

Healthy Hearts Family Intervention:

To disrupt patterns of cardiovascular disease in low-income families in northern Colorado

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Introduction

For 23 years, Healthy Hearts in Northern Colorado has provided a successful heart health education and screening program to 4th/5th grade students. In 2012-13, 835 students were screened with 23% having borderline or high total cholesterol (≥ 170 mg/dL) and 22.5% being overweight or obese.

Methods

Families of children identified to have at least one risk factor for heart disease were invited to participate in the 6-week family intervention to determine if an intergenerational education program could interrupt patterns of CVD through:

- Increased comprehension of risk factors
- Improved heart healthy lifestyle behaviors
- Physical activity
- Improvements in BMI, blood pressure and cholesterol levels

Demographics

75 families (272 participants) enrolled in the program with 72 graduating N= 95 kids (4th-6th grade), N= 32 teens (7th-12th grade), N= 126 adults

- 80% white
- 37% low income
- 40% of the children (9-18 years) overweight or obese
- 84% of adults (mean age ~41) overweight or obese
- 85% of the families have 3 or more risk factors

6-week class (1 ½ hours long)

Classes were carefully designed to be fun, interactive, and engaging for all ages.

Each week families prepared a healthy snack and set a personal goal. Each participant received a Fitbit® to track physical activity.

Week 1: Risk factors for heart disease and stroke, cholesterol, blood pressure, blood sugar, BMI

Week 2: Eating healthy, grocery receipt analysis

Week 3: Importance of physical activity

Week 4: Grocery store tour, shop on a budget, reading food labels

Week 5: Stress reduction, tobacco avoidance

Week 6: Recap, goal setting, Healthy Hearts Bingo, graduation



Data collection and contact points

- Pre, post class, 3 month, 6 month health habits and attitudes were collected; Statistical analysis included calculating means, frequencies, percentages and difference scores using SPSS, v. 22
- Pre and 6 months full lipid panel, glucose, and blood pressure were collected; BMI collected at pre, 3 month, and 6 month
- Received a \$50 grocery gift card at the 4 week, 6 week, 3 month, and 6 month
- Participants wrote a reflection letter to themselves, grantor, PCP or person of their choice which was mailed back to them at the 3 month mark
- Bimonthly emails were sent with heart health tips and ideas
- Automated emails reminded participants 2 days before class
- Participants had access to a free dietician consult

Child Care



On-site child care was provided at no cost for siblings 3rd grade and younger through a grant from Wish (Women Investing in Strategies for Health).

Free child care eliminated a potential financial barrier and allowed families to stay intact for the program and increase attendance.



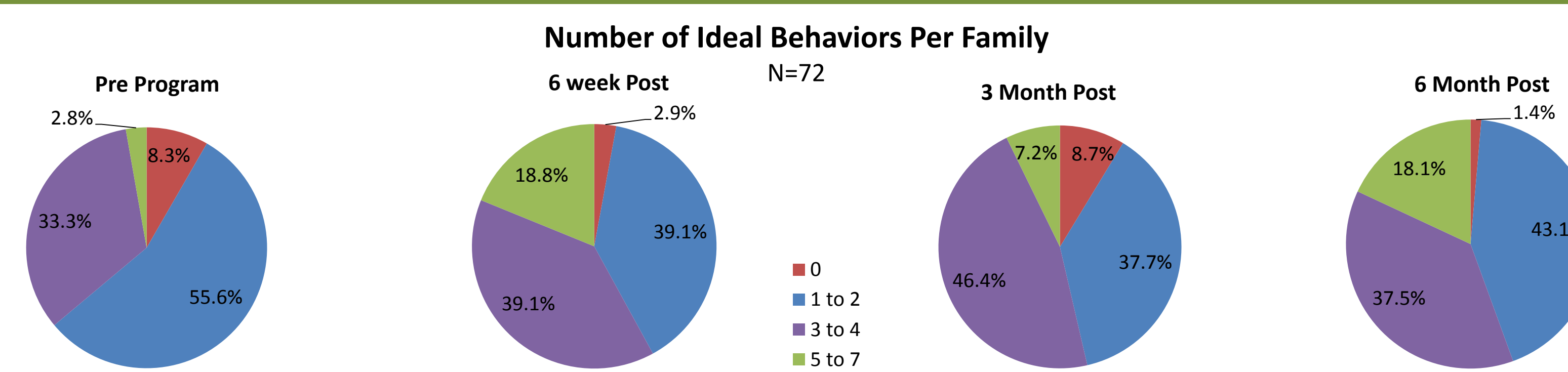
DEAR ASTRA ZENCA,
 I WANT TO PERSONALLY THANK YOU FOR SUPPORTING THE HEALTHY HEARTS PROGRAM. IT HAS OPENED MY EYES, AND MADE ALL OF MY FAMILY MORE AWARE OF WHAT WE NEED TO DO TO LIVE HEALTHIER, HAPPIER LIVES. IT WAS THE BEST USE OF MY TIME THE LAST 6 WEEKS. HAVING THE ENTIRE FAMILY PARTICIPATE IS A BIG REASON FOR ITS SUCCESS IN MY FAMILY. THE INSTRUCTIONS WERE TERRIFIC. VERY KNOWLEDGEABLE AND ENTERTAINING. THANK YOU FOR YOUR GENEROSITY AND FOR SUPPORTING A PROGRAM THAT HAS CHANGED OUR LIVES. JUST WISH I HAD BEEN EXPOSED TO THIS MANY YEARS AGO... BUT BETTER NOW THAN NEVER!
 Best Regards,
 Bob



Highlights and Conclusion

- Heart health knowledge increased 91%.
- Average attendance 92%.
- Participants agreed that they benefitted from the program (97%) and would recommend the class to a friend (90%).
- 43% improved their BMI with a total weight loss of 581 lbs.
- Having the same class offering on multiple days allowed for flexibility and accommodation of busy family schedules.
- Families under-utilized the dietician consult due to difficulty in scheduling and not feeling one consult could be of benefit.
- The data showed a backslide in health habits at 3 months, demonstrating that the 3 month check-in proved to be a useful tool in participants renewing their goals.
- Our results suggest educating a family together can not only reduce a child's risk for heart disease but also the families.
- Families continued to champion each other so that when one member reverted to old habits they were often back on track by the next check-in.

Results



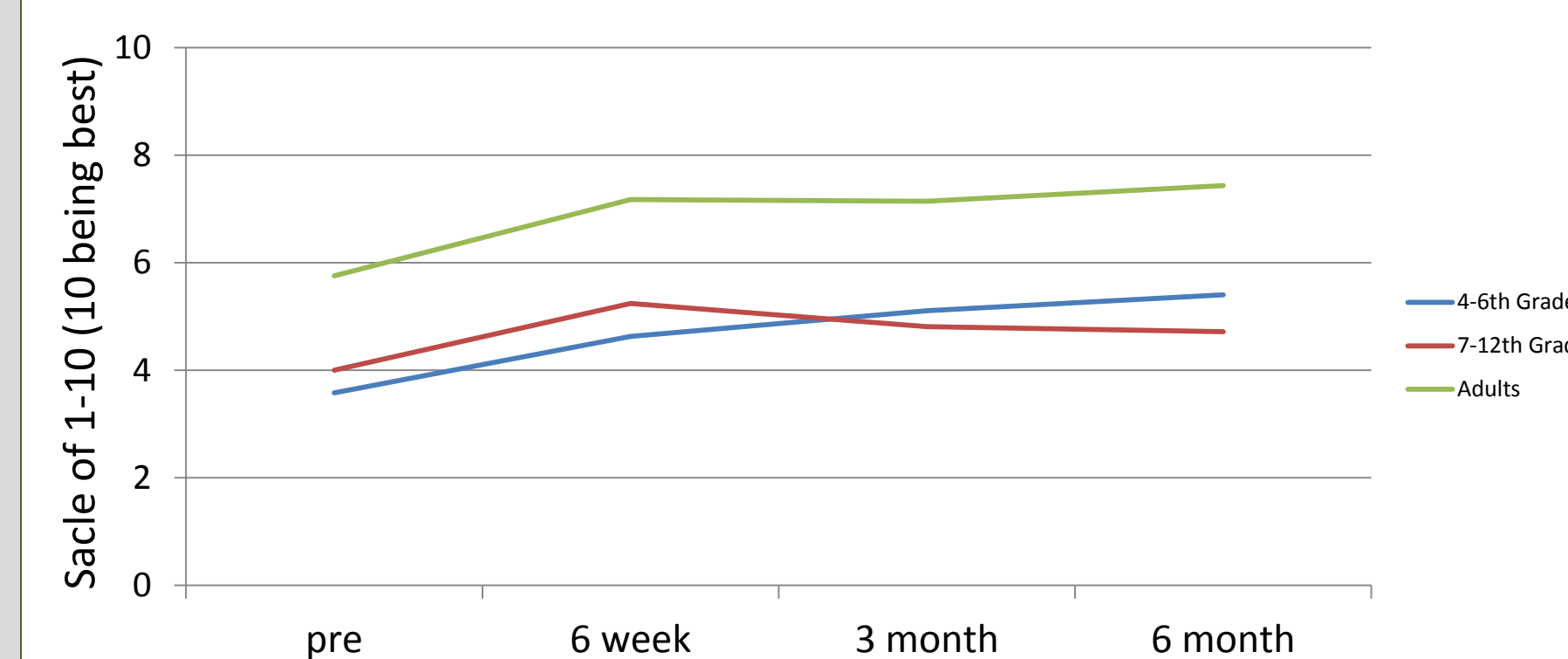
Ideal behaviors measured:

Physical activity daily (30 min for adults and 60 min for kids), 5 servings of fruits and vegetables combined daily, fish 1 time per week, 3 servings of whole grains daily, 3 servings of dairy daily, 2 times or fewer eating outside of the home per week, 3 or fewer sugary drinks per week, eating breakfast daily, 2 or fewer times eating high sugar foods per week

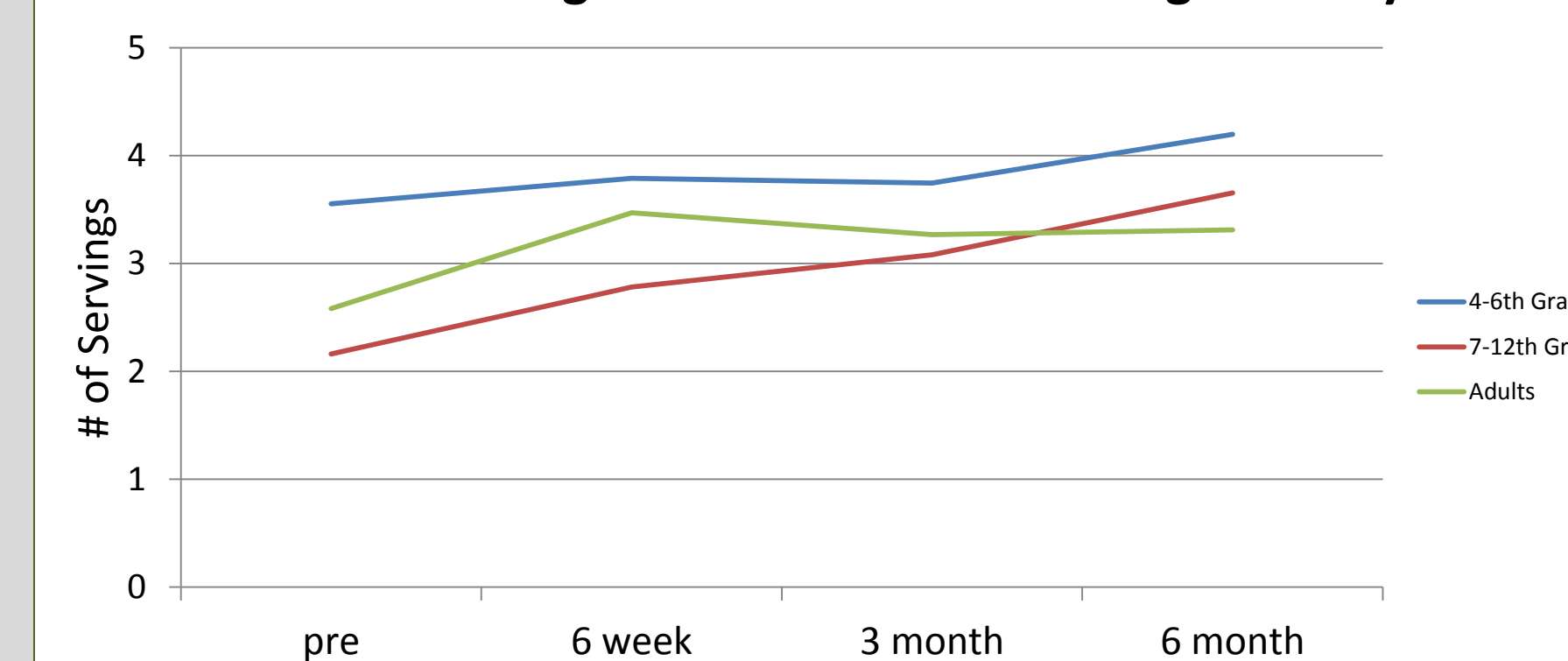


Measurement	Family N= 72 Individuals N= 253	% who improved	Mean individual change
BMI	31 families 110 individuals	43% 43%	-1.1 kg/cm ² (7.46 pounds)
Physical activity	50 families 105 individuals	69% 42%	+2.3 days per week
Total Cholesterol	30 families 123 individuals	42% 49%	-19.4 mg/dL
HDL	46 families 146 individuals	64% 58%	+8.3 mg/dL increase
Blood glucose	41 families 135 individuals	57% 53%	-18.3 mg/dL
Blood Pressure (systolic)	48 families 139 individuals	67% 55%	-12.9 mmHg
Blood Pressure (diastolic)	41 families 124 individuals	57% 49%	-9.4 mmHg
Fruits and vegetables	50 families 141 individuals	69% 56%	+1.9 servings per day
Fast food intake	48 families 124 individuals	67% 49%	-2.0 days per week

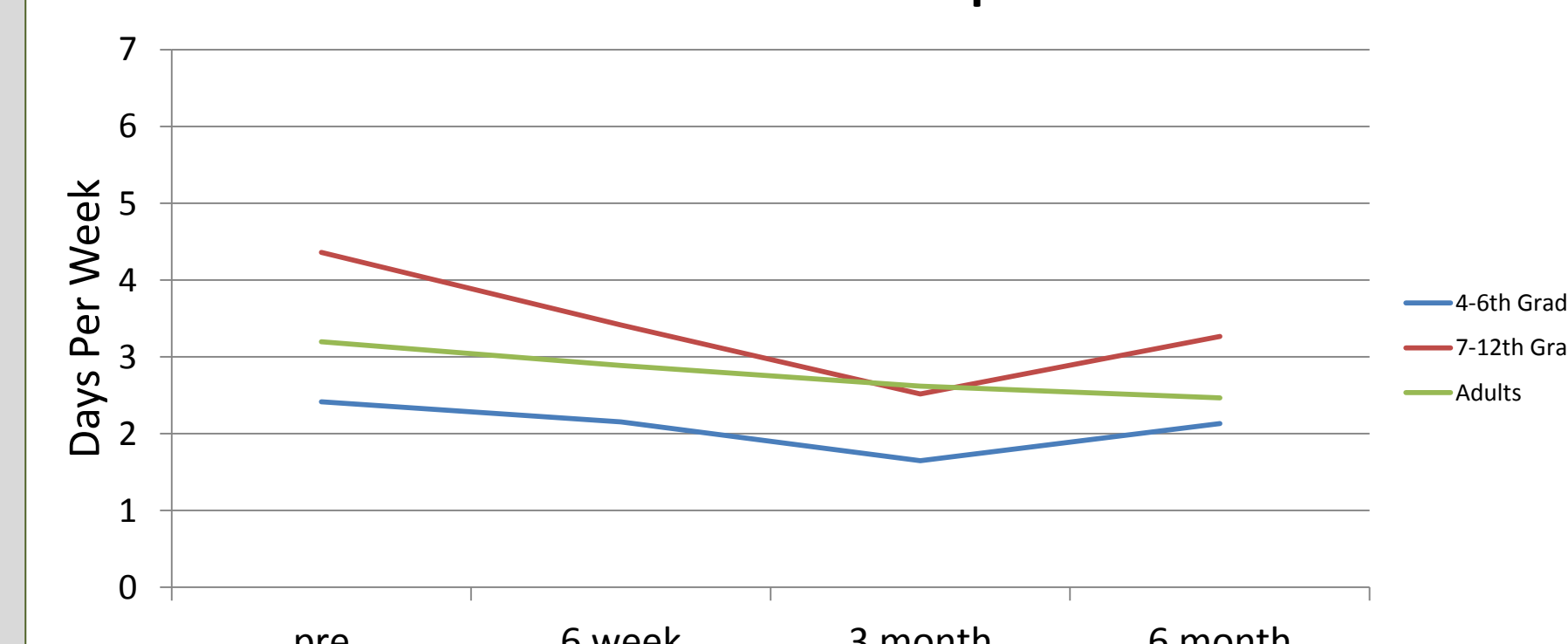
How Often Read Food Labels



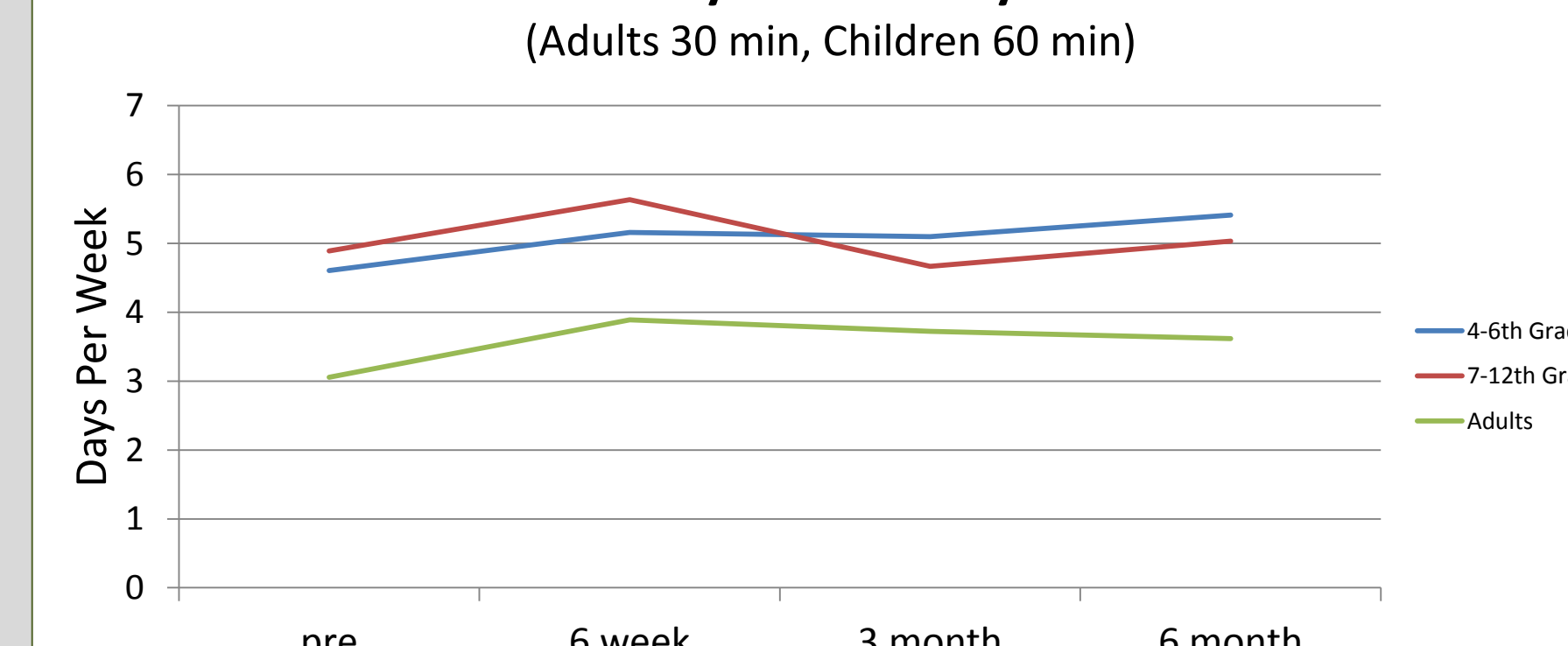
Fruits and Vegetables Combined Servings Per Day



Fast Food Consumption



Physical Activity



Family Comments



"It is programs like these that help us parents educate ourselves and our children about healthy living. This class has empowered my daughter and myself to make healthy decisions. I have noticed that my daughter now begins to take ownership for her meals and physical activity. Additionally, she is constantly teaching the rest of our family (aunts/uncles and grandparents) about what she has learned. To see her excited and motivated motivates me to continue our journey to a healthier more active lifestyle."

"This was an amazing learning experience, was so helpful to start a new path and make positive changes for my health. I lost 10 pounds in 4 weeks and completely changed my way of life for the better. It was an eye-opener to learn what I was putting into my body. The classes were fun and engaging and were an excellent starting point to turn what I learned into healthy habits for me and my family. Thank you!"



Acknowledgments

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