthy Kid program. The evaluation was carried out in Fall 2018, in the final year of the three grant period of the COMCorps program. The objective of the report is to compare and contrast the performance of the Live Healthy Kids in both years highlighting the extent the program achieved the desired health outcomes. The report also assesses the program impact in the two different counties that is Athens and Washington county. The rationale is to identify how the two counties fair in the different expected health outcomes, and which county does better in achieving the health outcomes. This evaluation is a lens of understanding the Live Healthy Kids program, and offers insight of areas that need improvement. Furthermore, it is a resource for the best approaches, and practices in planning for future programs. The report will play a key role in guiding the future of the COMCorps program in the next grant year as 2018 is the end of the three grant period.

1. Description and overview of the program

COMCorps an Americorps program began in 2000 in partnership with Ohio University Heritage College of Osteopathic Medicine. COMCorps was created to reach the community through service, health education, disease prevention and increase leadership skills for members. Over the years COMCorps has implemented various programs such as:

- **Health education** sessions that served Athens County children and their parents on topics such as nutrition, healthy weight, alcohol and drug prevention, tobacco prevention and many more.
- **Health screening** for individuals in the Appalachian region for lice, vision, hearing, and immunization.
- **Access to health** through provision of referrals to physicians and dentists. Individuals that need more examination or treatment are referred to specialized facilities.
- **Live Healthy Kids** intervention, an initiative of COMCorps partner site Live Healthy Appalachia.

This evaluation assesses the performance of Live Healthy Kids. AmeriCorps members assist with implementation who are funded by a three year grant from the Corporation for National and Community Service with oversight through ServeOhio. Live Healthy Kids is designed to teach kids about healthy food and expose them to variety of foods through physical, practical and learning experience. The program uses a curriculum designed by Live Healthy Appalachia (LHA) that offers interactive lessons on nutrition, cooking and physical activity. The role of LHA is to operate the program while the COMCorps members facilitate and implement the program. The Live Healthy Kids program seeks to familiarize students with healthy food and expose them to other food cultures in the world. Through a 22 week program Live Healthy Kids teaches the USDA MyPlate model with focus on vegetables, fruits and whole grains. The program exposes kids to physical exercise, cooking and food preparation skills. The population targeted by the program is second graders in Athens and Washington County.

- The kids are exposed to:
- Bell peppers, seven times
- Carrots, cucumbers, tomatoes and garlic over five times
- Black beans three times
- Cilantro and paprika four times
- Chili powder and parsley three times
- And many more

The Live Healthy Kid program evaluated in this report operated in Athens County and Washington County in the state of Ohio. See the logic model in the following pages for the number of schools, members and volunteers that participated in the program. The COMCorps program had 24 AmeriCorps members who taught a year-long nutrition education program to students in Athens and Washington Counties.

Evaluation Approach and Methodology

The data collection uses various measures to collect data at the beginning and end of the program in Athens and Washington Counties. Students and parents/guardians both completed the following pre- and-post tests:

- Students: knowledge test and a food preference test
- Parents/ guardians; a survey

The data measuring, analysis and representation used quantitative methods.

The data collection for this program was through surveys administered to the parents. Questionnaires assessed students knowledge and preference for whole foods.

The surveys used a different number of items to assess the students performance in various outcomes and behaviors. The evaluation used parents response and judgement on their students ability and willingness to perform various behavior. The scale of measurements measured the extent which parents agreed or disagreed to students' ability and willingness to perform a desired healthy behavior. Examples of some of the measures that responded on extent they agree are: strongly agree, agree, neutral, disagree and strongly disagree; testing number of times they perform a behavior is : never, sometimes and always. The evaluation used the same approach of measurements with the students Each extent is rated by percentage.

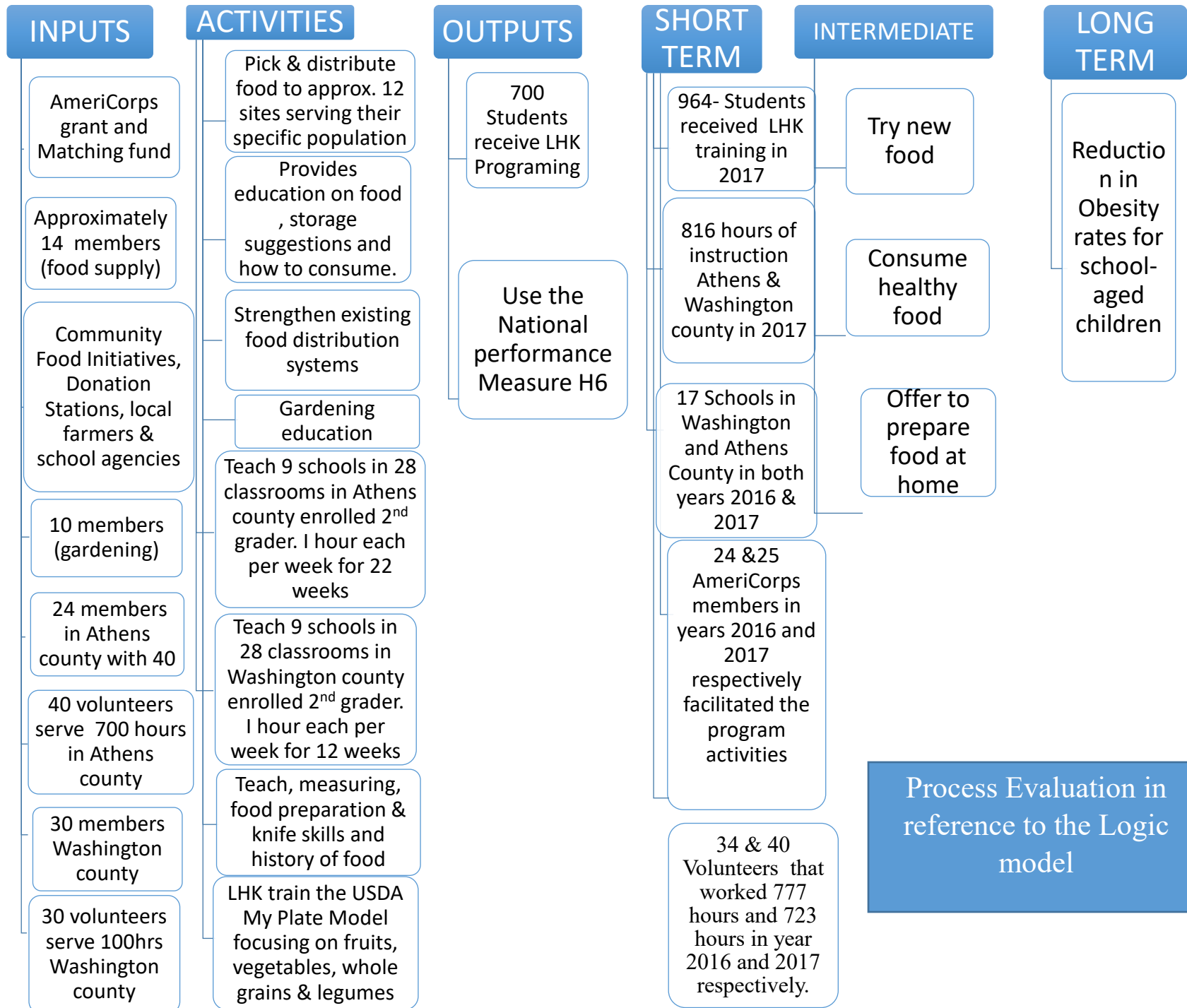
Data analysis of the pre and post test measures was done through SPSS. This evaluation report uses descriptive and inferential statistics to interpret the analyzed data. Using excel, the report constructed graphs and charts to represent the analyzed data. The charts offers a graphical representation and comparison of the data.

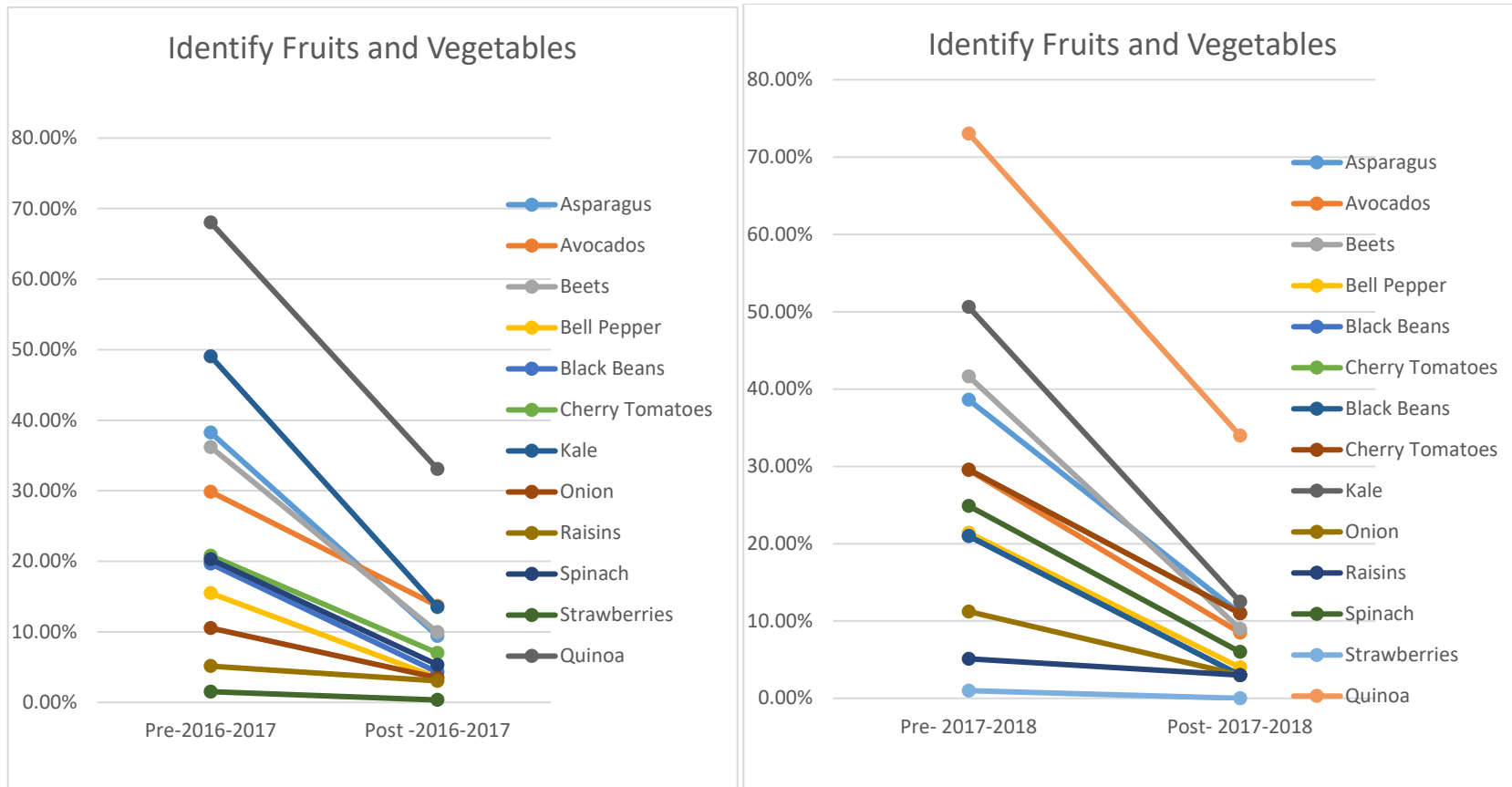
Section 2.

Outcomes	Population	Sample Items	Comments
Knowledge	<p>Second grade students in Washington and Athens County</p> <p>Parents of second grade students</p>	<p>Pre- and post-surveys for rating students' response to: I do not know what that is (12 healthy whole foods) Asparagus, avocado, Beets, Bell peppers, onions, quinoa, raisins, spinach, strawberries and cherry tomatoes</p> <p>Pre- and post-surveys questions include Since child started LHK on parameter of Never, rarely, sometimes, usually and always: -Your child understand what happens in LHK -Eats greater variety of food -Talks about LHK at home</p>	<p>The survey questions are open ended question that will rate students' ability to recognize the 12 foods</p> <p>Various survey questions which the parents rate their level off agreement with the statement in regards to the students' knowledge levels</p>
Preference for food	Second grade students in Washington and Athens county	<p>Pre and post assessment of students' preference rates for the 12 healthy foods. The measure is as follows: How much do you like? Asparagus: I like this a lot, I like this a little, & I do not like this</p>	<p>Matched survey questions that will assess children preference based on the parameter with the highest percentage rate.</p>
Try new food	Parents of Second grade students in Washington and Athens county	<p>Survey questions: Kids are ready to try new foods: rate: Never, Sometimes or Always.</p>	<p>Kids' readiness to try new food depending on parents' response on each of the parameters. The rate determined through counts of the response on each parameter</p>

Skills	Parents of Second grade students in Washington and Athens county	Pre and post assessments administered to parents: Sample questions: Since our child began LHK: Offers to help prepare meal: Never, rarely, sometimes, usually and always	Rate the percentage of each parameter to compare and identify the kids acquisition of food preparation skills based on their willingness to help cook at home.
Perform healthy behavior	Parents of Second grade students in Washington and Athens county	Sample questions Your child is: Strongly disagree, somewhat disagree, neutral, somewhat agree and strongly agree - Washes their hands before eating - Gets 60min of physical activity each day - Is existed about physical activity	Assess kids actual and willingness to perform the health behavior depending on the rates on each parameter.
LHK impacts on homes food habits	Parents of Second grade students in Washington and Athens county	Please indicate extent you agree or disagree with: - I can prepare meals with the ingredients found in our local stores - I lack the skills to cook healthy food - Our family talk about healthy food at home	Use the responses to access whether LHK impacts grocery purchase and eating habits at home

Section 3.

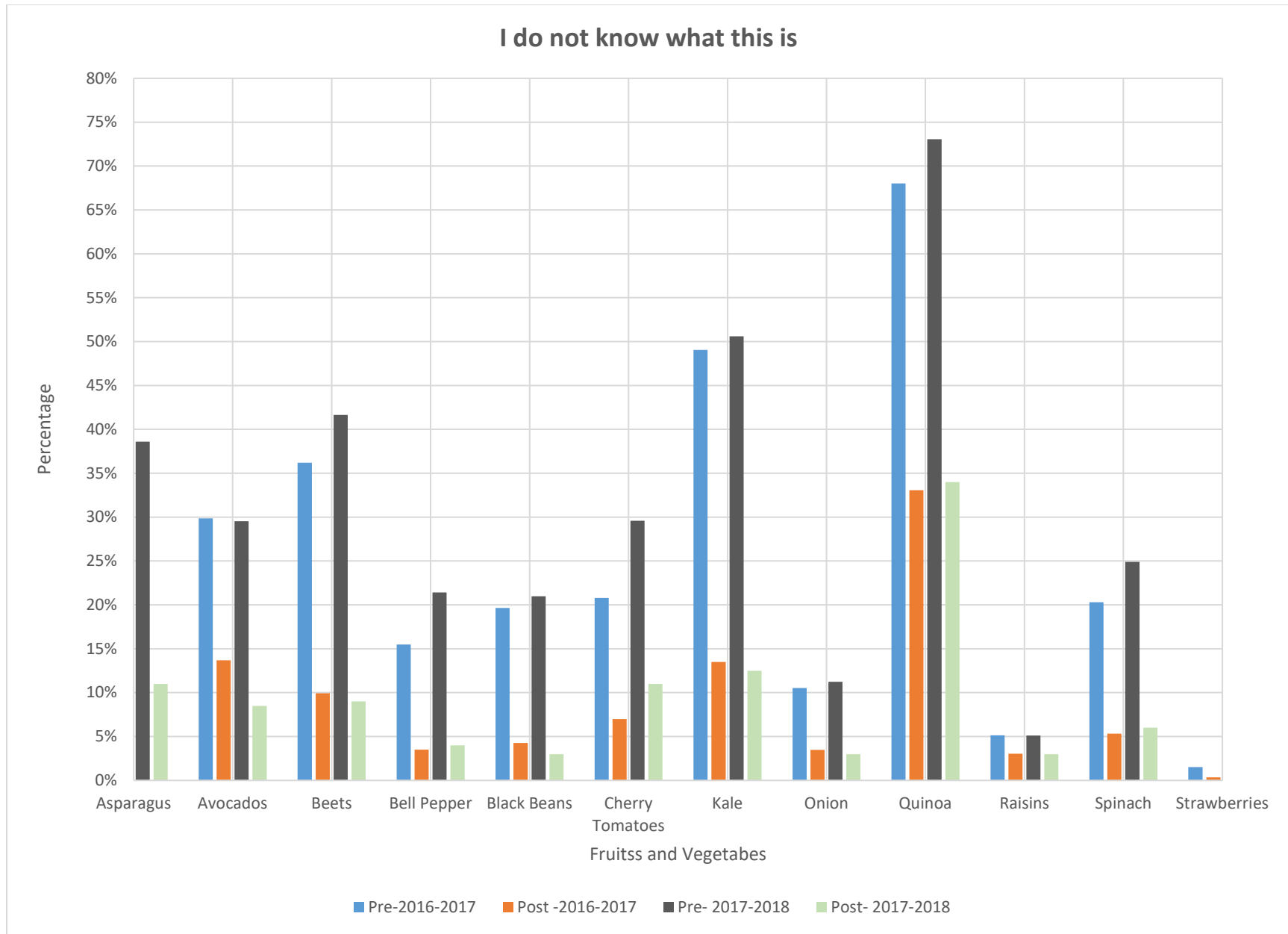




4. Knowledge of fruits and vegetables – “I don’t know responses”

According to the projects logic model, one of the short-term outcome is the ability for the students to identify the fruits and vegetables.

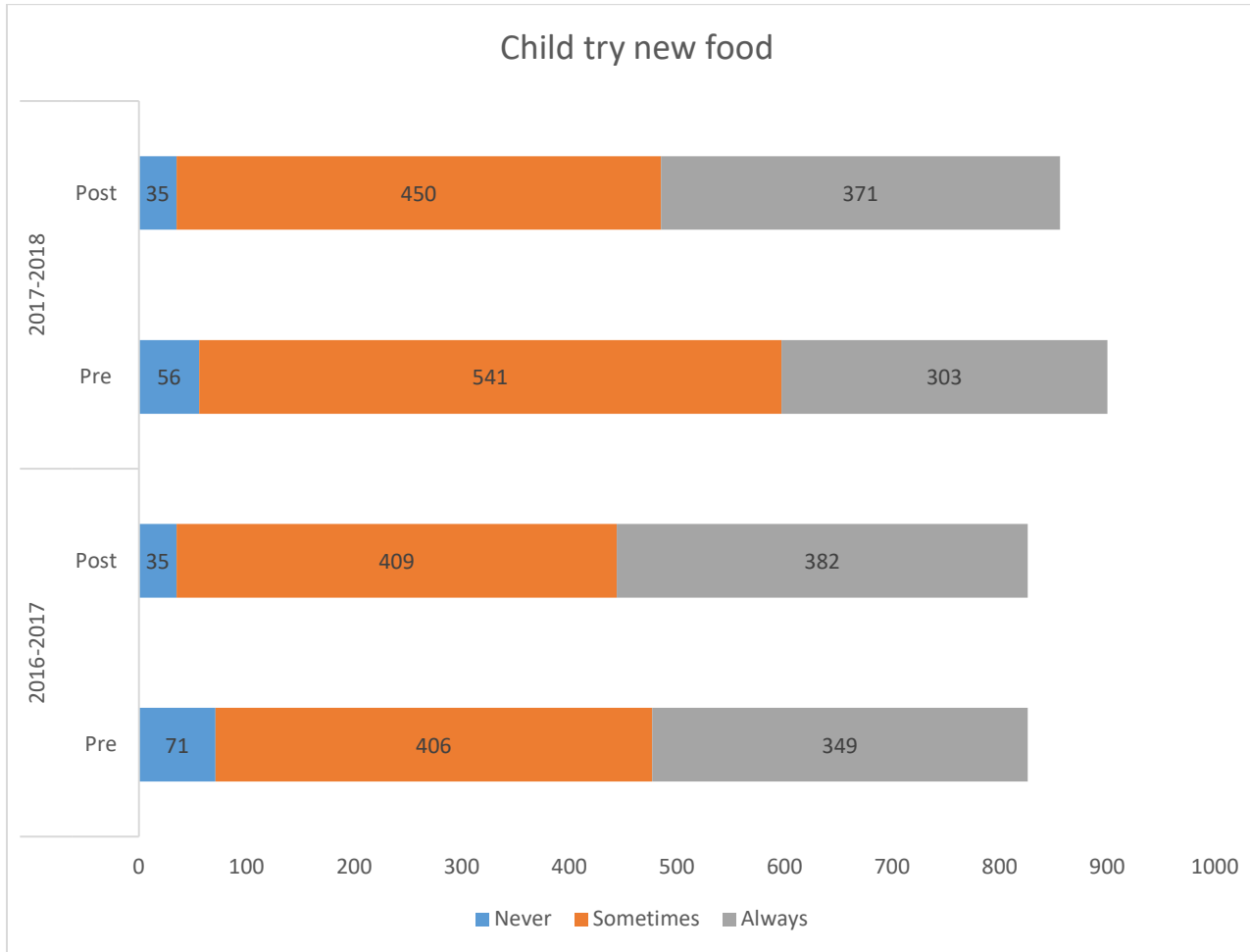
The data demonstrates students’ response to the statement, “I do not know what this is”. In year 2016- 2017, the data and graphs demonstrate a downward trend from the Pre to Post intervention in all the fruits and vegetables. Therefore, the intervention program has increased the students’ knowledge of the fruits and vegetables. However, in both years’ students have difficulties identifying quinoa on the post test. 68.03% and 73.06% of the students in time period 2016-2017 and 2017-2018, respectively, could not recognize quinoa. On the other hand, strawberries and raisins are popular among the students in both years. Therefore, the program has led to a significant improvement on knowledge of fruits and vegetables among the targeted student.



5. Attitude towards new food

A survey administered to the parents examined kids' willingness to try new food after and before the Live Healthy Kids program.

The chart below shows the response.



The survey results indicate:

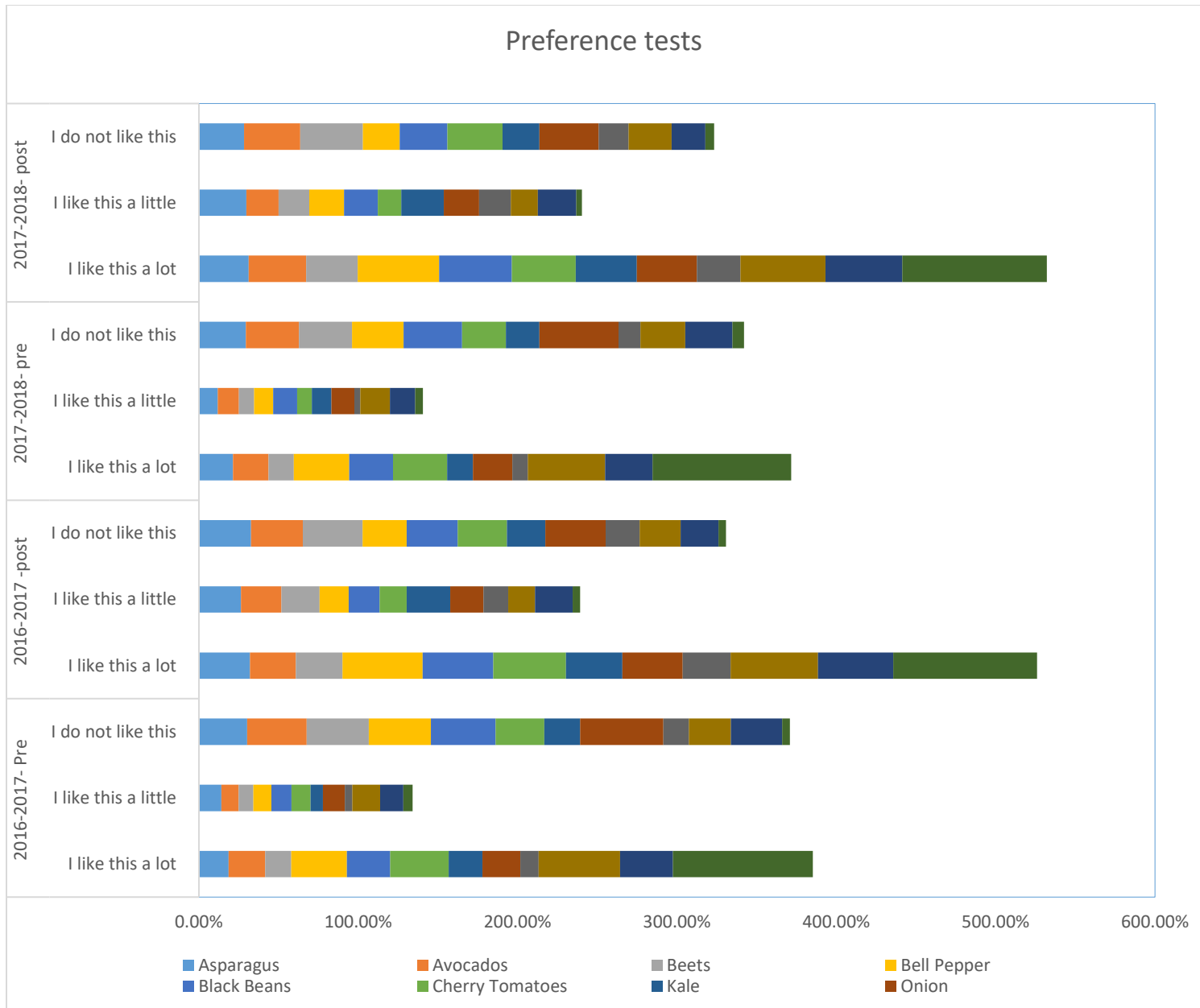
- ❖ There is an improvement in preconceived attitudes between 2016-2017 and 2017-2018. The score for never in 2016-2017 was 71, but reduced to 56 in 2017-2018. Further study should seek to identify whether students in the last years have better attitude towards new food compared to later years.
- ❖ According to the data, there is an improvement in students' willingness to *always* try new food across all years after the program. For instance, in 2016-2017 the score for always willing to try was 349 before the Living Healthy Program, however at the end of the program the number improved to 382.
- ❖ Year 2017-2018 demonstrates more impact compared to year 2016-2017 in reference to the students' attitude towards new food. The change in magnitude in all parameters considered that is Never, Sometimes and Always is greater in 2017-2018 compared to year 2016-2017. For example, Pre- LHK the score for sometimes was 541 but post was 450. In this regard, post Live Healthy Kids program, more of the students had progressed to the Always parameter, which is an improvement in attitude towards fruits.
- ❖ The 35 score of Never, indicate more need for the program to address the number of students who are still reluctant to try new food.

Preference of fruits and vegetables

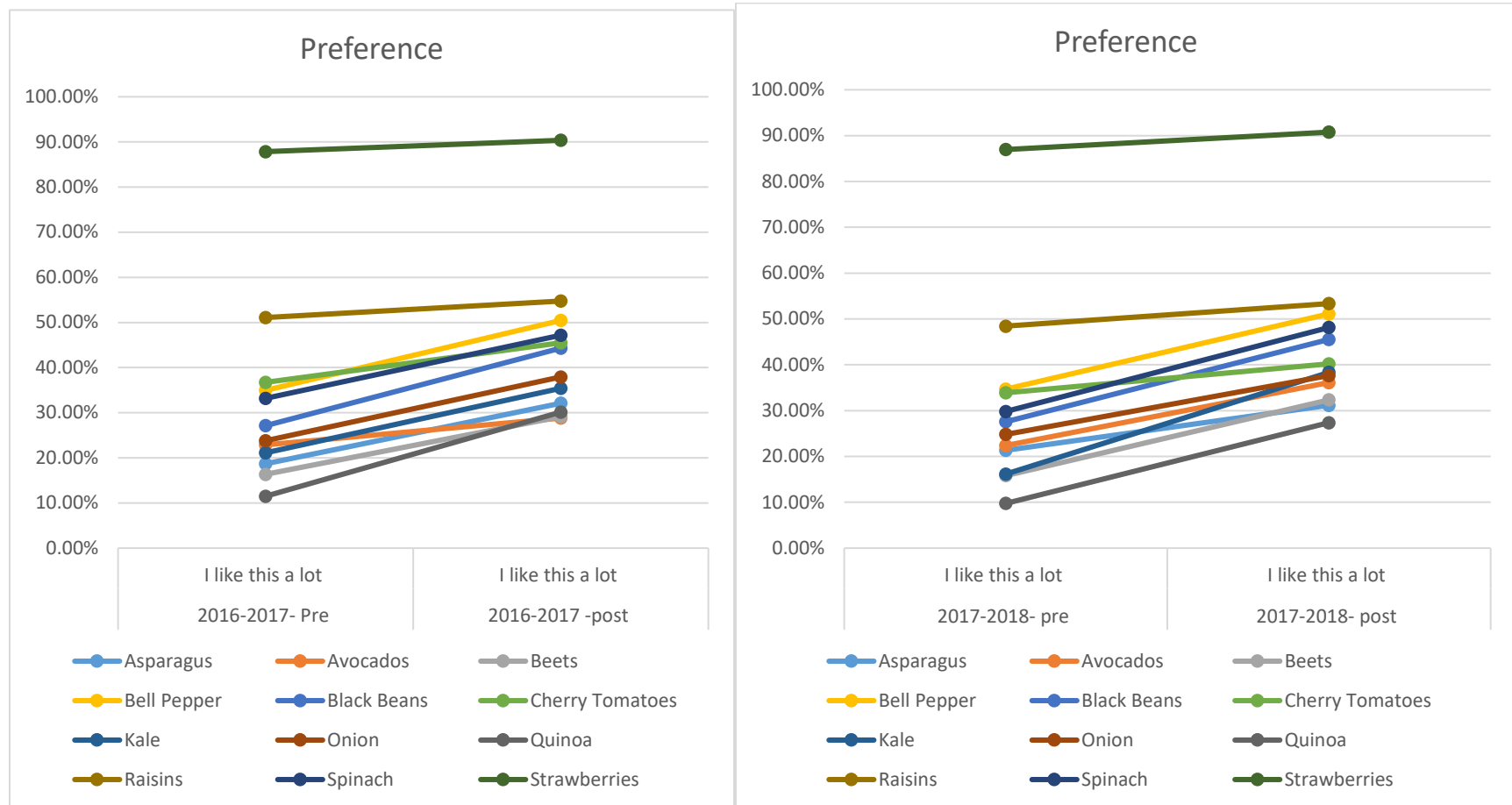
The evaluation assessed the students' preference for whole foods. The evaluation for this outcome involved interviewing students on their food preference.

From the table stacked graph below it is evident that:

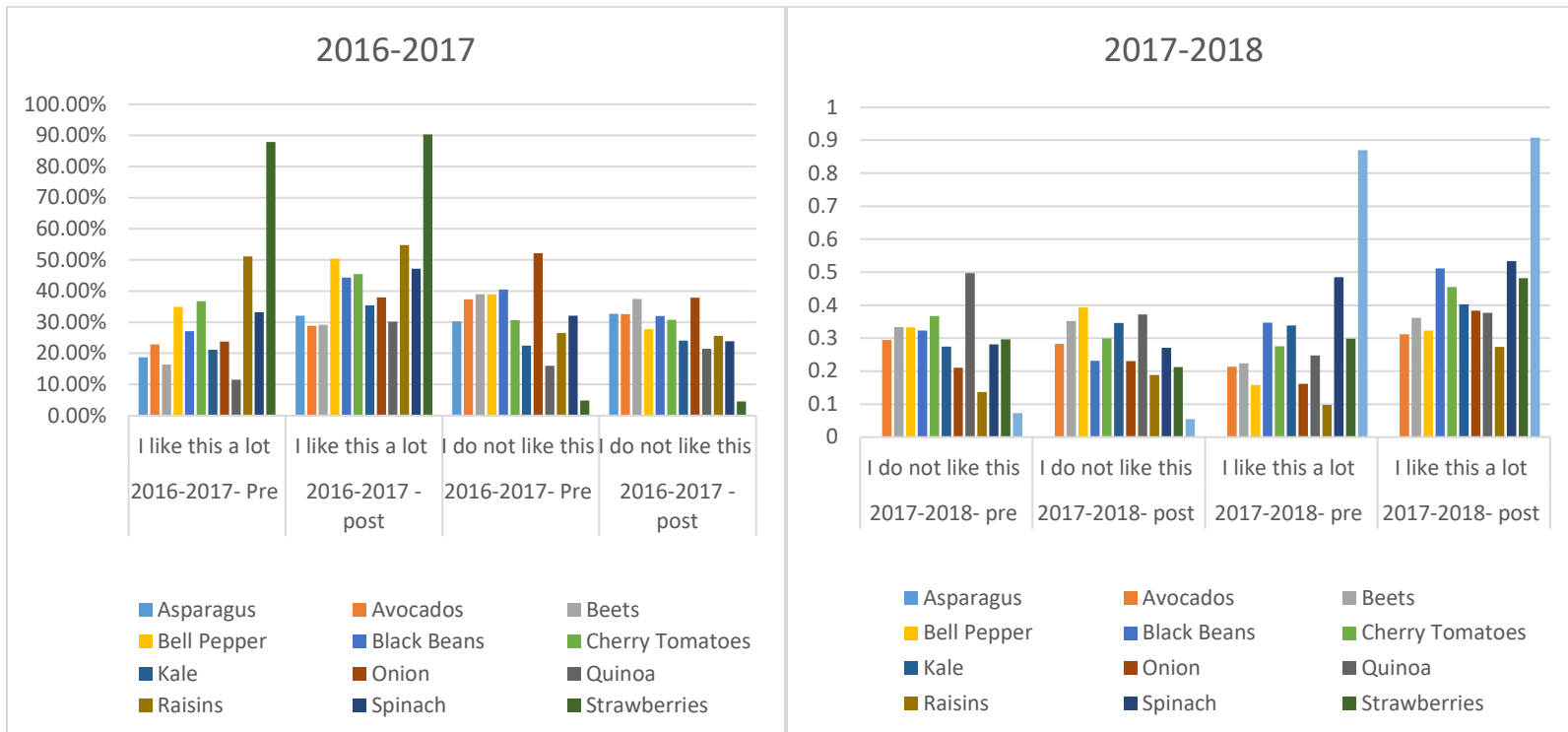
- There is an improvement in the parameter of "I like this a lot" after the Live Healthy Kids program in both time period, which is in 2016-2017 and 2017-2018. For instance, in the Pre-test 2016-2017, the score for I like this a lot was 40% but by the end of the program the percentage improved to 50%.
- In both years Strawberries, Cherry tomatoes and Kales are the most popular fruits with an average of over 30% preference for both post and pre in both 2016-2017 and 2017-2018.
- In 2017-2018 post-test the standard deviation for strawberry is 0.55 with a mean of 2.80 compared to the less preferred fruit and vegetable quinoa that had a standard deviation of 0.92 and mean of 1.86.



- In preference of total “I like this” quinoa and beet rate lowest with an average percentage of 16.15% and 25.57%. On the other hand, Strawberries and raisins rate highest in the preference of “I like this” with average percentage of 93.06% and 68.60% respectively.



- The 2016-2018 indicator for ‘I like this a lot’ post has an upward slope demonstrating an improvement in preference compared to the Pre-test data.
- Strawberries slope is almost flat showing kids were pre-exposed to the fruit before the Live Healthy Kid Program
- There is an approximately 38.12% improvement in preference level between Pre-test and Post-test in time period 2017-2018, in regards to the differences in the “I like this a lot category”
- Similarly, there is an approximately 29.40% improvement in “I like this a lot” parameter for Pre-test and Post-test 2016 -2017.



- According to the graph above, the ‘I do not like this’ category shows a downslope trend from pre to post for both years.
- Onions and bell peppers rates the highest in both years in the “I do not like this” parameter.
- Onions and bell peppers demonstrates a small significant improvement in preference in both years.
- There is an inverse relationship between the item that rates high in preference rate and its rate for dislike.

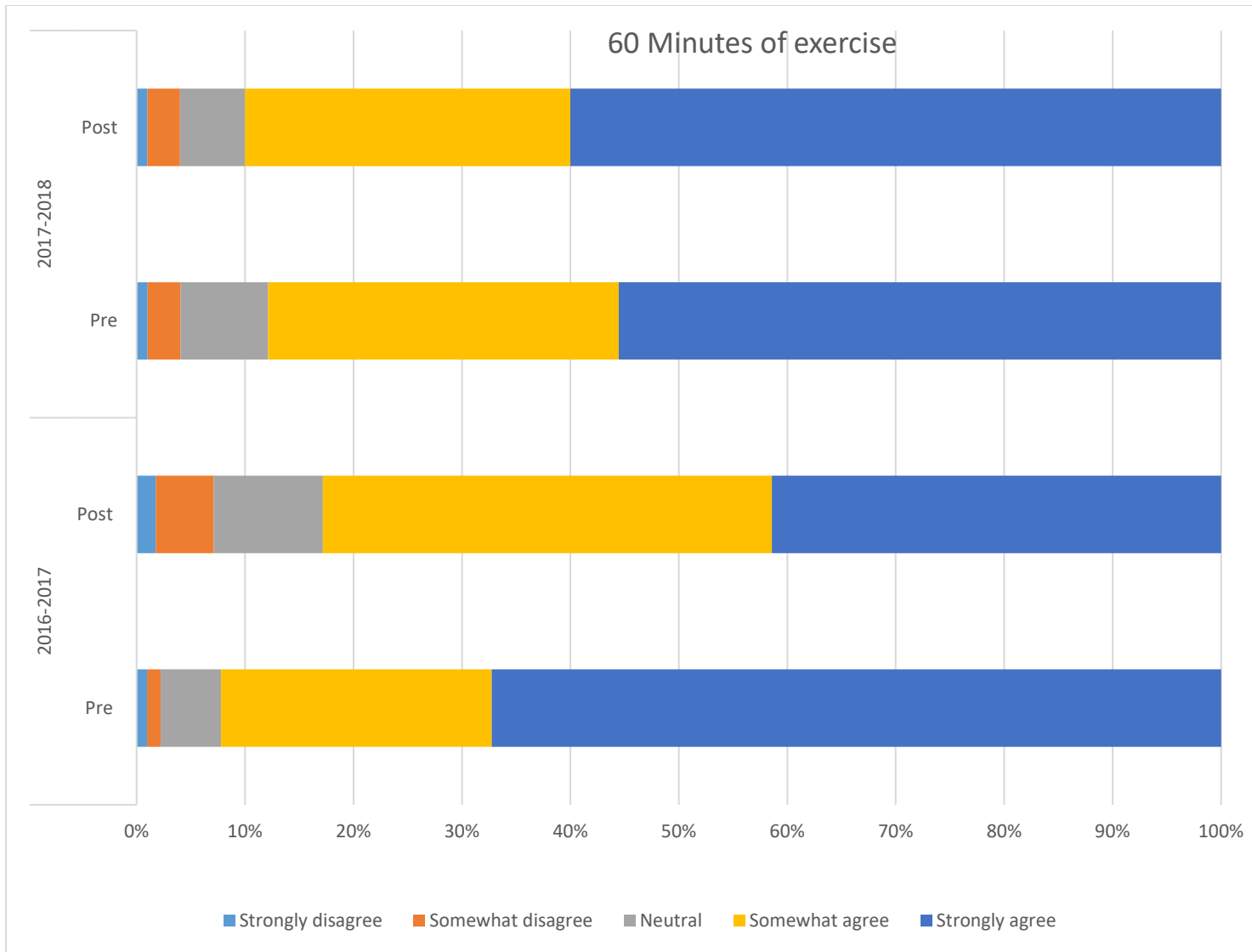
PARENTS RESPONSE

The evaluation also involved surveying parents to assess the outcomes and impacts of the program. Parents responded on their perception and observations of students’ health behavior before and after the implementation of the Live Healthy kind. Some of the outcomes include:

Readiness for the students to exercise for 60 minutes

In reference to the stack graph below, the expectation, is to have an improvement in the attitude about exercise after the LHK program. Therefore, after the program, the expectation is a decrease in the disagree parameter and increase in the agree parameters.

- Comparing 2016-2017 pre and post there is increase in the strongly disagree, somewhat disagree, neutral and somewhat agree. However, there is an increase in the strongly agree parameter.
- In the Pre- 2016- 2017 in both Washington and Athens county 15% disagreed and 66.45% agreed with the fact that their children actually get 60 minutes of exercise.
- However, in the post LHK program, 2.04% of the parents in Athens County and 2.46% in Washington County disagreed with the fact that the students actually received 60 minutes of exercise.
- Likewise, post LHK program, 69.39% of the parents from Athens County and 74.075 of the parents from Washington county get 60 minutes of exercise.



In pre 2016-2017 parents 2.23% disagree and 92.36% agree with the level of exercising of the students. However, in the post 2016-2017 the parents level of disagree is 4.92% and disagree 57.33%. Therefore, there was a downward trend in the perception of the students to exercising.

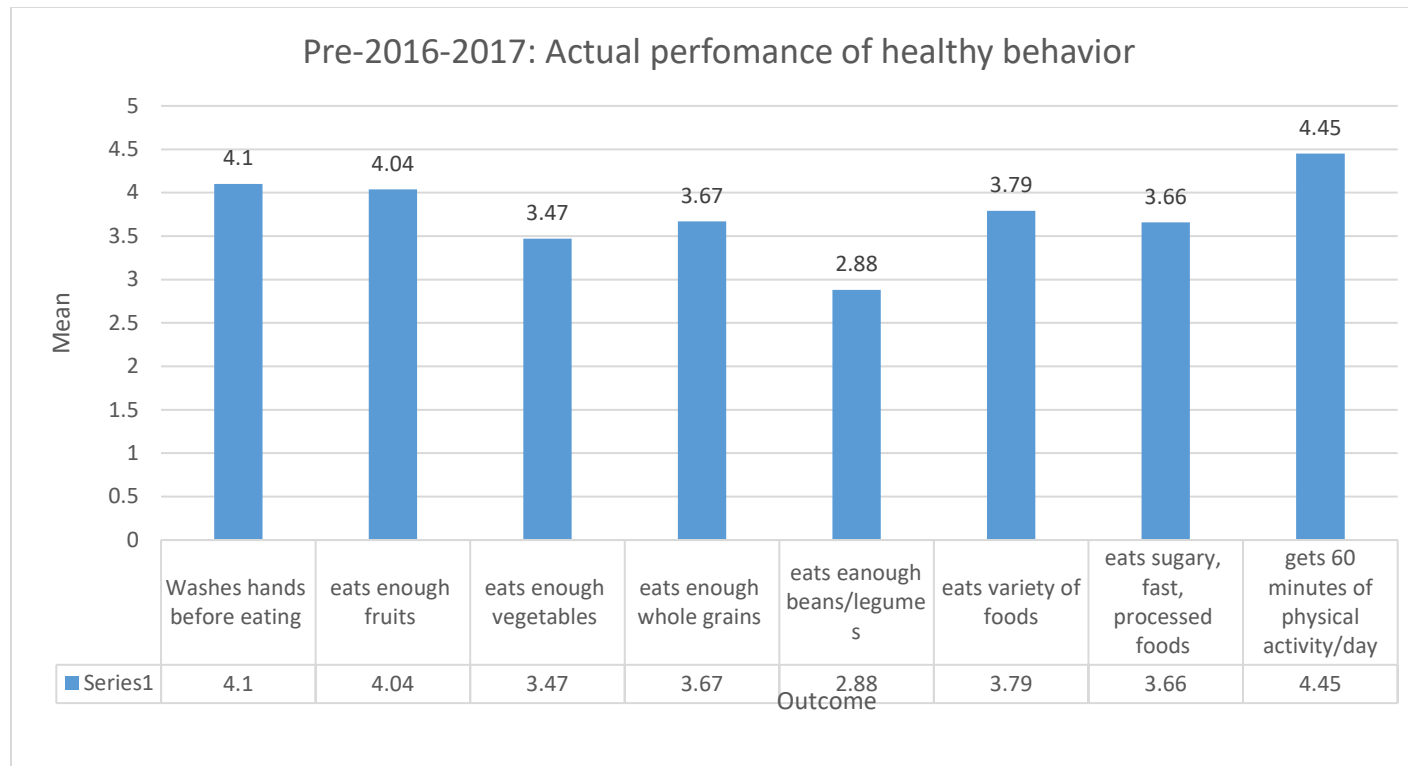
In pre 2017-2018 there was an improvement in agreement rate from 87% Pre to 90% agree in post against a no change in level of agreement in the two periods for disagreement. In the Pre 2017-2018 and post 2017-2018 the parameter of disagree was both 4%.

Readiness to make heathy behavior:

Tested in two parameters: Parents response on the children's:

- Willingness to perform heathy behavior
- Parent report on children's actual performance of healthy behavior.

The mean for the Pre- test for both Washington and Athens County is as shown below:

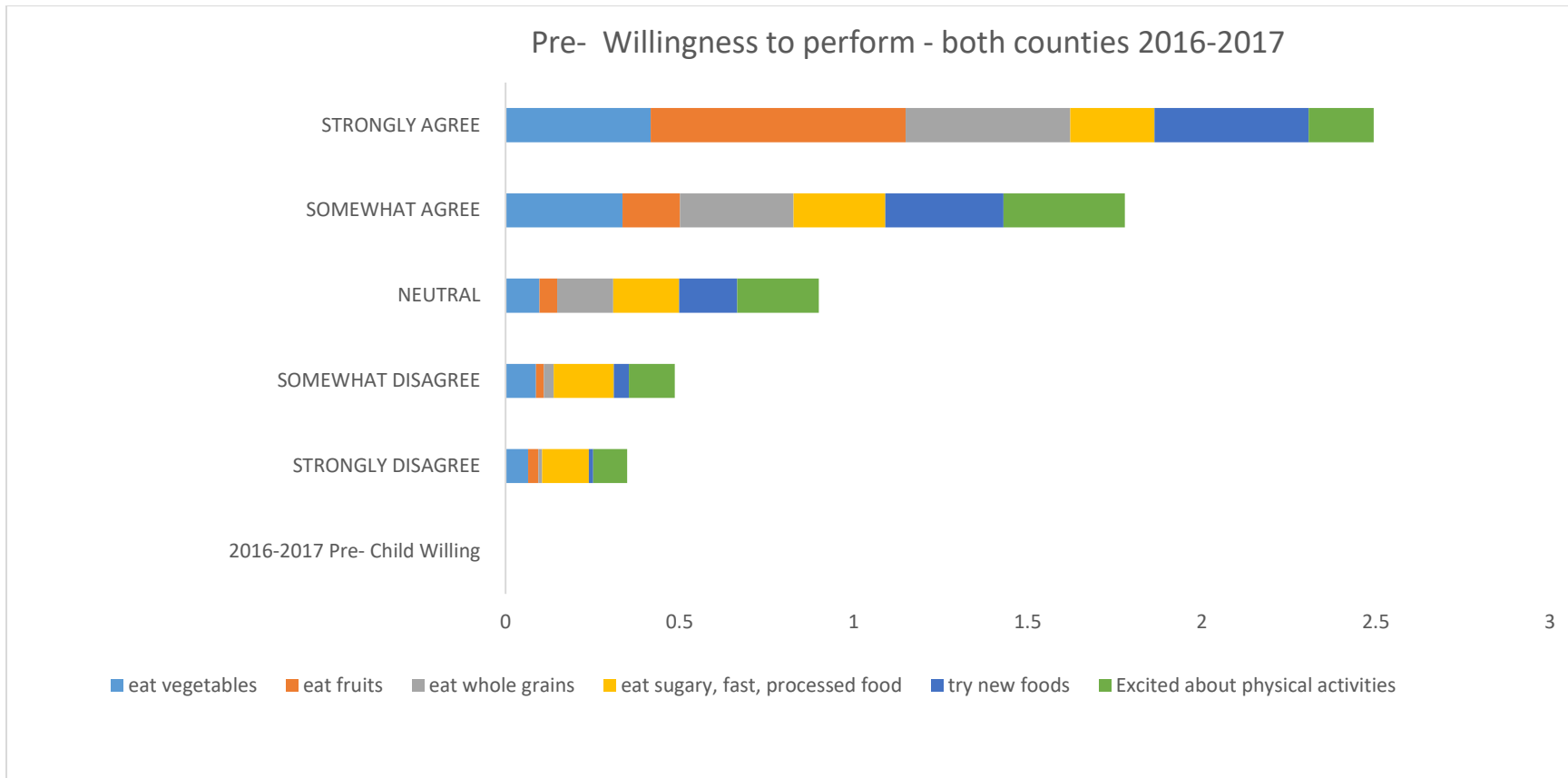


The pre- test results demonstrates pre-conceived knowledge before the program and highlight areas that the intervention should emphasis on. For instance the data above indicates that:

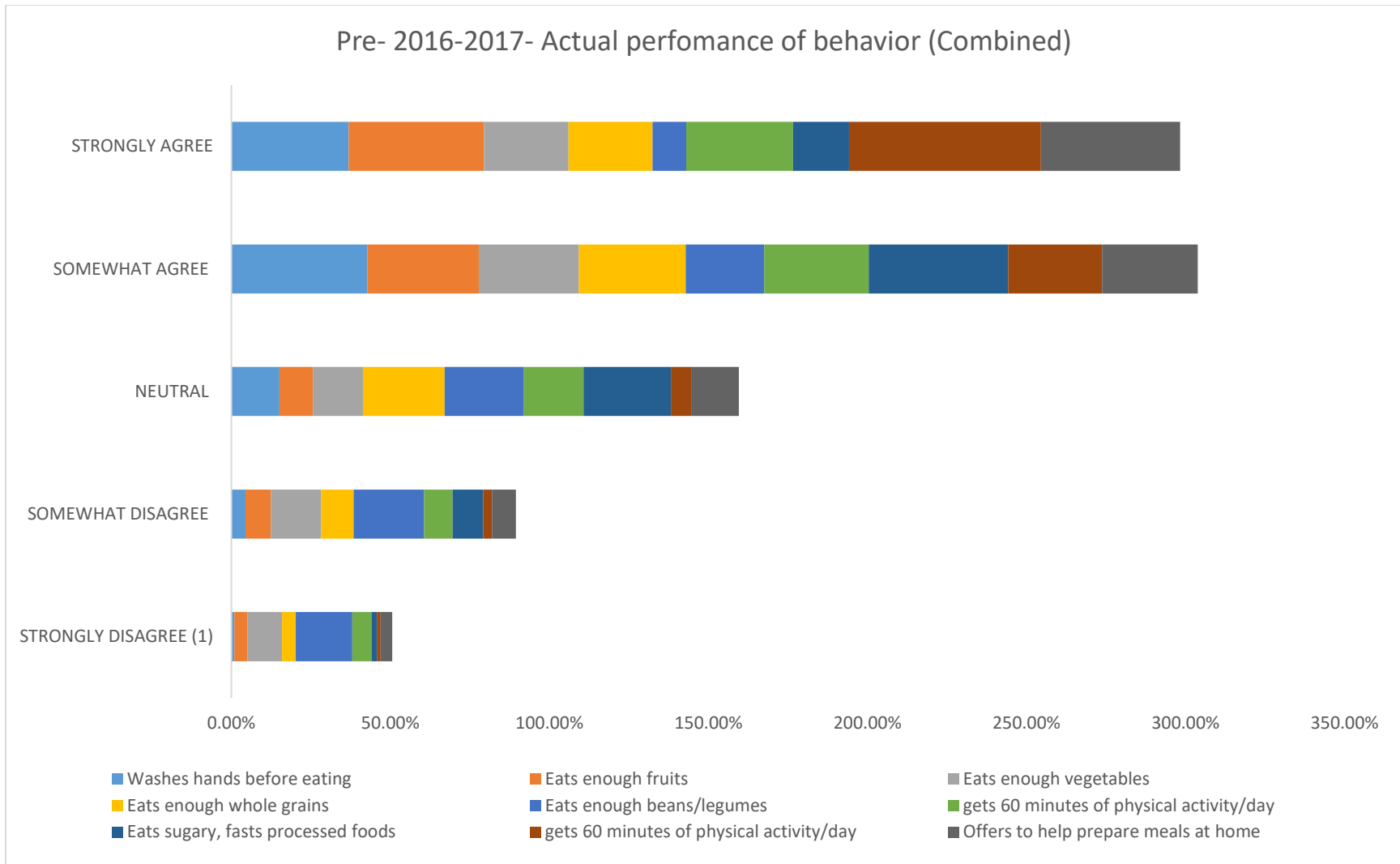
- There is higher pre-conceived knowledge on eating fruits, physical activity and washing hands
- Less consumption of beans and legumes is observed with a mean of 2.88.

Readiness for health behavior: Various outcomes examined

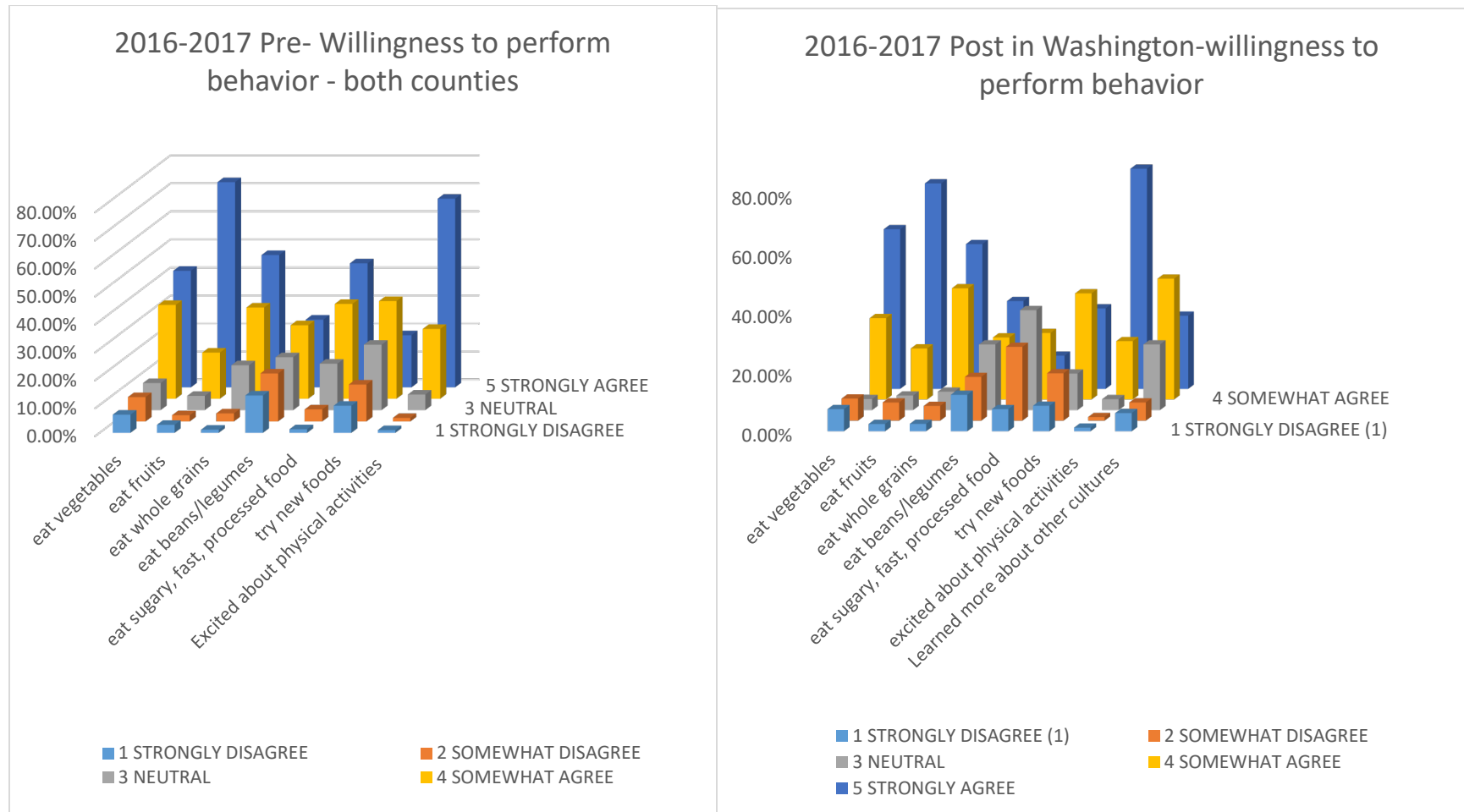
There is stack graph below shows that the willingness to perform activities such as physical activities, try new foods, eat fruits and vegetables range in the agree parameter.



The stack graph above and below demonstrates the student’s attitude towards performing healthy behavior. Both stack graph shows a high preference for exercising and eating vegetables and fruit.

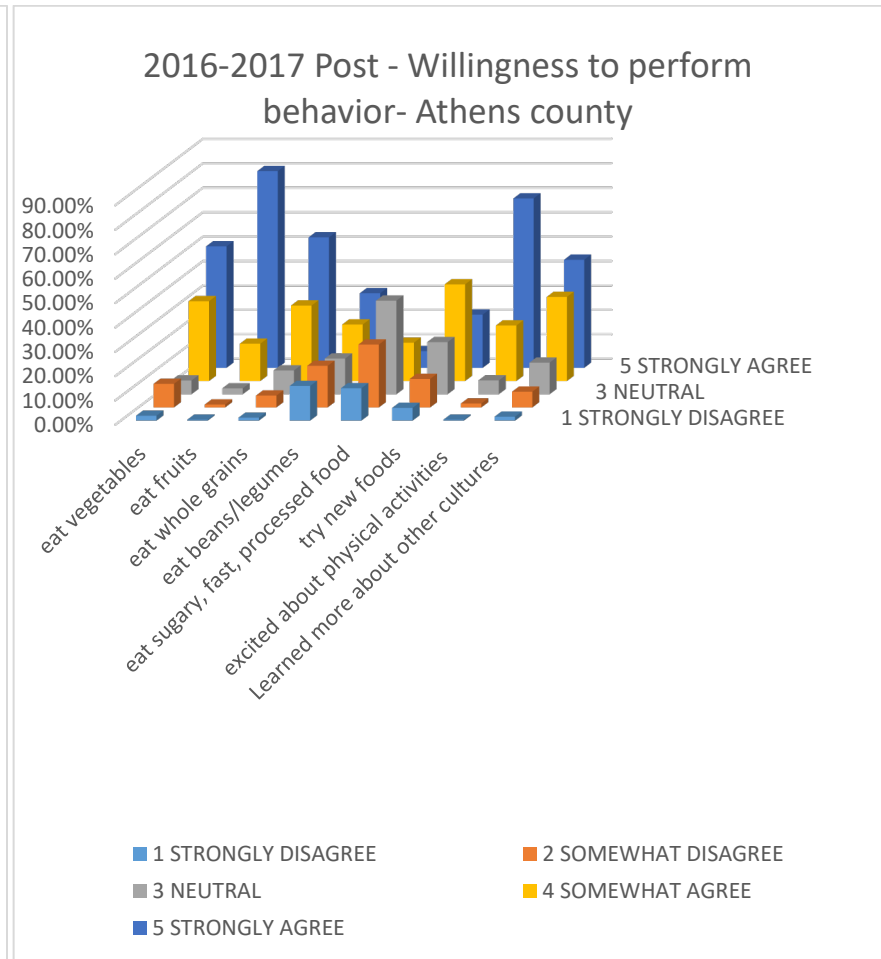
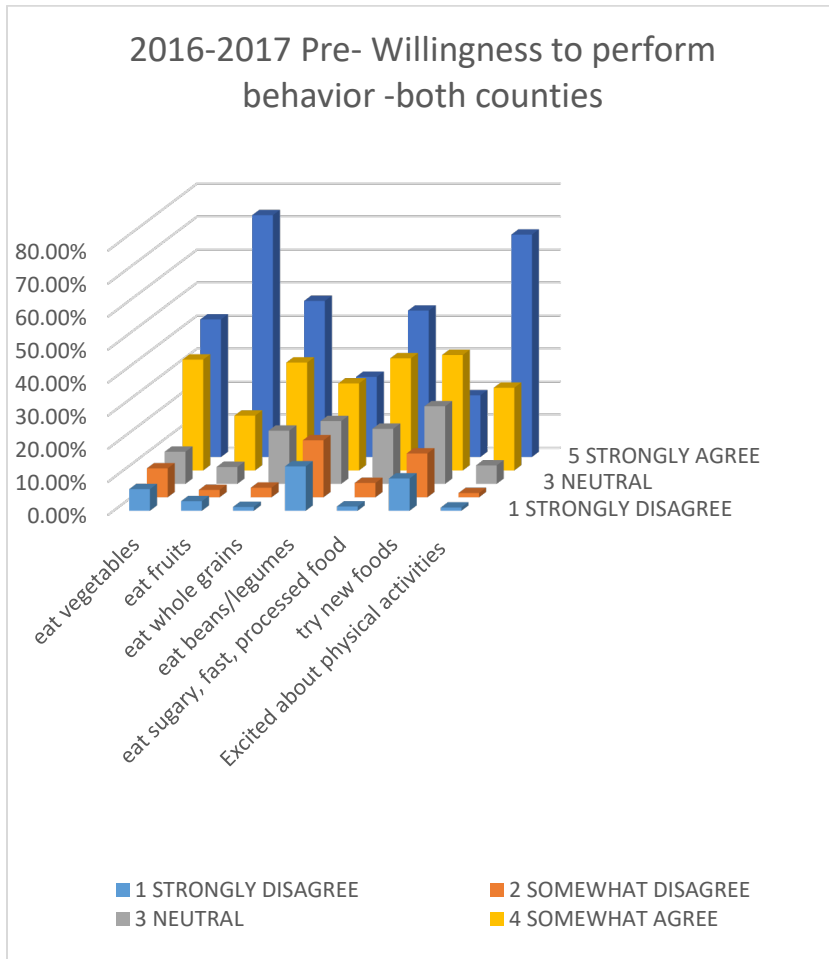


Willingness to perform healthy behavior

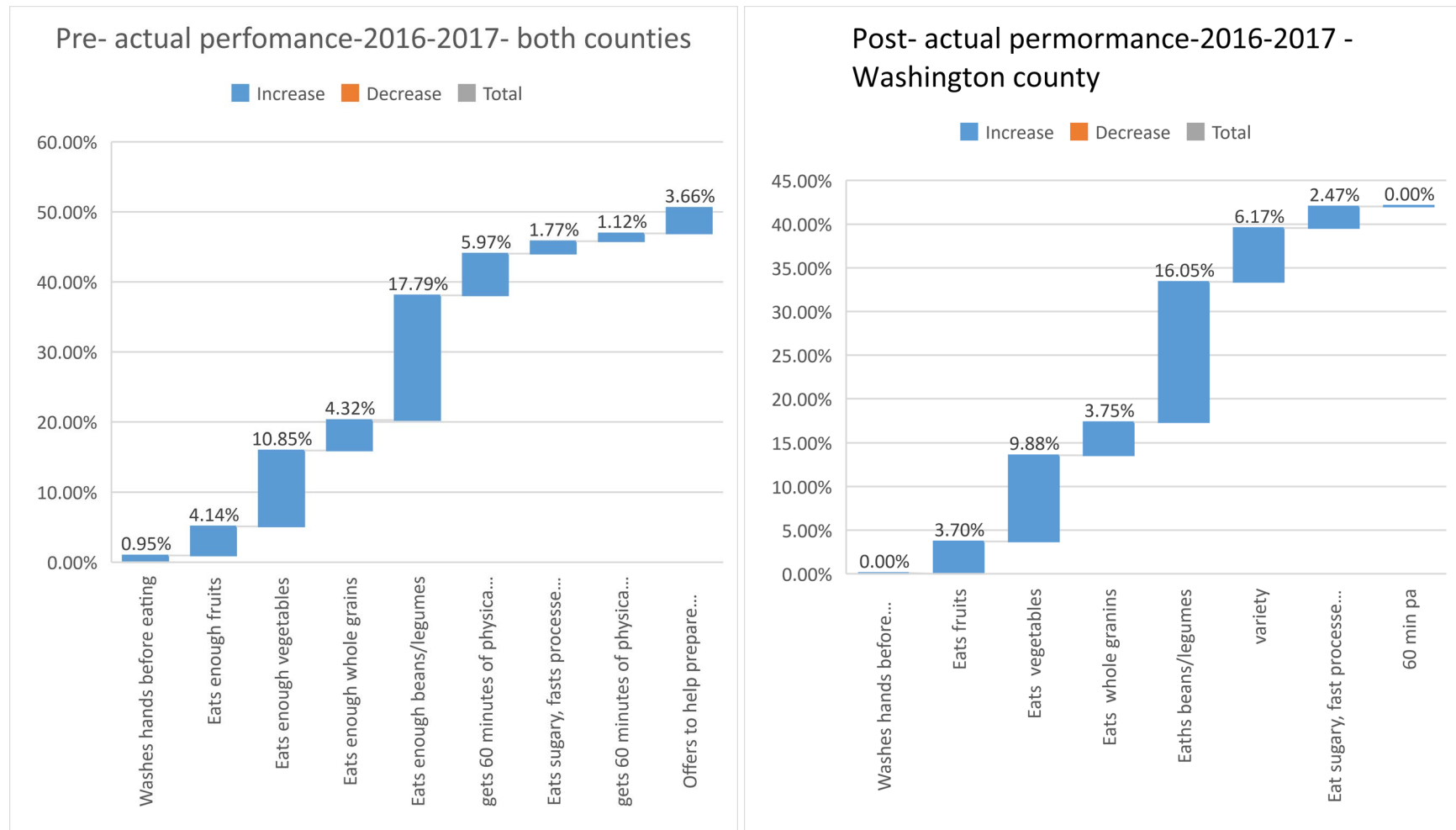


- For both in Pre 2016-2017 students are more willing to get 60 minutes of physical activity, wash hands and eat enough foods.
- However, eating whole grains is the least received behavior among the students in both counties before LHK.

- On the other hand, for Washington County after the LHK, the students are willingness rate highest in exercising eating fruits and vegetables. However, they have less interest in eating beans/ legumes and trying new foods.
- However, there is worth noting that Washington county student rates low in preference for eating sugary, fast processed food which is a positive impact for the program.

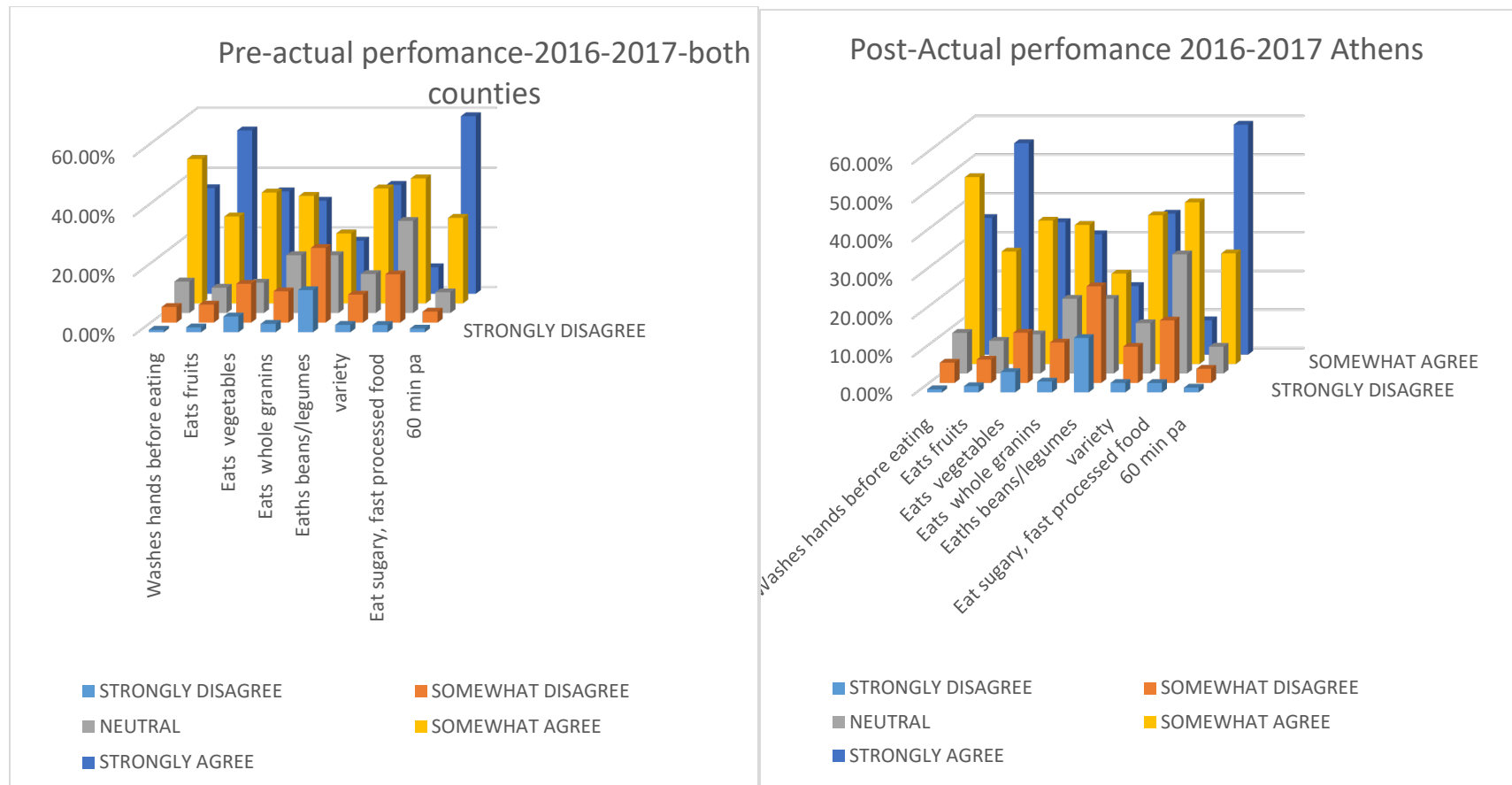


Actual performance of behavior



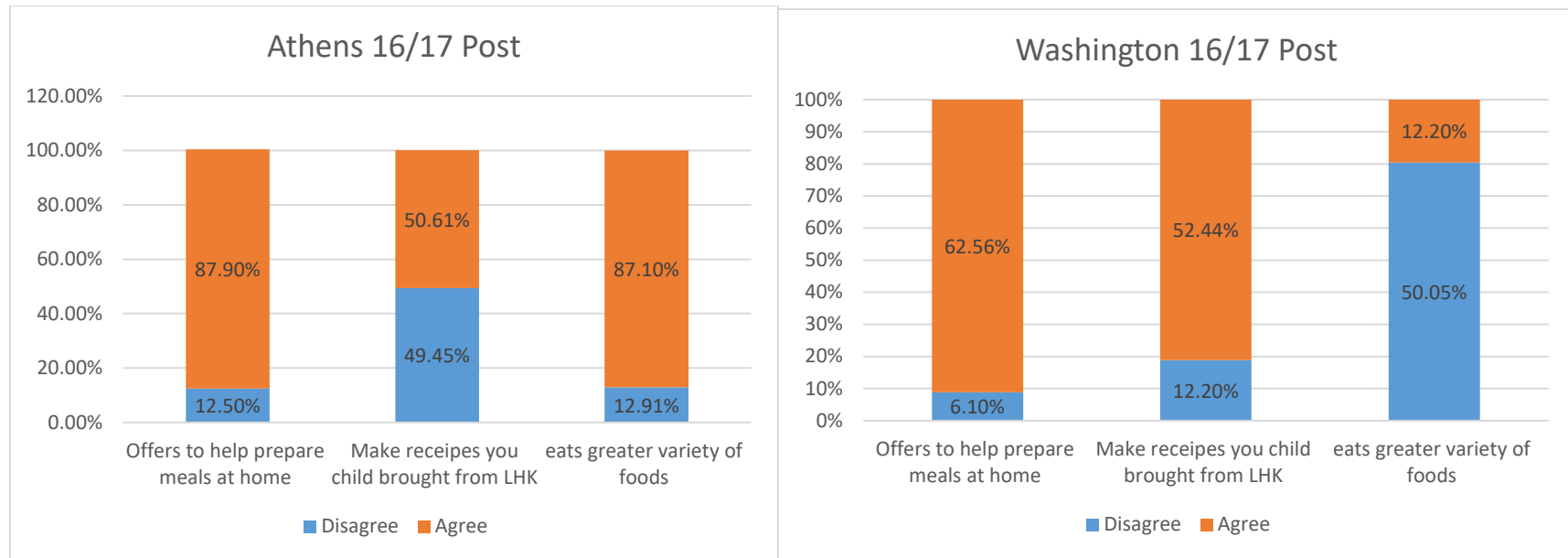
According to the graph below, based on self-reporting data, parents demonstrate a more willingness to perform healthy behavior before the program than after the program. Washing hands has the highest performance rate with a 92.59% acceptance rate followed by performing 60 min of physical activity which has approval rate of 92.41%. However, there is an 11.11% approval rate for eating sugary, fast processed food after the program, which can be interpreted as a positive impact of the program.

The low performance of healthy behavior could be as a result of under reporting in the post test or over-reporting in the pre-test data.

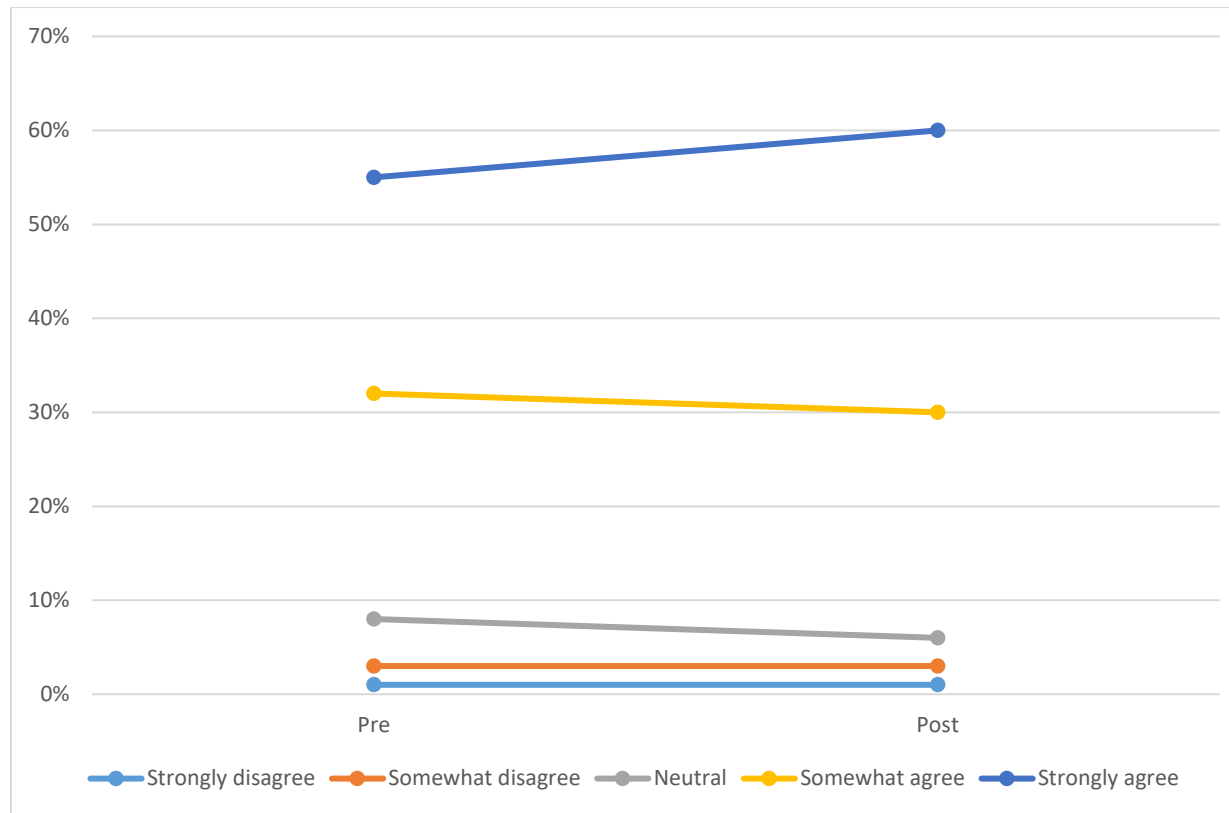


- In Athens County there is a significant improvement in the culture of washing hands before eating, eating fruits, eat vegetables and variety of food after the LHK program. Getting 60 minutes of physical activity has the highest approval rate after the program with a rate of 88.12%, while eating fruits and washing hands, had approval rates of 83.81% and 83.74% respectively.

Healthy behavior after the program



- Students in Athens demonstrate higher likelihood of offering to help in preparing food with a percentage of 87.9% compared to 62.5% in Washington County
- Washington have a higher a percentage of parents willing to make recipes which the students bring home after LHK with a percentage of 52.44% compared to Athens who have a percentage of 50.61%
- According to the parents' response, 87.1% of students in Athens are willing to try variety of food. However, Washington records a lower willingness to try new food with a percentage of 12.2%.

2017-2018 – Post performance of behavior**60 min exercise**

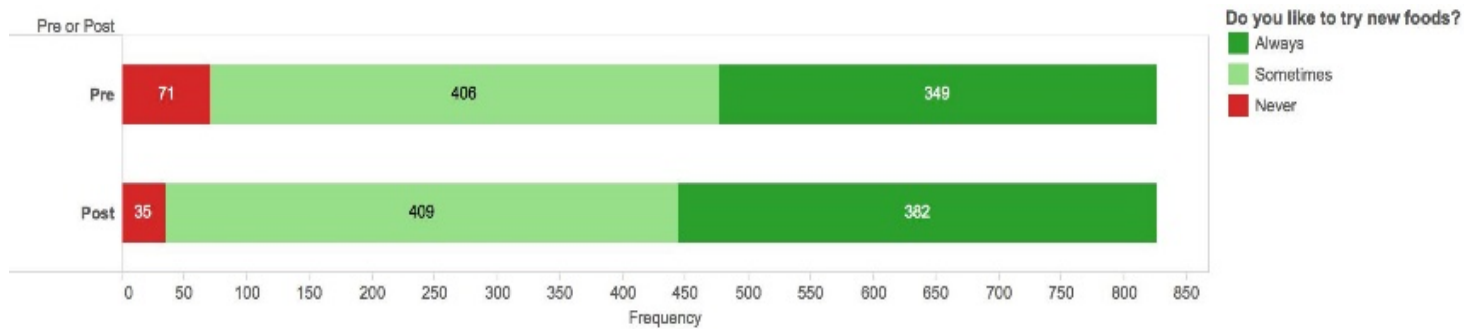
- According to the graph above there is an improvement in approval rates for exercising after the LKH program
- The strongly disagree have a near flat slope therefore no improvement but the agreement line shows an upward slope.

Try new foods 2017-2018 (Pre- post)

Student answers to question:

Do you like to try new foods?

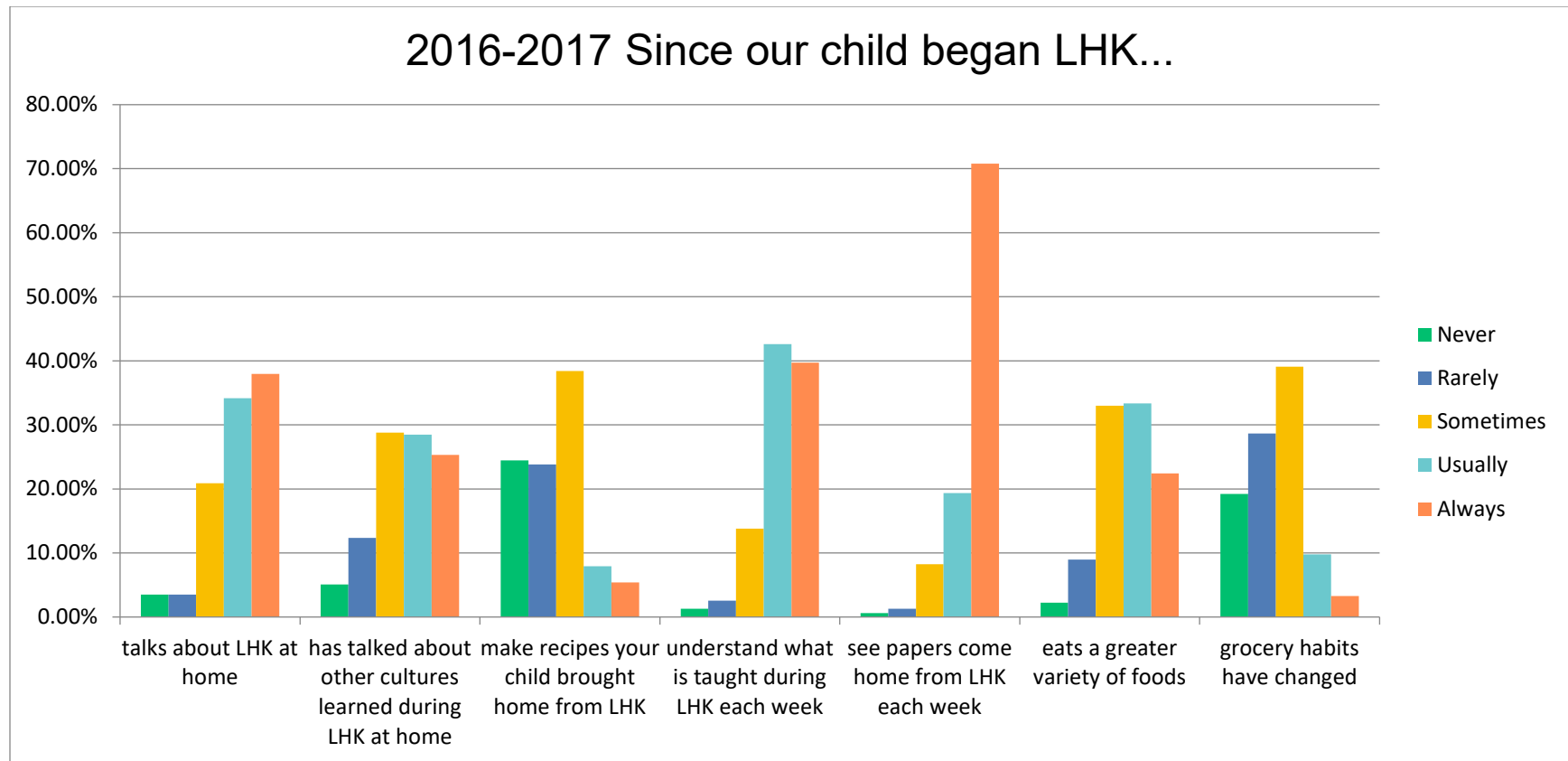
Never Sometimes Always



There is a reduction of students that never like to try new food from 71 to 35.

Furthermore, there is an increase of number of students who reported they always try new food from 349- 382.

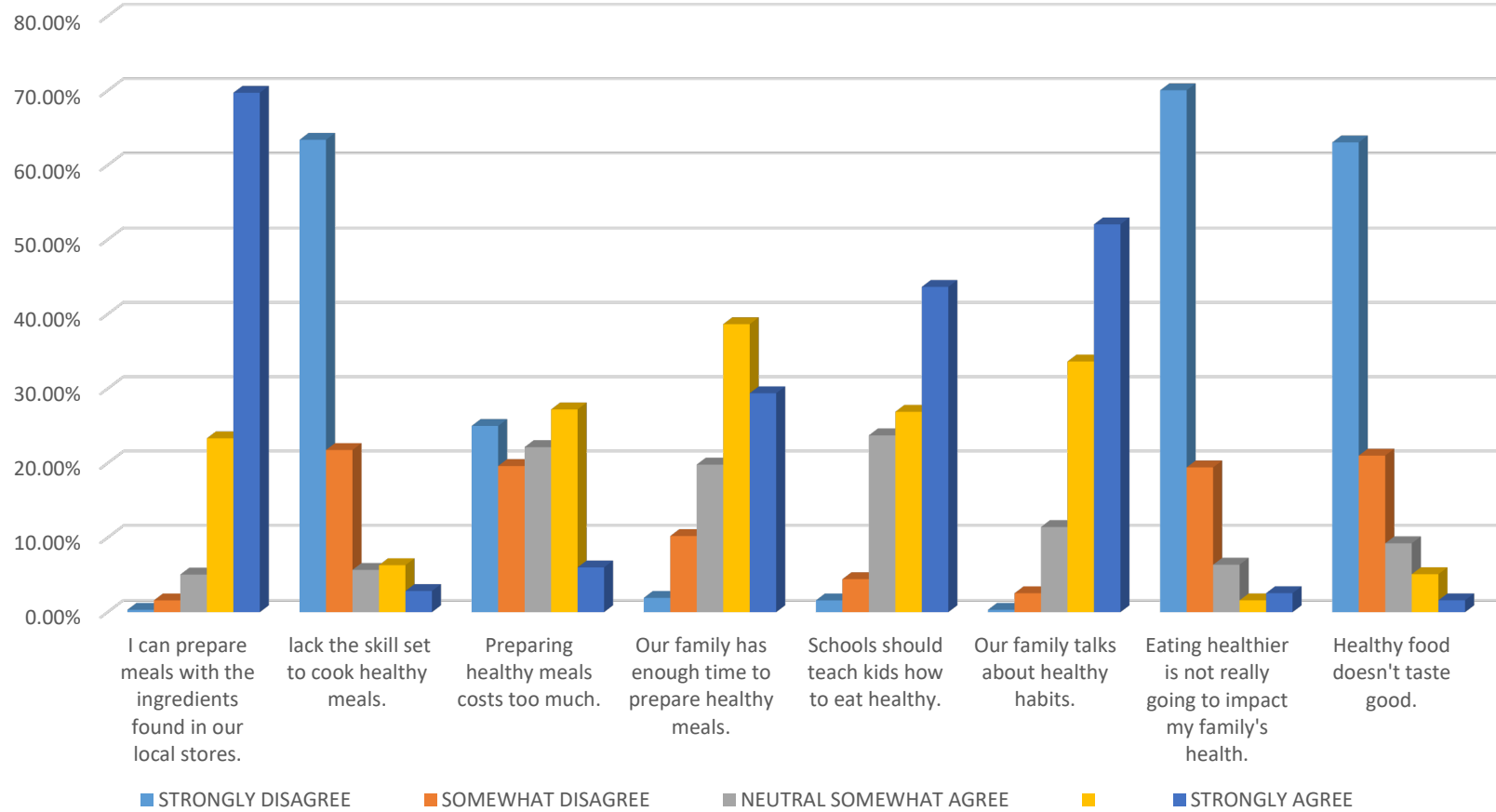
Therefore, the LHK program has a positive impact in the willingness to try new food among the students.



From the graph above based on parents' response:

- There is a high number of students bringing home receipts, understand what is taught during LHK each week and talks about LHK.
- However, there is a low impact of LHK on parents on type of recipes prepared in at home, and groceries purchase at home

2017-2018 Since our child began LHK...



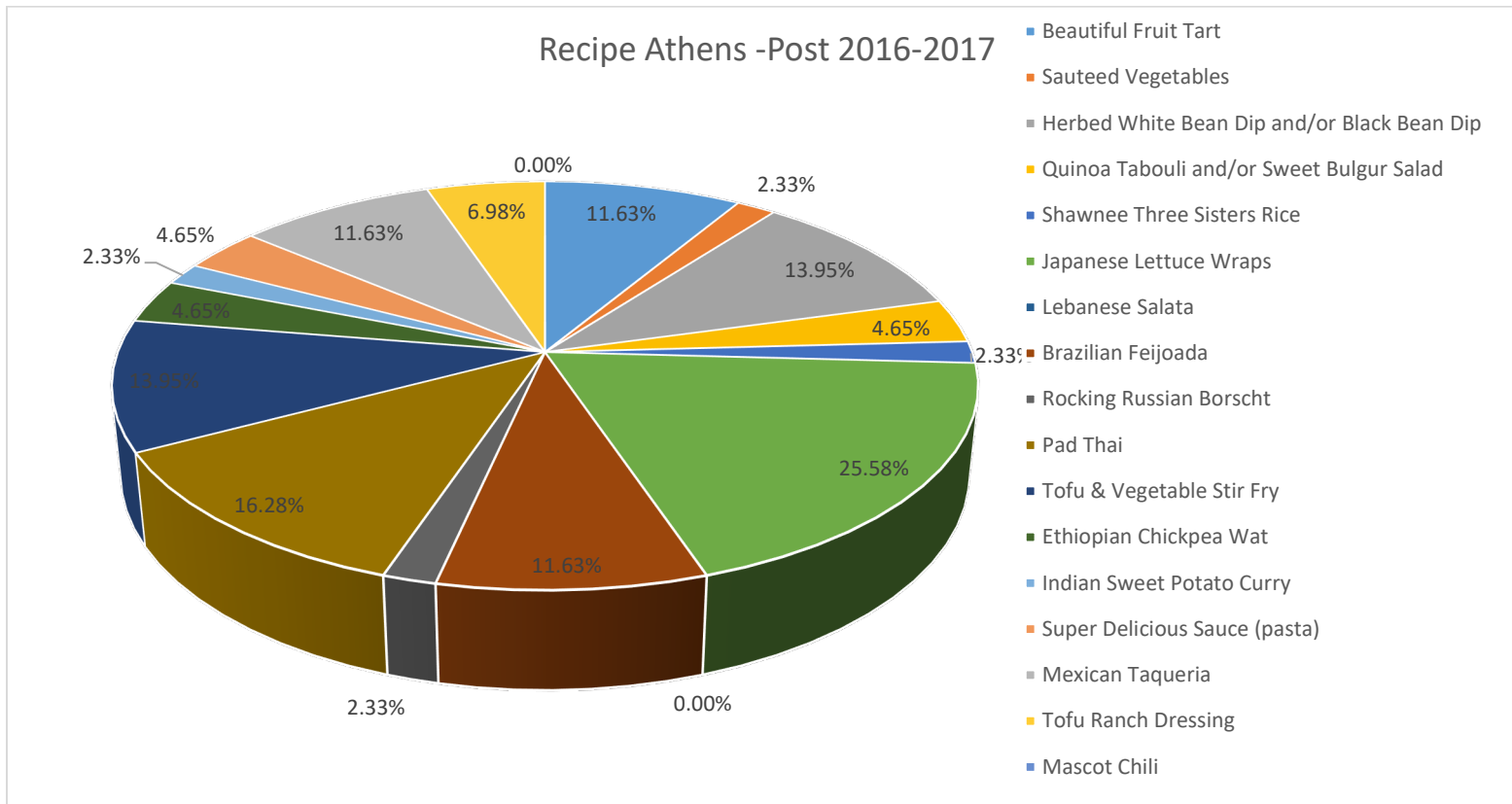
From the graph above, greater percentage of the parents believe that:

- They lack the skills to prepare healthy food
- There is no direct correlation between eating healthy and one's health status. In reference to the above data parents do not demonstrate **perceived benefits** of eating healthy to the general outcome of their health.
- They perceive healthy food not to taste well, indicating they have low preference for healthy foods.
- They can access the ingredients in the LHK recipes from local stores however, they have a low approval rate for time availability to prepare healthy food.

Parents show high approval rate for schools to teach on healthy foods.

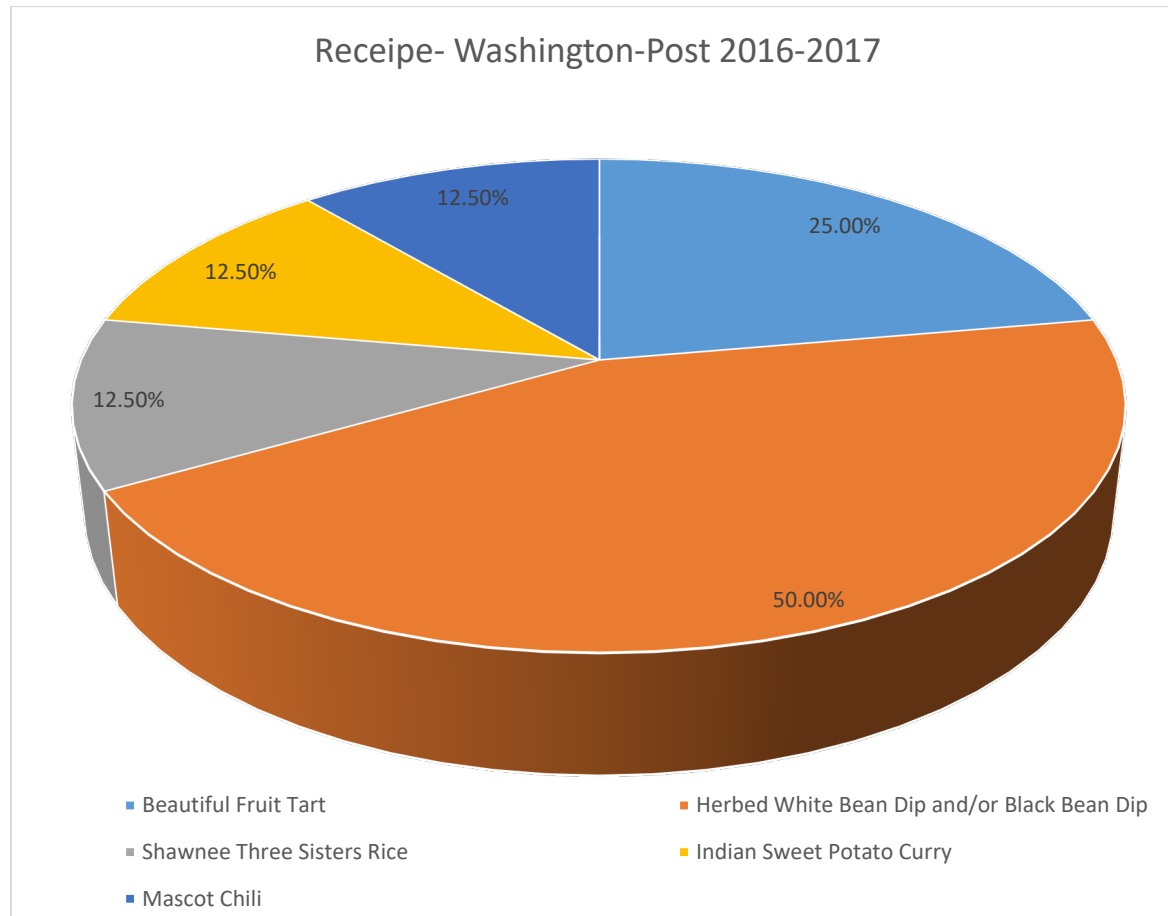
Post- 2016-2017 Recipe- Athens

The chart below shows the percentage of the recipes, parents made from what the students bring home from school. Japanese Lettuce wraps with 25.58% and Pad Thai was the second made food with 16.28%, with whole Herbed White/Black Bean Dip is the third most made with 13.9%.



Washington Post Recipes

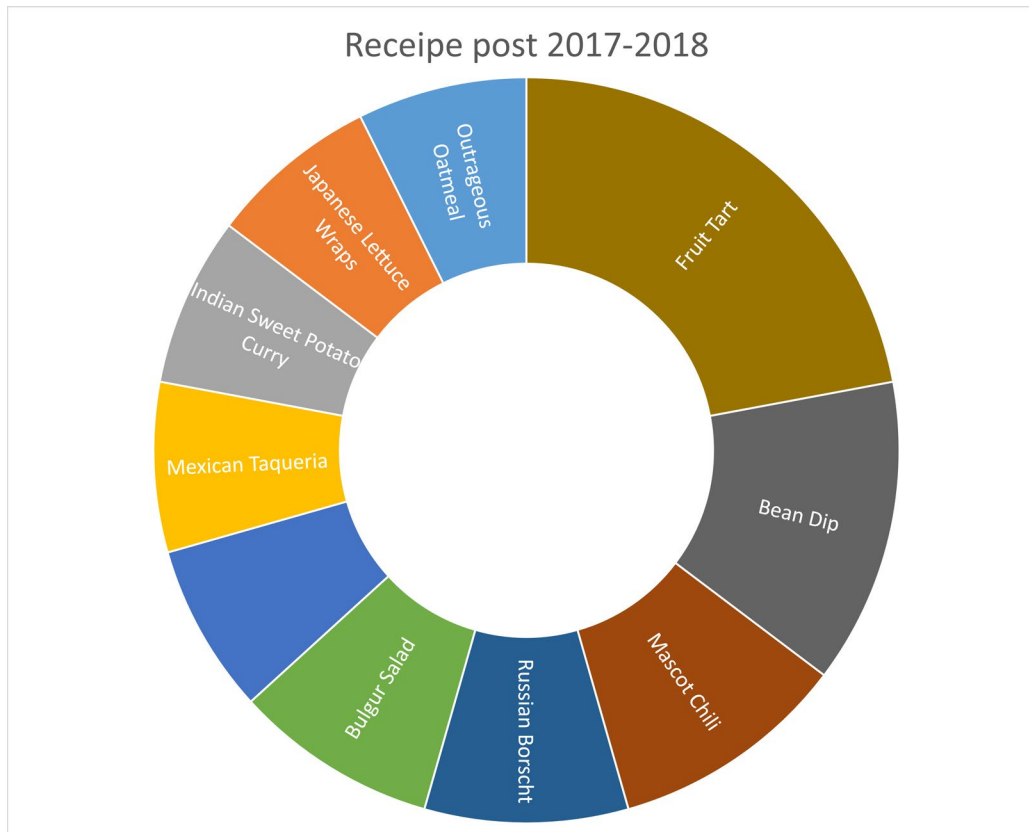
In Washington County the recipe, parents commonly make White/Black Bean Dip, Beautiful Fruit Tart, Shawnee Three Sisters Rice, Indian Sweet Potato Curry and Mascot Chili



The chart above demonstrate that parents in Washington County only prepare five recipes. The low attempt is attributed to the fact that Washington County only gets half of the curriculum, therefore do not get all the recipe

2017-2018 Recipes – Both Washington and Athens County.

Fruit tart and Bean dip were the most commonly made recipes in Washington and Athens County in year 2017.



Conclusion in recipe: The data and charts above identify Fruit Tart as the most made recipes in both counties and in both years. Year 2017 shows a higher attempt on the parents' part to make more of the recipes from the Live Healthy Kids compared to year 2016 in both Washington and Athens County.

Health Behavior 2017-2018

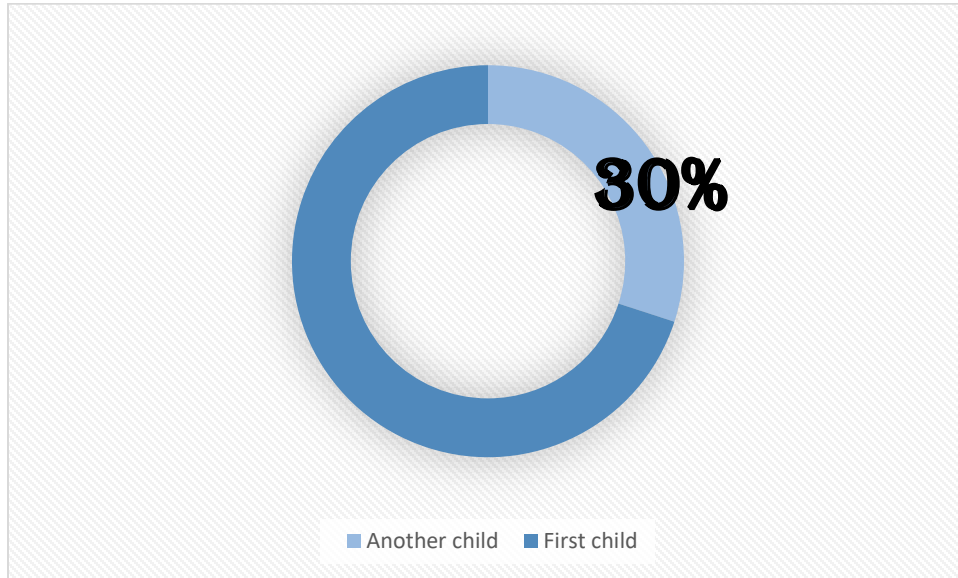
Compared scores of parents who have another child/children who previously participated in the program.

Significant difference in “Preparing healthy meals costs too much” with parents who have a child who participated less likely to agree ($M = 2.89$) than parents who have only one child participant ($M = 3.10$).

Preparing healthy meals costs too much	No	519	3.10	1.20	.05252
	Yes	195	2.89	1.28	.09133
Preparing healthy meals is difficult	No	519	2.23	1.11	.04874
	Yes	193	2.26	1.18	.08528

Parents with more than one child in the program demonstrated better attitude towards preparation of healthy food for instance ($M=3.80$) representing parents with only one kid, perceive preparing healthy meals costs too much.

2016-2017 – Parents response of whether they had other children participate in previously. 30% of the parents had another child participate in Live Healthy Kids Program previously, while 70% reported they this was their first child.



Recommendations

1. For future data evaluation, the measures of extent would have more statistical meaning if they are rated using a scale instead of percentage. For instance, an extent of agree to could be scored:

Strongly agree	5
Agree	4
Neutral	3
Disagree	2
Strongly disagree	1

If a student says disagree then the score is 2 and use the same to analyze.

2. Consider mixed method of data collection and analysis. It advisable in future for the program to use qualitative method mainly in the post assessment. The program can train the members on skills of interviewing students.

The interviewing can have a representative of several number of students from each school. Use of qualitative data analysis creates room for more learning other health outcomes that not measured quantitative data. In using qualitative data, there is a likelihood of identifying other health outcomes as a result of the program not anticipated during the evaluation plan.

Furthermore, qualitative data creates a room for feedback which is necessary in planning for the consequent years, on areas that need improvement or doing well therefore, require reinforcement.

3. To improve the quality of the evaluation, the program should consider incorporating in evaluation and designing a logic model. Studies shows that intervention based on theory constructs have more sustainable and lasting impact compared to non-theory based intervention. Furthermore, theories offer constructs to reinforce while designing a logic model or evaluation plan.

Conclusion

The data described above indicate that there is a significant improvement in healthy food intake and attitude after the Live Healthy Kids program. Furthermore, students demonstrate an improvement in identifying fruits and vegetables in both years. The initiative creates a culture of consuming healthy foods by increasing the students and parents' consciousness of existence of healthy food. There is also an exposure of recipes from other cultures which is an initiative that increases variety of food consumed by the students.

Summary

An Ohio University Masters of Public Health candidate created a combined process, and outcome evaluation for Comcorps using descriptive and inferential statistics to interpret and analyze data for Live Healthy Kids using available data for the current 3 year funding cycle. Through the initiative of the Live Healthy Kids program, the students demonstrated significant improvement in knowledge of healthy foods, with an average increase of 30%. There is a substantial change among the students in their preference for healthy food, which has consequently led to an improvement in their willingness to try new food. Furthermore, the Live Healthy Kid has impacted the culture of food at homes, and this effect is signified by the parents' approval rate for the continuation of the program.

Process Evaluation in
reference to the Logic
model

