



ARIZONA DEPARTMENT OF HEALTH SERVICES
(ADHS)/
ARIZONA NUTRITION NETWORK (AZNN)

BEHAVIOR MODEL
QUANTITATIVE RESEARCH REPORT

REPORT PREPARED FOR:
ARIZONA DEPARTMENT OF HEALTH SERVICES / AZNN

SEPTEMBER 2008

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I. BACKGROUND & METHODOLOGY

The Arizona Nutrition Network (AzNN), a public and private partnership led by the Arizona Department of Health Services' Bureau of USDA Nutrition Programs, was developed to educate all Arizonans, especially lower income residents, on the importance of nutrition and physical activity. The organization's mission is to shape food consumption in a positive way, promote healthy behaviors, and reduce disease among specific target groups – in this case, food stamp applicants and participants living in Arizona. AzNN accomplishes this by promoting basic, consistent messages that help the target audience choose diets rich in nutrients, which include consumption of fruits and vegetables, drinking 1% low fat and fat free milk, and eating healthy meals and portion sizes.

In an effort to evaluate their target audience using two health behavior models (the Transtheoretical Model and the Health Belief Model) and further tailor their intervention messages, ADHS/AzNN commissioned WestGroup to conduct both qualitative and quantitative research. This research will provide a framework for understanding individuals' psychological readiness or intention to take action related to the three health messages.

The subject of this report is the quantitative portion of the research. The primary objective of the quantitative research was to “stage” women in the target audience. “Staging” involves placing (or segmenting) individuals into one of the *Stages of Change* categories based on their perceptions about their dietary behaviors, and/or their actual behaviors.

In addition to staging individuals, participants were asked a series of questions related to the Health Belief model, including identifying the perceived risks of not eating healthy as well as the perceived risk of diseases that may result from not eating healthy.

Intercept interviews with 800 women were conducted in four Arizona cities: Phoenix, Tucson, Flagstaff, and Yuma. The intercepts were conducted at DES offices in the four cities. Participants were given the option of completing the interview in English or Spanish. Following the intercept interview, mothers were asked to complete the ADHS demographic questionnaire.

All interviews were completed between June 23 and July 24, 2008.

The table on the following page lists the specific locations of the intercepts and the number of completed interviews at each location.

Location	Address	Sample Size	Interview Dates
DES Offices	5038 S. Price Road, Tempe	300	June 23 - 24
	1824 E. McKinley, Phoenix		July 22 - 24
DES Office	1200 N. Country Club, Tucson	301	July 7 - 11
DES Office	1220 S. 4 th Avenue, Yuma	99	June 26 - 28
DES Office	397 Malpais Lane, Flagstaff	100	July 14 - 17

Respondents were given a \$5 bill and a coupon holder as a “thank you” for their participation.

It is important to note that although this information is quantitative, it is not necessarily representative of all low-income women between 18 and 49 years old in Arizona. To be representative of that population, respondents would have to have been selected at random. That is, each person in the population would have had an equal chance of being included in the sample. These intercepts were conducted using a *convenience sample* (e.g., those who visited specific DES offices between June 23 and July 24, 2008). Though this sampling technique is appropriate to meet the study objectives (within the budget guidelines), it does introduce a sampling bias and should be considered when interpreting the findings.

Table 2: Respondent Profile

	Total n=800	Phoenix n=300	Tucson n=301	Yuma n=99	Flagstaff n=100
Age					
18 – 25	27%	34%	25%	15%	27%
26 – 35	41%	38%	42%	39%	49%
36 – 45	23%	21%	22%	34%	19%
46 – 49	<u>9%</u>	<u>7%</u>	<u>11%</u>	<u>12%</u>	<u>5%</u>
Total	100%	100%	100%	100%	100%
Education					
8 th Grade or less	10%	11%	9%	17%	4%
Some High School	22%	31%	12%	19%	24%
GED/HS Grad	49%	45%	54%	46%	48%
Some College+	<u>19%</u>	<u>13%</u>	<u>25%</u>	<u>8%</u>	<u>24%</u>
Total	100%	100%	100%	100%	100%
Ethnicity					
Hispanic	48%	64%	35%	67%	16%
Caucasian	27%	16%	43%	19%	25%
Native American	13%	8%	6%	8%	52%
Other	<u>12%</u>	<u>12%</u>	<u>16%</u>	<u>6%</u>	<u>7%</u>
Total	100%	100%	100%	100%	100%
Food Assistance					
Yes	84%	85%	83%	82%	86%
No	<u>16%</u>	<u>15%</u>	<u>17%</u>	<u>18%</u>	<u>14%</u>
Total	100%	100%	100%	100%	100%
Food Stamps*	94%	94%	96%	94%	94%
WIC*	35%	31%	35%	35%	32%
Other*	13%	9%	13%	15%	14%

* Among those receiving assistance

II. Key Findings & Conclusions

Current Eating Habits

- **One in four (25%) mothers describe their diet as “excellent” or “very good.”** Essentially the same percentage describes the quality of their diets on the other end of the spectrum, “fair” or “poor,” with nearly one-half saying their own diet is “good.”
- Mothers are most likely to indicate they include eggs, cereal, chicken, water, cheese and lettuce in their diets. **When comparing their choice for milk, they are least likely to drink fat free milk (13%), compared to 53% who drink 2% milk and 45% who drink whole milk.**
- Though eight in ten moms include fresh veggies and/or fresh fruit in their diets, **dried and frozen fruit are among the foods least likely to be consumed.**

Perceptions about Eating Healthy

- With regards to overall healthy eating, **almost all mothers agree eating a variety of fruits and veggies is important to overall health and that any form of fruit and veggie is good for you. Two-thirds agree that drinking 1% or fat free milk is important and just over half believe that low fat and fat free milk contain the same vitamins and minerals as whole milk.**
- **The greatest perceived benefit of eating healthy among these mothers is that it makes them feel good about themselves when they give their families a healthy meal.** Women perceive many benefits to healthy eating with over nine in ten saying they strongly agree/agree with 12 of the 24 benefits statements. However feeling good about themselves and being a better role model for their children are the statements with the greatest agreement.
- When rating the perceived benefits of eating healthy, **agreement is stronger with statements about weight and overall health than with statements about specific diseases.**
 - *Though still over a majority of women agree with them, those statements relating to the benefits of drinking 1% or fat free milk had the lowest agreement levels.*
- **The expense of fruits and vegetables and the ease of fast food are the biggest perceived barriers to healthy eating.** Over half of mothers strongly agreed/agreed with these two statements. In addition, one in four say they *run out of ideas and recipes* for healthy meals or *do not always have the willpower* to eat healthy.

- **Gaining weight and lower energy levels are perceived to be the biggest risks of not eating healthy**, with nine in ten agreeing with these two statements. Two-thirds agree they are more likely to get sick if they don't eat healthy food and/or have health issues because someone in their family has the condition or disease.

- **Moms are most confident that they can cook and serve healthy meals to their family and least likely to believe they can buy low fat milk for them.** Over eight in ten women agreed with most of the self-efficacy statements. (*Note: The Transtheoretical Model describes self-efficacy as “the confidence that people have that they can carry out the behavior across different challenging situations and not relapse to their previous less healthy behavior.”*) The following statements had the highest level of agreement:
 - *I feel confident I can cook healthy meals for my family. (95% strongly agree/agree)*
 - *I feel confident I can serve healthy meals to my family. (95% strongly agree/agree)*

In addition, more than three in four mothers say they are in charge of what foods to buy and how to prepare the food.

The statement with the least agreement was *I feel that I can buy low fat milk for my family.* (67% strongly agree/agree)

Stages of Change

Research participants were read five statements regarding their perceptions of their dietary behaviors related to fruits, vegetables, milk and serving healthy meals. For the purpose of this report, the statement selected for each of the four dietary categories determined their “Stage of Change” as explained in the Transtheoretical Model.

Pre-contemplation – *I am not thinking about . . .*

Contemplation – *I am thinking about . . . planning to start within 6 months.*

Preparation – *I am definitely planning . . . in the next month.*

Action – *I am trying to . . . now.*

Maintenance – *I am ready . . .*

Stage of Change

	Eating Fruit N=780	Eating Vegetables N=779	Changing to 1% Low fat or Fat free milk N=778	Serving Healthy Meals N=775
Pre-contemplation	2%	2%	33%	3%
Contemplation	8%	7%	10%	5%
Preparation	9%	8%	11%	9%
Action	51%	47%	11%	39%
Maintenance	30%	36%	35%	44%

- In general, those in the Maintenance segment are more likely than those in other segments to understand the benefits of healthy eating as well as the risks associated with not eating healthy. In addition, they seem to be able to look past the barriers. Conversely, women in the Pre-contemplation/Contemplation/Preparation stage are less likely to understand the benefits, are more hindered by the barriers, and do not perceive the risks as seriously as those in the Action and Maintenance segments. In addition, they are significantly more likely to feel they need to cook different things for different family members (a self-efficacy statement).
- There is a great deal of overlap in the fruit and vegetable stages of change segments. That is, if a mom is in the Action Stage with regard to eating fruit, there is a high probability she is in the Action Stage with regard to eating vegetables. The overlap is not quite as great when compared to serving healthy meals, and is even less so with drinking 1% low fat or fat-free milk. For example, 79% of Fruit Action Stage moms are in the Veggie Action Stage, 58% are in the Serving Healthy Meals Action Stage, and only 14% are in the Milk Action Stage.
- Statements related to *perceived barriers to eating healthy* are more strongly correlated with the fruit and veggies stages of change as well as the serving healthy meals stages of change. Specific statements related to the *benefits* of drinking 1% low fat or fat-free milk and the confidence (*self-efficacy*) that a mom can buy low fat milk for her family are most strongly correlated with the milk stages of change.
 - *Several specific barrier statements are strongly correlated with three of the four behaviors (fruit and veggie consumption and serving healthy meals):*
 - *My family is not in the habit of eating healthy food.*
 - *I am too tired at the end of the day to prepare a healthy meal.*
 - *Sometimes I do not have the willpower to eat healthy.*
 - *I don't have time to prepare and eat healthy food.*

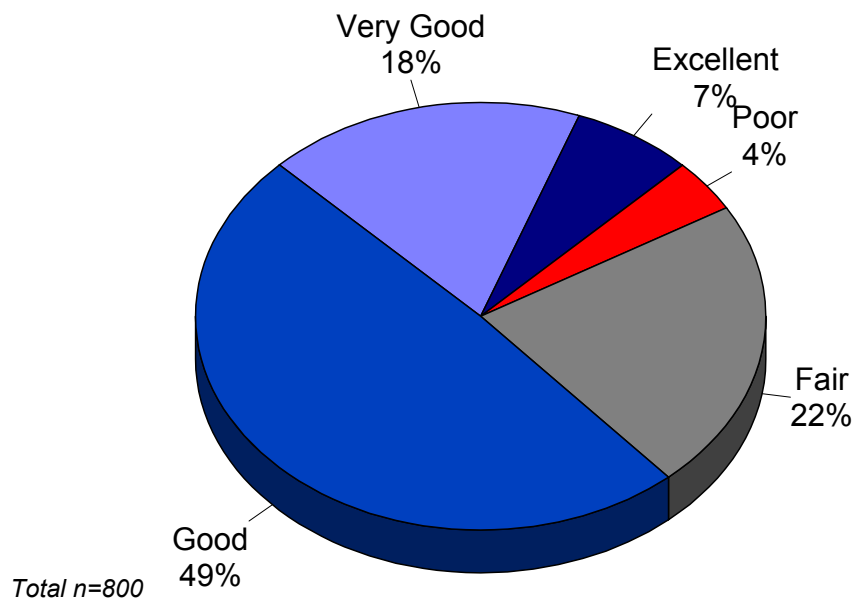
III. CURRENT EATING HABITS

A. Description of Diet

One in four mothers describe their diet as “excellent” (7%) or “very good” (18%). Essentially the same percentage (26%) rates the quality of their diets on the other end of the spectrum (4% poor + 22% fair). Nearly one-half (49%) feel their own diet is “good.”

Description of Diet

How would you describe your diet?



B. Foods Included in Diet

Mothers are most likely to indicate they include eggs, cereal, chicken, water, cheese and lettuce in their diets (91% to 88%).

They are least likely to drink fat free milk - 13%, compared to 53% who drink 2% milk, 45% who drink whole milk, and 30% who drink 1% low fat milk. Dried (16%) and frozen fruit (20%) are also among the foods least likely to be consumed.

Table 2: Foods Included in Diet

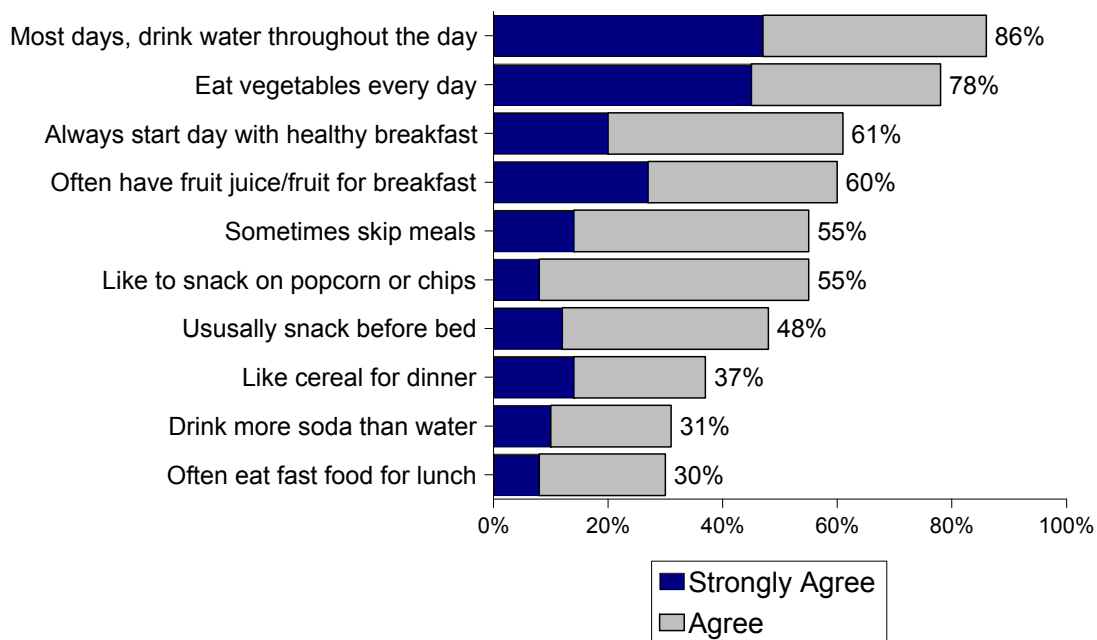
Foods	Total n=800	Foods	Total n=800
Eggs	91%	Frozen vegetables	51%
Cereal	91%	Pizza	47%
Chicken	89%	Whole milk	45%
Water	88%	Chips	44%
Cheese	88%	Canned vegetables	43%
Lettuce	88%	Fast-food burgers	43%
Fresh vegetables	85%	Olive oil	42%
Fruit juice	80%	White bread	37%
Rice	80%	Candy	36%
Fresh fruit	79%	Canned fruit	35%
Whole grain bread	76%	Sub sandwiches	30%
Yogurt	68%	1% low fat milk	30%
Pasta	64%	Stew	25%
Tortillas	59%	Frozen fruit	20%
Bacon	53%	Dried fruit	16%
2% milk	53%	Fat free milk	13%
Soda	53%		

C. Eating Habits

Mothers are most likely to agree that they drink water throughout the day on most days and eat vegetables every day (86% and 78% strongly agree + agree ratings). Three in five indicate they always start the day with a healthy breakfast (61%) and/or often have fruit juice or fruit for breakfast (60%). More than half of moms interviewed also agree that they sometimes skip meals and/or like to snack on popcorn or chips (55% strongly agree + agree for both). Mothers are least likely to report drinking more soda than water or eating fast food for lunch (31% and 30% respectively).

Current Eating Habits

Summary of Strongly Agree + Agree Ratings



Total sample n=800

Demographic Differences:

Hispanic women are significantly more likely than Caucasian women to:

- drink water throughout the day,
- start the day with a healthy breakfast,
- have fruit juice or a piece of fruit for breakfast,
- like to eat cereal for dinner.

Women under 35 years of age are significantly more likely than those over 35 to:

- skip meals because they don't have time to eat,
- eat fast food for lunch,
- and are less likely to eat veggies every day.

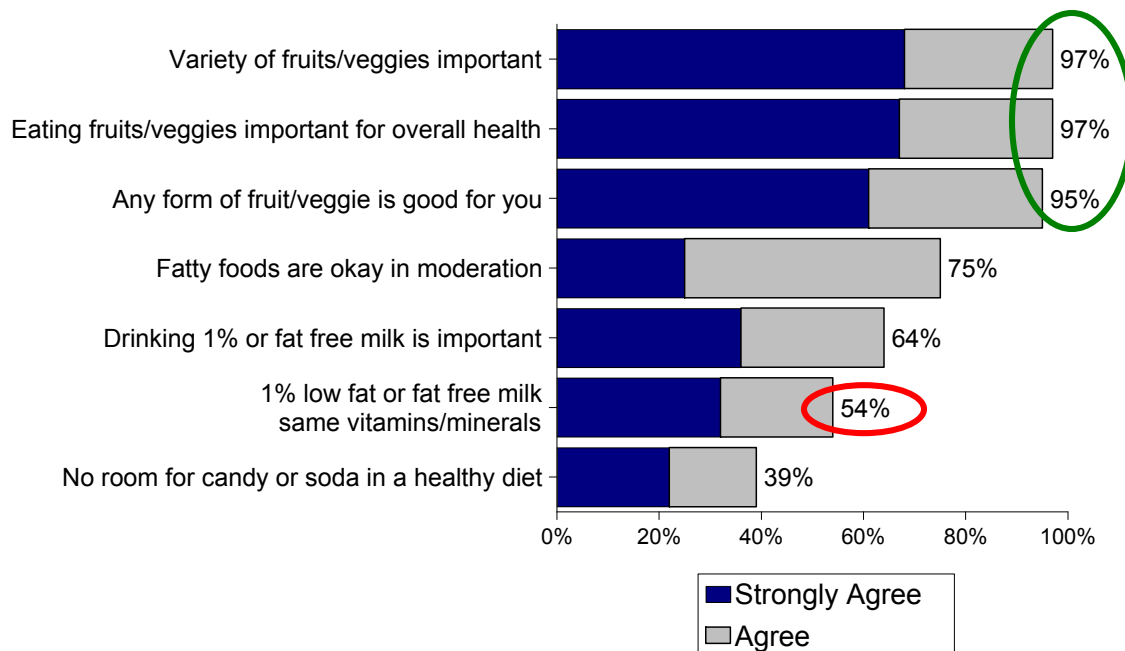
IV. PERCEPTIONS ABOUT EATING HEALTHY

A. Healthy Eating

Nearly all mothers interviewed strongly agree or agree with the three positive statements about fruits and vegetables (95% to 97%). Three-quarters (75%) also agree with the statement *fatty foods are okay in moderation*. However, while nearly two-thirds (64%) agree *drinking 1% or fat free milk is important*, significantly fewer believe that *low fat or fat free milk contain the same vitamins and minerals as whole milk* (54%). Only two in five (39%) agree that a healthy diet should not include any candy or soda.

Healthy Eating Opinions

Summary of Strongly Agree + Agree Ratings



Total sample n=800

Demographic Differences:

Hispanic women are significantly more likely than Caucasian women to strongly agree/agree:

- drinking 1% low fat or fat free milk is an important part of a healthy diet,
- 1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk.

Spanish-speaking women are more likely than English-speaking women to strongly agree/agree that *fatty foods are OK to eat in moderation*.

B. Perceived Benefits of Eating Healthy

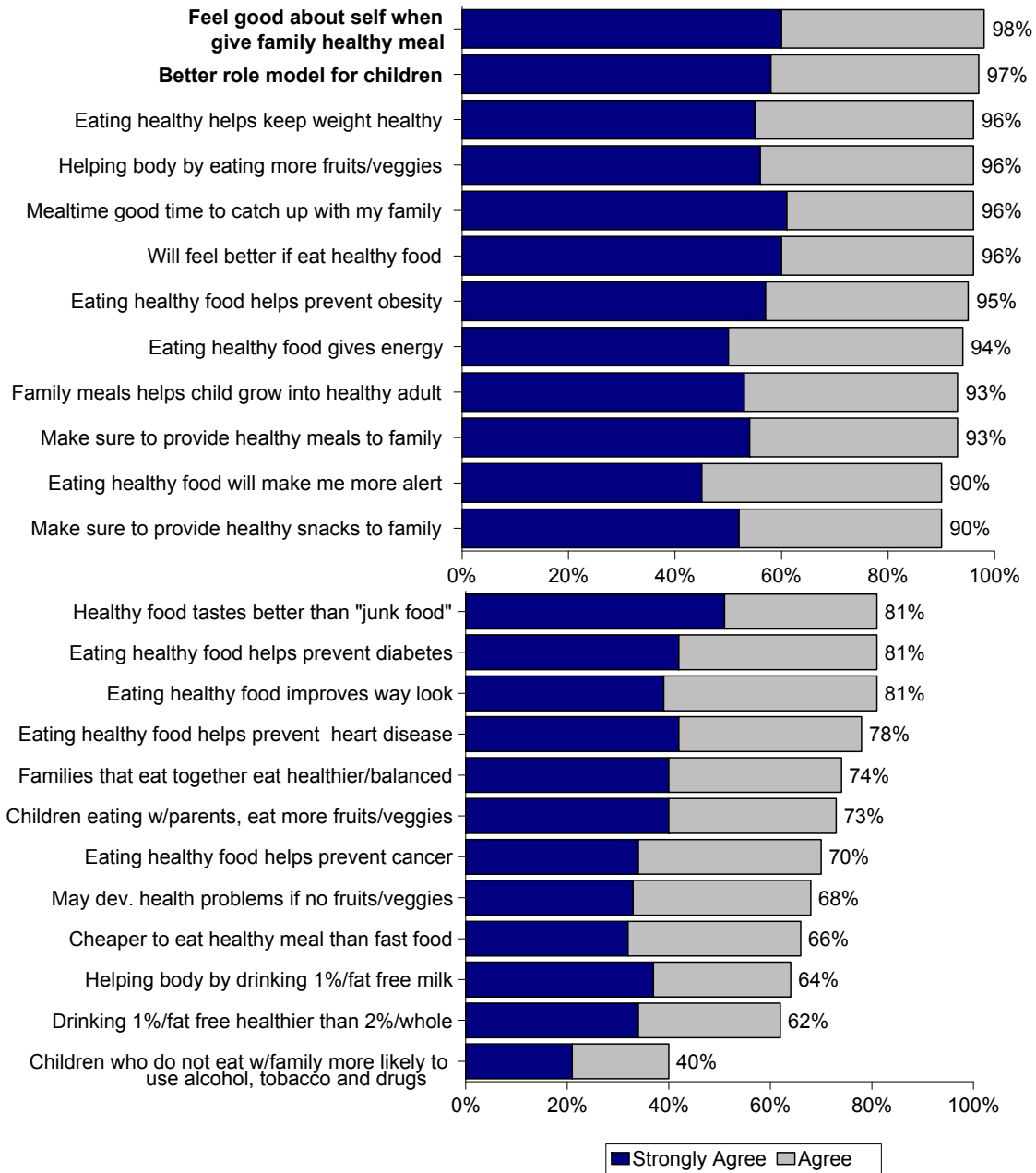
Nine in ten or more mothers agreed with half of the statements about the benefits of eating healthy (90% to 98% - agree + strongly agree ratings). Moms are most likely to agree they feel good about themselves when they prepare a healthy meal for their family and that by eating healthy they will be a better role model for their children (98% and 97%). Interestingly, women are slightly more likely to strongly agree/agree with the weight-related health statements (“keep a healthy weight,” “prevent obesity”) and the broad health-related statements (“feel better,” “helping body,” “gives me energy”) than with those statements that mention a specific disease or condition.

A somewhat smaller portion – approximately two-thirds – strongly agree/agree with the two milk statements, while just two in five (40%) agree with the statement *Children who do not eat dinner with their families are more likely to use alcohol, tobacco, or illegal drugs*.

(See Perceived Benefits chart on the following page.)

Pereceived Benefits of Eating Healthy

Summary of Strongly Agree + Agree Ratings



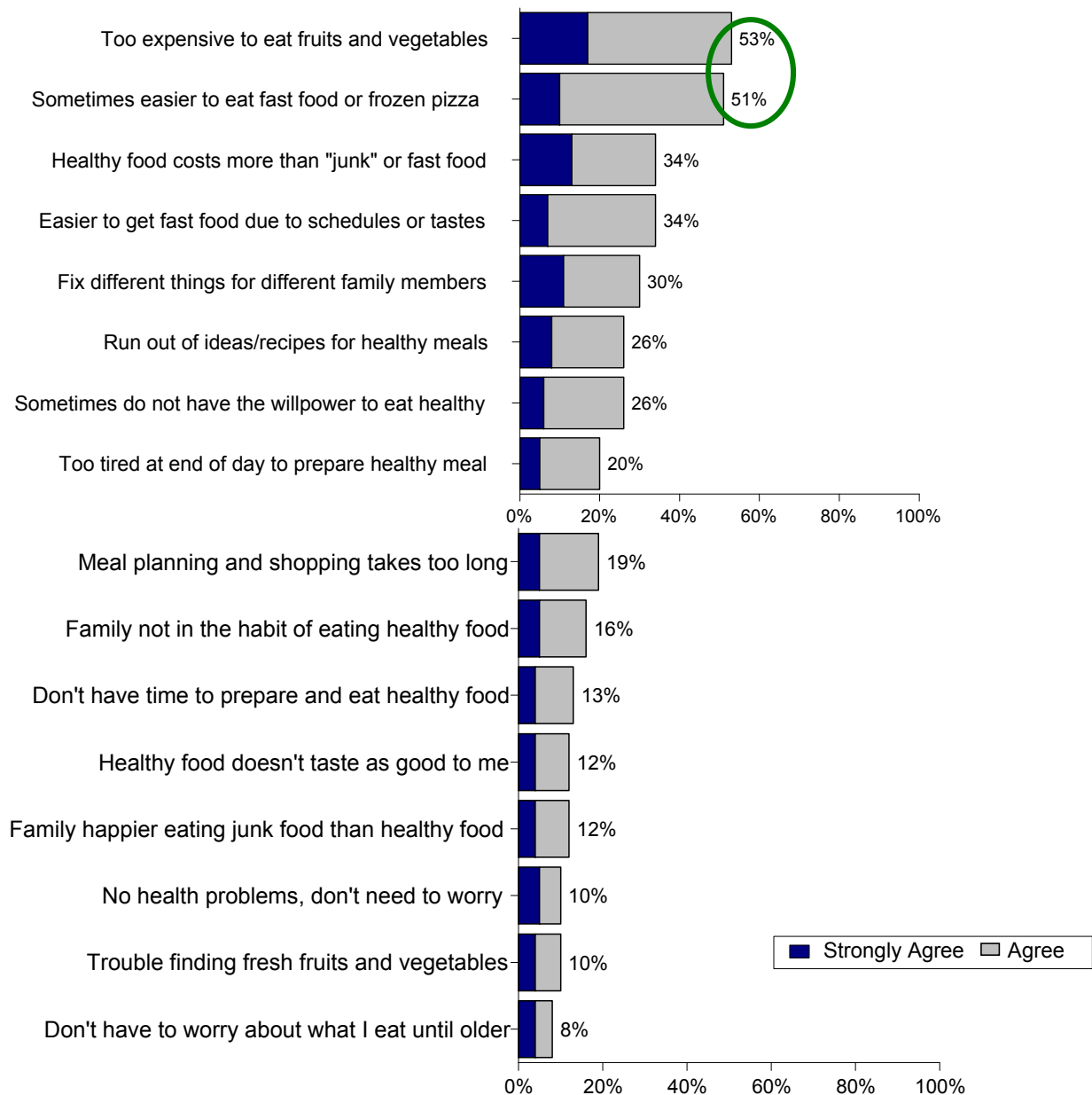
n=800

C. Perceived Barriers to Eating Healthy

The primary perceived barriers to eating healthy are that *it is too expensive to eat fruits and vegetables* (53% strongly agree + agree) and that *sometimes it's easier to eat fast food or frozen pizza than to prepare a healthy meal* (51%). One-third (34%) agree *healthy food costs more than junk or fast food* and/or indicate that it's *easier to pick up fast food because of schedules and tastes*. Three in ten (30%) moms *fix different things for different family members*, while one-quarter often *run out of ideas/recipes for preparing healthy meals* and/or sometimes *don't have the willpower to eat healthy*.

Perceived Barriers to Eating Healthy

Summary of Strongly Agree + Agree Ratings



Total Sample = 800

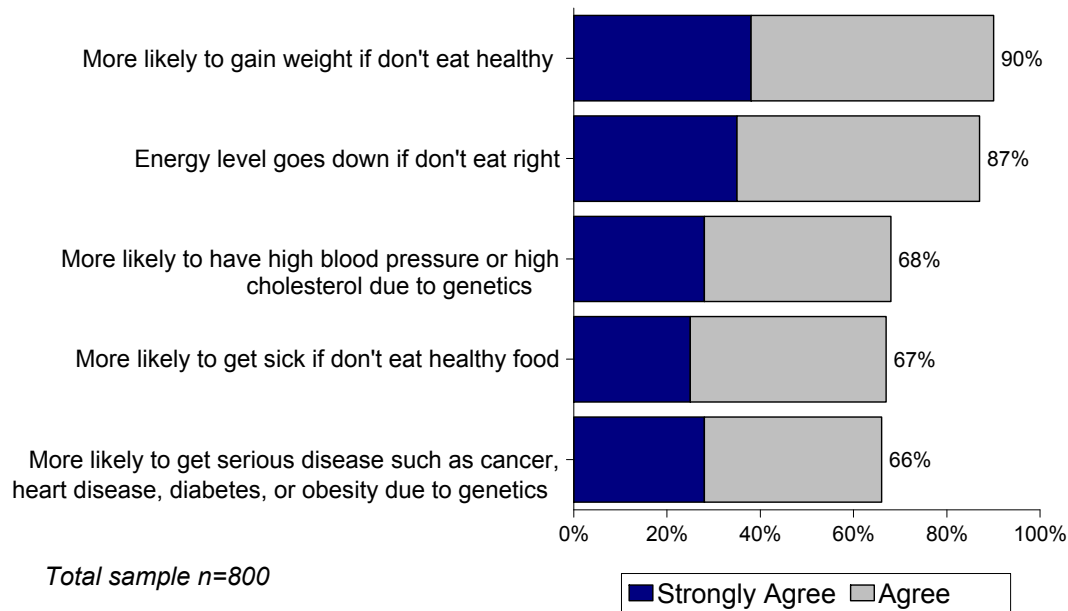


D. Perceived Risks of Not Eating Healthy

A vast majority of moms interviewed agree they are *more likely to gain weight if they do not eat healthy food* and that their *energy level goes down if they do not eat properly* (90% and 87% strongly agree + agree). Two thirds agree they are more likely to have health issues, get sick or get a serious disease if they do not eat healthy foods (66% to 68% for the health-related statements).

Perceived Risks of Not Eating Healthy

Summary of Strongly Agree + Agree Ratings



Demographic Differences:

Hispanic women are significantly more likely than Caucasian women to strongly agree/agree:

- they are more likely to have high blood pressure or high cholesterol because someone in their family has the condition,
- they are more likely to get sick if they don't eat healthy food,
- they are more likely to get a serious disease such as cancer, heart disease, diabetes, or obesity because someone in their family has this disease.

Women who participate in food assistance programs are more likely to strongly agree/agree:

- they are more likely to have high blood pressure or high cholesterol because someone in their family has the condition,
- they are more likely to get a serious disease such as cancer, heart disease, diabetes, or obesity because someone in their family has this disease.

E. Self-efficacy

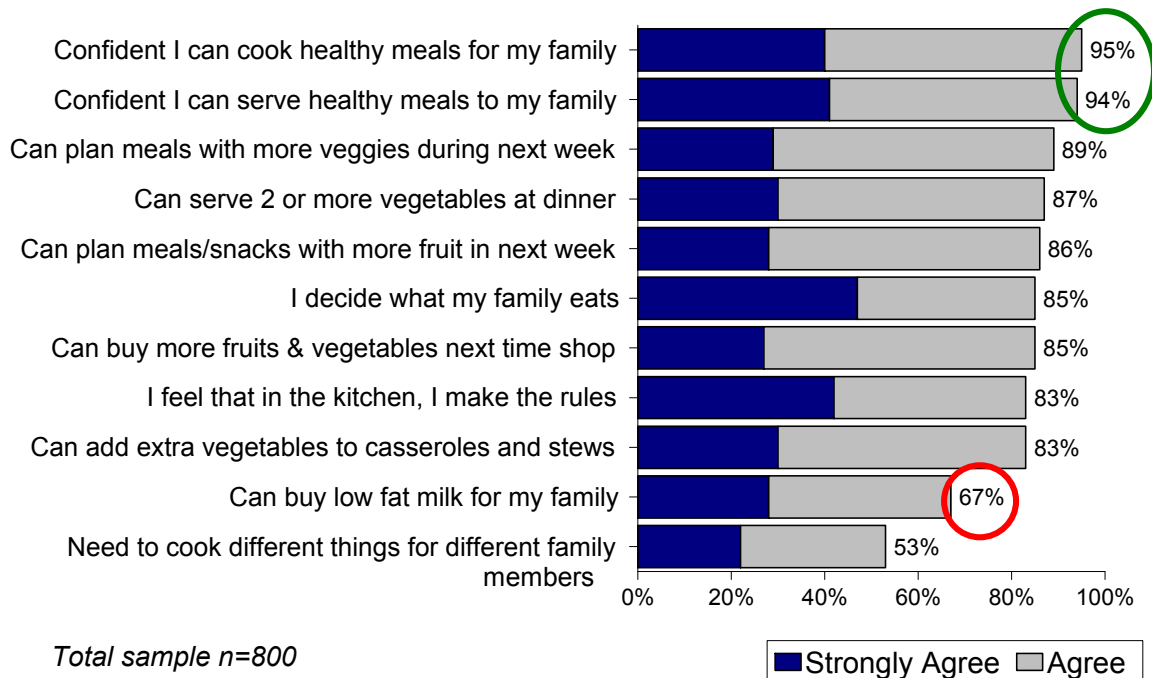
1. Agreement with Statements

Nearly all mothers indicate they feel confident about being able to cook and serve healthy meals for their families (94% and 95% strongly agree + agree). A strong majority also agrees with seven of the remaining nine empowerment statements (83% to 89%). While still a majority, somewhat fewer moms (67%) feel they can buy low fat milk for their families. More than one-half (53%) say they need to cook different things for different family members.

Though results from the self-efficacy statements (e.g., a high level of confidence moms can carry out the behavior) may at first appear to conflict with agreement with two of the barriers statements (expense of healthy food and ease of fast food), the way the questions were worded certainly allows for a mom to feel she *can* prepare and serve healthy meals but see obstacles that prevent her from doing so. [Note: The wording for the self-efficacy statements (i.e., “I feel that I can . . .”), which was modeled after the University of California Cooperative Extension and UC Davis Nutrition Department questionnaire, may have been interpreted to mean “I am capable” or “I have the ability.”]

Self Efficacy

Summary of Strongly Agree + Agree Ratings



Demographic Differences:

Hispanic women are significantly more likely than Caucasian women to strongly agree/agree:

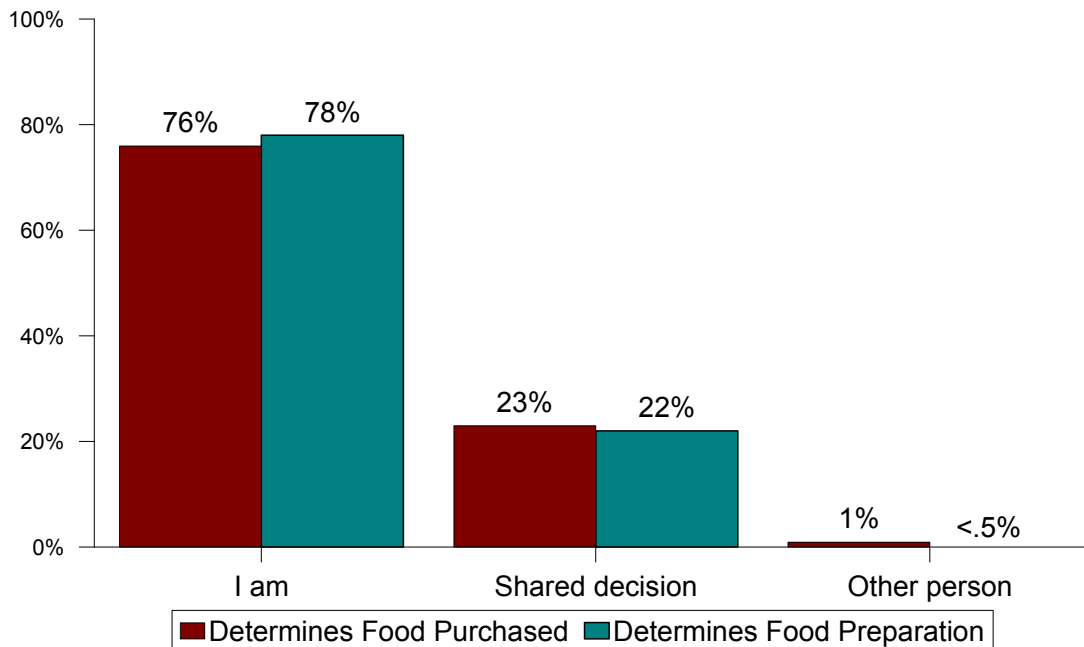
- they can plan meals or snacks with more fruit during the next week,
- they can buy more fruits and vegetables the next time they shop,
- they need to cook different things for different family members.

2. Household Food Determination

More than three in four mothers say they are in charge of what foods to buy and how to prepare the food (76% and 78% respectively). Just over two in ten report that purchasing and/or preparing foods is a shared decision (23% and 22%). Only a few report that someone else in the household drives food purchase and preparation decisions.

Household Food Determination

*In your household, who is in charge of what foods to buy?
In your household, who is in charge of how to prepare the food?*



Demographic Differences:

Hispanic women are significantly more likely than Caucasian women to:

- say they are in charge of what foods to buy,
- say they are in charge of how to prepare the food.

V. POPULATION DEFINITION – STAGES OF CHANGE

Research participants were read five statements regarding their perceptions of their dietary behaviors related to fruits, vegetables, milk and serving healthy meals. For the purpose of this report, the statement selected for each of the four dietary categories determined their “Stage of Change” as explained in the Transtheoretical Model.

“Stages of Change” Definitions

Pre-contemplation – At this stage, individuals are not aware of, or not interested in, a behavior or practice that might enhance their own health. This may be because they are uninformed about the impacts of such behavior. Those who have tried and failed to make the behavior change are also included in this category.

I am not thinking about . . .

Contemplation – Individuals in this stage are considering making a change sometime in the near future, usually defined as within the next six months. They struggle between thinking about the positive outcomes of the behavior and the amount of time, energy, and other resources that will be needed to change.

I am thinking about . . . planning to start within 6 months.

Preparation – In this stage, individuals intend to make a change in the immediate future and may have already taken steps in that direction.

I am definitely planning . . . in the next month.

Action – Individuals have started to engage in the new behavior or practice. They may adopt the practice on a small scale or try out alternative practices to find one at which they can be successful and that fits into their usual routine.

I am trying to . . .now.

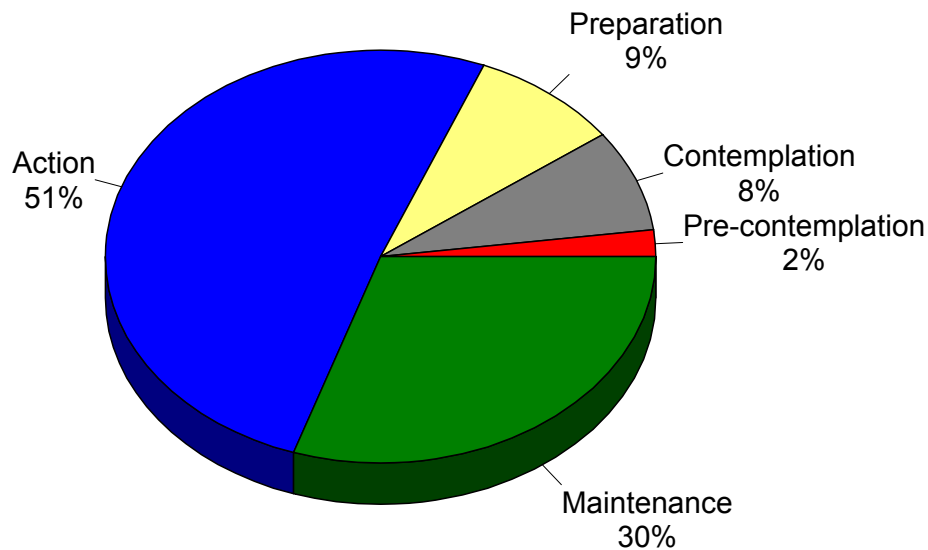
Maintenance – Refers to the period in which people have performed the new behavior for longer than six months, incorporating it as part of their way of life.

I am already . . .

A. Fruit Stages of Change

One half (51%) of mothers indicate they are in the Action Stage of fruit consumption, selecting the statement *I am trying to eat more fruits now*. An additional 30% report already eating three or more servings of fruit each day, placing them in the Maintenance Stage. Nearly one in ten are in the Preparation Stage (9% selected the statement *I am definitely planning to eat more fruit in the next month*) or the Contemplation Stage (8% selected the statement *I am thinking about eating more fruit... planning to start in the next six months*). Two-percent (2%) are considered to be in the Pre-contemplation Stage as they are not currently thinking about eating more fruit.

Fruit: Stages of Change



1. *Fruit Stages of Change by Key Demographics*

Significant demographic observations of Action Stage moms, the largest of the fruit Stages of Change segments:

- Action Stage moms are significantly more likely than those in the Maintenance Stage to speak English at home and less likely to speak Spanish. Correspondingly, those in the Action Stage are significantly less likely to be of Hispanic descent than those in the Maintenance Stage.

**Table 3: Fruit Stages of Change
by Key Demographics**

Demographics	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Participate in Food Assistance Program	81%	87%	81%
Food Stamps	98%	98%	<u>89%</u>
WIC	38%	33%	30%
Other	9%	7%	9%
Primary language spoken at home			
English	71%	70%	<u>58%</u>
Spanish	<u>24%</u>	<u>23%</u>	36%
Both English and Spanish	3%	6%	3%
Navajo	1%	1%	2%
Both English and Navajo	1%	1%	1%
Ethnicity			
Hispanic	44%	<u>41%</u>	50%
Caucasian	27%	30%	27%
Native American	12%	16%	11%
Afro-American	10%	7%	4%
Other	7%	5%	8%

Bold denotes a significantly higher percentage than the underlined comparative group. A percentage may be both in bold and underlined because there are three categories.

2. *Fruit Stages of Change*

a. *Current Eating Habits*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to describe their diet as very good or excellent. In addition, *they are less likely to agree they always start their day with a healthy breakfast and/or often have fruit juice or a piece of fruit for breakfast.* However, they are more likely to agree they *snack on popcorn and/or chips.*
- Similar to those in the Pre-contemplation/Contemplation/Preparation group in regard to diet rating, and eating fruit, but are significantly more likely to indicate they *eat vegetables every day.*

**Table 4: Fruit Stages of Change
by Current Eating Habits**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Current Eating Habits			
How would you describe your diet? (Excellent + Very Good)	<u>15%</u>	<u>13%</u>	52%
I always start my day with a healthy breakfast.	<u>47%</u>	<u>54%</u>	79%
I like to snack on popcorn and/or chips.	65%	61%	<u>41%</u>
I often have fruit juice or a piece of fruit for breakfast.	<u>47%</u>	<u>48%</u>	87%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

b. Healthy Eating

Action Stage Moms are . . .

- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation group to strongly agree/agree that *eating a variety of fruits and vegetables is an important part of eating healthy* and that *eating any form of fruit or vegetable is good for you*.

**Table 5: Fruit Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Healthy Eating			
Eating a variety of fruits and vegetables is an important part of eating healthy.	<u>93%</u>	99%	98%
I believe eating fruits and vegetables is important for my overall health.	95%	98%	98%
Eating any form of fruit or vegetable is good for you. That includes fresh, frozen, dried, canned and 100% juice.	<u>89%</u>	96%	97%

c. *Perceived Benefits to Healthy Eating*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to agree with several of the key perceived benefits to healthy eating, with the biggest gap in agreement being with the statement, *Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.*
- Similar to those in the Pre-contemplation/Contemplation/Preparation stages for most statements about the benefits of healthy eating with a few notable exceptions:
 - Moms in the Action Stage are significantly more likely to agree that it is *cheaper to eat a healthy meal than go to a fast food restaurant, eating healthy food is helpful in preventing obesity, and that they make sure to provide healthy snacks to their family.*
 - Moms in the Action Stage are significantly less likely to agree that they *may develop health problems if they do not eat fruit and vegetables and children who eat meals with their parents regularly tend to eat more fruits and vegetables.*

**Table 6: Fruit Stages of Change
by Key Perceived Benefits to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Perceived Benefits to Healthy Eating			
Eating healthy food is helpful in preventing obesity.	<u>90%</u>	96%	96%
I make sure to provide healthy snacks to my family.	<u>78%</u>	90%	97%
Eating healthy food is helpful in preventing diabetes.	<u>77%</u>	<u>75%</u>	92%
Eating healthy food is helpful in preventing heart disease.	<u>79%</u>	<u>72%</u>	90%
Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.	78%	<u>63%</u>	85%
I may develop health problems if I do not eat fruit and vegetables.	72%	<u>60%</u>	77%
Eating healthy food is helpful in preventing cancer.	<u>69%</u>	<u>63%</u>	80%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	<u>52%</u>	62%	78%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

d. Perceived Barriers to Healthy Eating

Action Stage moms are ...

- Significantly more likely than those in the Maintenance Stage to agree that:
 - it is too expensive to eat fruits and vegetables,
 - it is sometimes easier to eat fast food,
 - healthy food costs more than “junk” or fast food,
 - they sometimes do not have the will power to eat healthy,
 - they are too tired at the end of the day to prepare a healthy meal.
 - they run out of ideas and recipes for preparing healthy meals.

- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree that they:
 - fix different things for different family members,
 - run out of ideas for healthy meals,
 - or that meal planning and shopping takes too long.

**Table 7: Fruit Stages of Change
by Key Perceived Barriers to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintncc. (n=237)
Perceived Barriers to Healthy Eating			
It is too expensive to eat fruits and vegetables.	53%	63%	<u>39%</u>
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	62%	62%	<u>28%</u>
It is easier for me to pick something up from a fast food restaurant because my family has different schedules or likes different things.	50%	<u>39%</u>	<u>15%</u>
Healthy food costs more than “junk” or fast food.	44%	37%	<u>23%</u>
I often fix different things for different members of my family.	43%	<u>26%</u>	<u>26%</u>
I often run out of ideas and recipes for preparing healthy meals.	39%	<u>25%</u>	<u>17%</u>
Sometimes I do not have the willpower to eat healthy.	43%	<u>26%</u>	<u>14%</u>
I am too tired at the end of the day to prepare a healthy meal.	42%	<u>19%</u>	<u>9%</u>
Meal planning and shopping takes too long.	36%	<u>16%</u>	<u>11%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

e. Perceived Risks of Not Eating Healthy

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to agree with three key risk statements about not eating healthy. This is also true for those in the other stages (Pre-contemplation/Contemplation/Preparation).
- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stage to agree they are at a *higher risk of getting blood pressure or high cholesterol because someone in their family has the condition.*

**Table 8: Fruit Stages of Change
by Key Perceived Risks of Not Eating Healthy Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Perceived Risks of Not Eating Healthy			
I am more likely to have high blood pressure or high cholesterol because someone in my family has this condition.	71%	<u>62%</u>	76%
I am more likely to get sick if I don't eat healthy food.	<u>64%</u>	<u>62%</u>	78%
I am more likely to get a serious disease such as cancer, heart disease, diabetes, or obesity because someone in my family has this disease.	<u>67%</u>	<u>60%</u>	77%

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

f. Key Self-Efficacy Statements

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to feel they *can plan meals or snacks with more fruit during the next week.*
- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation stages to indicate they *cook differently for different family members.*

**Table 9: Fruit Stages of Change
by Key Self-Efficacy Statements**

Summary of Agreement Statements (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Self-Efficacy			
I feel that in the kitchen, I make the rules.	78%	84%	85%
I decide what my family eats.	84%	83%	88%
I feel that I can plan meals or snacks with more fruit during the next week.	86%	<u>83%</u>	89%
I feel that I can buy more fruits and vegetables the next time I shop.	85%	83%	88%
I feel I need to cook different things for different family members depending on what they like.	69%	<u>45%</u>	<u>52%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

3. Correlation Analysis

A correlation analysis was done to identify those statements that are most closely related to the stages of change construct for each behavior (e.g., fruit consumption, vegetable consumption, 1% low fat or fat-free milk consumption, and serving healthy meals). This type of analysis results in a *correlation coefficient*, which measures the degree to which two variables are related. For example, the chart below indicates that *My family is not in the habit of eating healthy food* is the statement that most strongly correlates with the fruit stages of change behavior. In this case, there is an *inverse correlation* between being in the habit of eating healthy food and being further along in the continuum. *Being too tired, not having the willpower or the time, finding it easier to pick up fast food, and the time it takes to plan and shop for healthy food*, also influence fruit consumption.

(Note: The first 10 statements in the chart below are most closely related to the fruit stages of change segments. The next two represent the self-efficacy and risk statements that correlate most closely.)

Fruit Stages of Change

Correlation Analysis

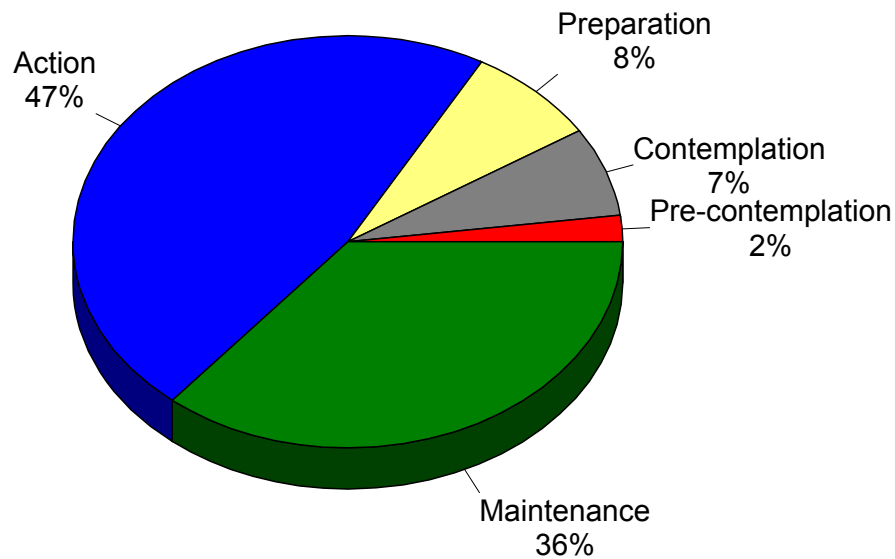


This chart indicates that perceived *barriers* or difficulties of eating healthy play a major role with women who have not incorporated eating fruit as part of their daily lives.

B. Vegetable Stages of Change

Nearly one-half (47%) of mothers report they are *trying to eat more vegetables now*, placing them in the Action Stage for increased vegetable consumption. More than one-third (36%) is categorized as being in the Maintenance Stage, as they are already eating three or more servings of vegetables each day. The 17% who are not already or not currently trying to eat more vegetables include 2% in the Pre-contemplation Stage (indicated they are not considering eating more vegetables at this time), 7% in the Contemplation Stage (selected the statement *I am thinking about eating more fruit... planning to start in the next six months*), and 8% in the Preparation Stage (selected the statement *I am definitely planning to eat more fruit in the next month.*)

Vegetable: Stages of Change



1. *Vegetable Stages of Change by Key Demographics*

Significant demographic observations of Action Stage moms (the largest segment):

- Action Stage moms are significantly more likely than those in the Maintenance Stage to speak English at home.

**Table 10: Vegetable Stages of Change
by Key Demographics**

Demographics	Pre-contempl. Contemplation Preparation (n=132)	Action (n=364)	Maintnce. (n=283)
Participate in Food Assistance Program	78%	86%	85%
Food Stamps	95%	98%	<u>92%</u>
WIC	40%	31%	32%
Other	21%	<u>7%</u>	13%
Language primarily spoken at home			
English	66%	70%	<u>62%</u>
Spanish	29%	24%	31%
Both English and Spanish	4%	5%	4%
Navajo	--	1%	2%
Both English and Navajo	1%	1%	2%
Ethnicity			
Hispanic	50%	42%	44%
Caucasian	27%	31%	27%
Native American	<u>9%</u>	13%	17%
Afro-American	8%	7%	6%
Other	6%	7%	6%

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

2. *Vegetable Stages of Change*

a. *Current Eating Habits*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to describe their diet as very good or excellent. In addition, they are less likely to agree they *eat vegetables every day* and/or *often have fruit juice or a piece of fruit for breakfast*. However, they are more likely to agree they *snack on popcorn and/or chips*.
- Similar to those in the Pre-contemplation/Contemplation/Preparation groups in regard to diet rating, and eating fruit, but are significantly more likely to indicate they eat vegetables every day.

**Table 11: Vegetable Stages of Change
by Key Current Eating Habits**

	Pre-contempl. Contemplation Preparation (n=132)	Action (n=364)	Maintnce. (n=283)
Current Eating Habits			
How would you describe your diet? (Excellent + Very Good)	<u>17%</u>	<u>11%</u>	46%
I eat vegetables every day.	<u>57%</u>	<u>75%</u>	92%
I like to snack on popcorn and/or chips.	65%	61%	<u>44%</u>
I often have fruit juice or a piece of fruit for breakfast.	<u>50%</u>	<u>47%</u>	79%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

b. Healthy Eating

Action Stage moms are ...

- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree that *eating a variety of fruits and vegetables is an important part of eating healthy.*

**Table 12: Vegetable Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=132)	Action (n=364)	Maintnce. (n=283)
Healthy Eating			
Eating a variety of fruits and vegetables is an important part of eating healthy.	<u>93%</u>	99%	98%
I believe eating fruits and vegetables is important for my overall health.	95%	97%	98%
Eating any form of fruit or vegetable is good for you. That includes fresh, frozen, dried, canned and 100% juice.	<u>89%</u>	95%	97%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

c. *Perceived Benefits to Healthy Eating*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to agree with most of the key perceived benefits to healthy eating.
- Significantly less likely than those in other stages to agree with the benefits of healthy eating as they relate to serious diseases and health problems as well as how they look.

**Table 13: Vegetable Stages of Change
by Key Perceived Benefits to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=132)	Action (n=364)	Maintnce. (n=283)
Perceived Benefits to Healthy Eating			
Eating healthy food is helpful in preventing obesity.	92%	95%	97%
I make sure to provide healthy snacks to my family.	<u>77%</u>	89%	96%
Eating healthy food will improve the way I look.	85%	<u>76%</u>	83%
Eating healthy food is helpful in preventing diabetes.	84%	<u>75%</u>	87%
Eating healthy food is helpful in preventing heart disease.	85%	<u>73%</u>	82%
Eating healthy food is helpful in preventing cancer.	73%	<u>65%</u>	73%
I may develop health problems if I do not eat fruit and vegetables.	76%	<u>62%</u>	71%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	<u>54%</u>	64%	72%
Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.	81%	<u>63%</u>	80%

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

d. *Perceived Barriers to Healthy Eating*

Action Stage moms are ...

- Significantly more likely than those in the Maintenance Stage to agree with most of the key perceived barriers to eating healthy, with the largest gap in agreement in the statement about it being *easier to eat fast food or frozen pizza than to prepare a healthy meal*.
- Significantly more likely than those in all other segments to feel it is *expensive to eat fruits and vegetables*.
- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree with most of the barriers to healthy eating.

**Table 14: Vegetable Stages of Change
by Key Perceived Barriers to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=132)	Action (n=364)	Maintnce. (n=283)
Perceived Barriers to Healthy Eating			
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	61%	61%	<u>36%</u>
It is too expensive to eat fruits and vegetables.	<u>48%</u>	58%	<u>49%</u>
It is easier for me to pick something up from a fast food restaurant because my family has different schedules or likes different things.	52%	<u>37%</u>	<u>21%</u>
Healthy food costs more than “junk” or fast food.	43%	36%	<u>26%</u>
I often fix different things for different members of my family.	48%	<u>28%</u>	<u>21%</u>
Sometimes I do not have the willpower to eat healthy.	50%	<u>27%</u>	<u>11%</u>
Meal planning and shopping takes too long.	38%	<u>16%</u>	<u>10%</u>
I often run out of ideas and recipes for preparing healthy meals.	47%	<u>24%</u>	<u>16%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

e. *Perceived Risks of Not Eating Healthy*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to agree with two key risk statements about not eating healthy.

**Table 15: Vegetable Stages of Change
by Key Perceived Risks of Not Eating Healthy Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=132)	Action (n=364)	Maintnce. (n=283)
Perceived Risks of Not Eating Healthy			
I am more likely to have high blood pressure or high cholesterol because someone in my family has this condition.	74%	<u>64%</u>	70%
I am more likely to get sick if I don't eat healthy food.	70%	<u>61%</u>	73%
I am more likely to get a serious disease such as cancer, heart disease, diabetes, or obesity because someone in my family has this disease.	69%	<u>62%</u>	70%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

f. Key Self-Efficacy Statements

Action Stage moms are ...

- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to indicate they *cook differently for different family members*.
- Significantly less likely than moms in the Maintenance Stage to feel empowered to *make the rules in their kitchen* and to *decide what their family eats*.

**Table 16: Vegetable Stages of Change
by Key Self-Efficacy Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=392)	Maintnce. (n=237)
Self-Efficacy			
I feel that I can buy more fruits and vegetables the next time I shop.	86%	85%	85%
I feel that I can plan meals or snacks with more vegetables during the next week.	88%	88%	92%
I feel that I can serve two or more servings of vegetables at dinner.	<u>82%</u>	86%	91%
I feel that I can add extra vegetables to casseroles and stews.	82%	82%	87%
I feel I need to cook different things for different family members depending on what they like.	77%	<u>47%</u>	<u>46%</u>
I feel that in the kitchen, I make the rules.	<u>74%</u>	<u>82%</u>	88%
I decide what my family eats.	<u>80%</u>	82%	91%

Bold denotes a significantly higher percentage than the underlined comparative group.

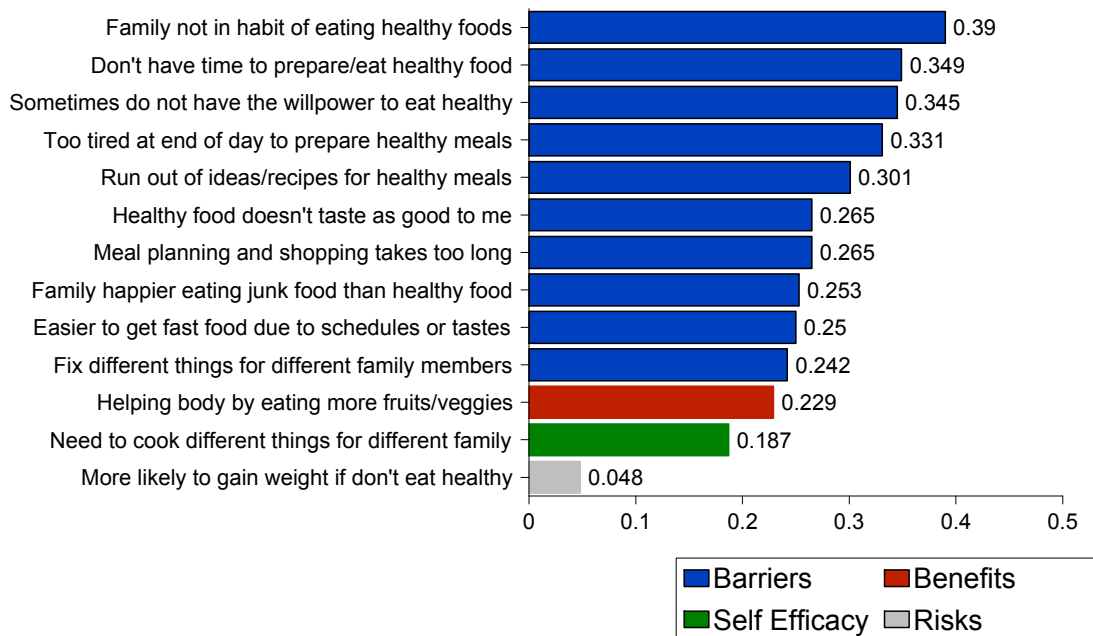
A percentage may be both in bold and underlined because there are three categories.

3. *Correlation Analysis*

Similar to the fruit stages of change analysis, this chart indicates that perceived *barriers* play a major role with women who have not incorporated eating vegetables into their daily lives. And, similar to the fruit analysis, *My family is not in the habit of eating healthy food* is the statement that most strongly correlates with the vegetable stages of change behavior. Again, there is an *inverse correlation* between being in the habit of eating healthy food and being further along in the veggie consumption continuum. *Not having time to prepare and eat healthy food, not having the willpower, being too tired at the end of the day, and running out of recipes for healthy meals* are also strongly correlated with vegetable consumption.

Vegetable Stages of Change

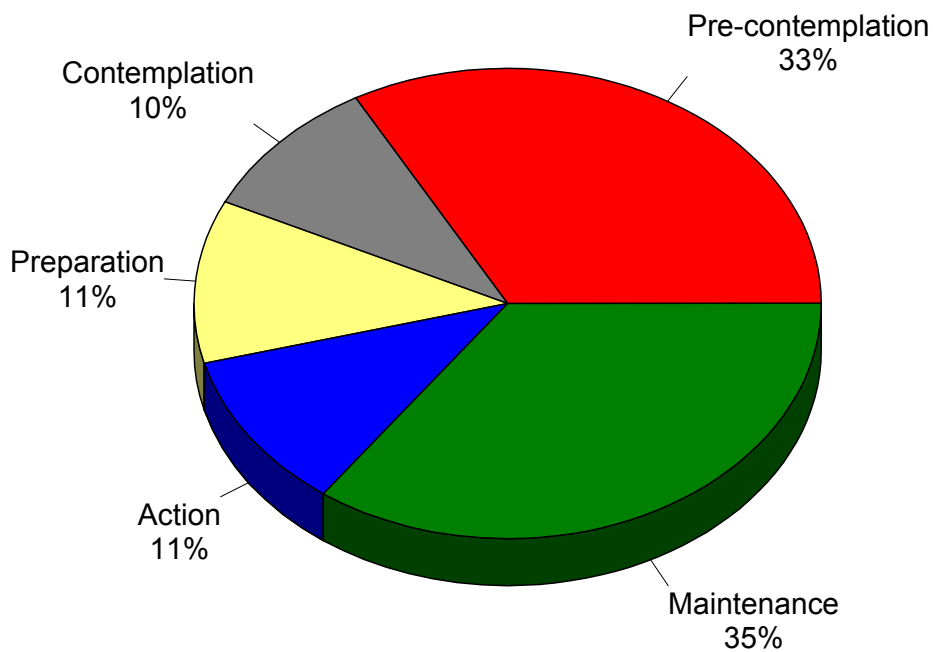
Correlation Analysis



C. Milk Stages of Change

While 35% of moms are already drinking 1% low fat or fat-free milk (Maintenance Stage), nearly the same percentage (33%) is not considering making a change to low or fat free milk (Pre-contemplation Stage). Approximately one in ten fall into each of the other three stages of changes – 11% are in the Action Stage (trying to switch), 11% are in the Preparation Stage (definitely planning to change in next month), and 10% are in the Contemplation Stage (thinking about changing to low fat or fat free milk in the next six months).

Milk: Stages of Change



1. Milk Stages of Change by Key Demographics

Significant demographic observations of Pre-contemplation/Contemplation/Preparation Stage moms (the largest segment) include:

- Pre-contemplation/Contemplation/Preparation Stage moms who participate in a food assistance program are significantly less likely than those in the Action and Maintenance stages to be involved in a WIC program.
- Pre-contemplation/Contemplation/Preparation Stage moms are significantly more likely than those in other stages to be Caucasian and significantly less likely to be Hispanic.

**Table 17: Milk Stages of Change
by Key Demographics**

Demographics	Pre-contemp Contemplation Preparation (n=419)	Action (n=84)	Maintnce. (n=275)
Participate in Food Assistance Program	86%	79%	85%
Food Stamps	97%	89%	94%
WIC	<u>27%</u>	42%	38%
Other	13%	10%	9%
Language primarily spoken at home			
English	66%	70%	<u>62%</u>
Spanish	29%	24%	31%
Both English and Spanish	4%	5%	4%
Navajo	--	1%	2%
Both English and Navajo	1%	1%	2%
Ethnicity			
Hispanic	<u>39%</u>	55%	49%
Caucasian	34%	<u>15%</u>	<u>26%</u>
Native American	13%	16%	14%
Afro-American	7%	8%	5%
Other	7%	6%	6%

Bold denotes a significantly higher percentage than the underlined comparative group. A percentage may be both in bold and underlined because there are three categories.

3. *Milk Stages of Change*

a. *Key Current Eating Habits*

Pre-contemplation/Contemplation/Preparation moms are ...

- Significantly less likely than those in the Action and Maintenance stages to describe their diet as very good or excellent and to *drink water throughout the day*.
- Significantly more likely than those in the Action and Maintenance Stage to report *drinking more soda than water*.

**Table 18: Milk Stages of Change
by Key Current Eating Habits**

Summary of Agreement (Strongly Agree + Agree)	Pre- contem- plation (n=256)	Contem- plation (n=77)	Prepar- ation (n=86)	Action (n=84)	Maintnce. (n=275)
Current Eating Habits					
How would you describe your diet? (Excellent + Very Good)	<u>15%</u>	<u>18%</u>	<u>19%</u>	29%	37%
Most days, I drink water throughout the day.	<u>81%</u>	<u>78%</u>	<u>79%</u>	92%	92%
I always start my day with a healthy breakfast.	<u>44%</u>	<u>61%</u>	<u>62%</u>	<u>59%</u>	76%
I like to eat cereal for dinner because it's light and healthy.	<u>25%</u>	<u>34%</u>	<u>46%</u>	53%	<u>38%</u>
I drink more soda than water.	48%	46%	<u>29%</u>	<u>13%</u>	<u>18%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because of multiple categories.

b. Healthy Eating

Pre-contemplation, Contemplation and Preparation moms are ...

- Significantly less likely than those in the Action and Maintenance Stages to agree with the two statements about 1% low fat or fat free milk, with those in the Pre-contemplation Stage being particularly low in this area.

**Table 19: Milk Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre- contem- pation (n=256)	Contem- pation (n=77)	Prepar- ation (n=86)	Action (n=84)	Maintnce. (n=275)
Healthy Eating					
Drinking <u>1% low fat or fat free milk</u> is an important part of a healthy diet.	<u>28%</u>	<u>64%</u>	<u>60%</u>	<u>76%</u>	94%
1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk.	<u>26%</u>	<u>50%</u>	<u>51%</u>	<u>62%</u>	79%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

c. *Perceived Benefits to Healthy Eating*

Pre-contemplation, Contemplation and Preparation moms are ...

- Significantly less likely than those in the Action Stage to agree with all but one of the key perceived benefits to healthy eating. The exception was a similar level of agreement with the statement about it being *cheaper to eat a healthy meal than to go to a fast food restaurant*. However, this was not the case among those in the Pre-contemplation Stage.
- Significantly less likely than those in the Maintenance Stage to agree with all but one of the key perceived benefits to healthy eating - *Eating healthy food is helpful in preventing heart disease*.

**Table 20: Milk Stages of Change
by Key Perceived Benefits to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre- contem- plation (n=256)	Contem- plation (n=77)	Prepar- ation (n=86)	Action (n=84)	Maintnce. (n=275)
Perceived Benefits to Healthy Eating					
I am sure to provide healthy meals to my family.	<u>91%</u>	<u>89%</u>	<u>88%</u>	98%	98%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	<u>52%</u>	68%	65%	68%	76%
Eating healthy food is helpful in preventing diabetes.	<u>67%</u>	79%	86%	91%	88%
Eating healthy food is helpful in preventing heart disease.	<u>62%</u>	79%	86%	94%	<u>86%</u>
Eating healthy food will improve the way I look.	<u>62%</u>	<u>84%</u>	88%	95%	89%
Drinking 1% low fat and fat free milk is healthier than drinking whole and 2% milk.	<u>28%</u>	<u>61%</u>	<u>70%</u>	<u>70%</u>	87%
I feel that I am helping my body by drinking 1% low fat or fat free milk.	<u>27%</u>	<u>65%</u>	<u>63%</u>	<u>77%</u>	93%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

d. *Perceived Barriers to Healthy Eating*

Pre-contemplation, Contemplation and Preparation moms are ...

- Significantly more likely than mothers in the Action and Maintenance Stages to agree with most of the perceived barriers to eating healthy with the exception of a similar rating to Action Stage moms for agreement that they *often run out of ideas and recipes for preparing healthy meals*.

**Table 21: Milk Stages of Change
by Key Perceived Barriers to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre- contem- plation (n=256)	Contem- plation (n=77)	Prepar- ation (n=86)	Action (n=84)	Maintnce. (n=275)
Perceived Barriers to Healthy Eating					
It is too expensive to eat fruits and vegetables.	62%	61%	<u>47%</u>	<u>36%</u>	51%
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	71%	64%	56%	<u>36%</u>	<u>33%</u>
I often fix different things for different family members	<u>27%</u>	49%	42%	33%	<u>19%</u>
I often run out of ideas and recipes for preparing healthy meals.	<u>25%</u>	42%	30%	<u>26%</u>	<u>19%</u>
Healthy food costs more than “junk” or fast food.	44%	49%	<u>32%</u>	<u>23%</u>	<u>24%</u>
Sometimes I do not have the willpower to eat healthy.	30%	41%	30%	<u>22%</u>	<u>16%</u>
Meal planning and shopping takes too long.	24%	28%	24%	<u>12%</u>	<u>8%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

e. *Perceived Risks of Not Eating Healthy*

Pre-contemplation moms are ...

- Significantly less likely than mothers in all other stages to agree with the perceived risks of not eating healthy.

**Table 22: Milk Stages of Change
by Key Perceived Risks of Not Eating Healthy Statements**

Summary of Agreement (Strongly Agree + Agree)	Pre- contem- plation (n=256)	Contem- plation (n=77)	Prepar- ation (n=86)	Action (n=84)	Maintnce. (n=275)
Perceived Risks of Not Eating Healthy					
I am more likely to get sick if I don't eat healthy food.	<u>51%</u>	76%	71%	80%	75%
I am more likely to get a serious disease such as cancer, heart disease, diabetes, or obesity because someone in my family has this disease.	<u>49%</u>	73%	70%	84%	75%
I am more likely to have high blood pressure or high cholesterol because someone in my family has this condition.	<u>51%</u>	<u>73%</u>	<u>69%</u>	86%	77%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

f. Key Self-Efficacy Statements

Pre-contemplation, Contemplation and Preparation Stage moms are ...

- Significantly less likely than mothers in other stages to feel they *can buy low fat milk for their families*. This is particularly true with women in the Pre-contemplation Stage.
- Women in the Pre-contemplation Stage are significantly less likely than those in the Contemplation, Preparation, and Action Stages to indicate they *cook differently for different family members*.

**Table 23: Milk Stages of Change
by Key Self-Efficacy Statements**

Summary of Agreement Statements (Strongly Agree + Agree)	Pre-contem- plation (n=256)	Contem- plation (n=77)	Prepar- ation (n=86)	Action (n=84)	Maintnce. (n=275)
Self-Efficacy					
I feel that I can buy low fat milk for my family.	<u>28%</u>	68%	<u>75%</u>	86%	93%
I feel I need to cook different things for different family members depending on what they like.	<u>40%</u>	70%	71%	68%	<u>46%</u>
I feel that in the kitchen, I make the rules.	<u>82%</u>	92%	<u>75%</u>	<u>82%</u>	<u>84%</u>
I decide what my family eats.	84%	88%	80%	84%	87%

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

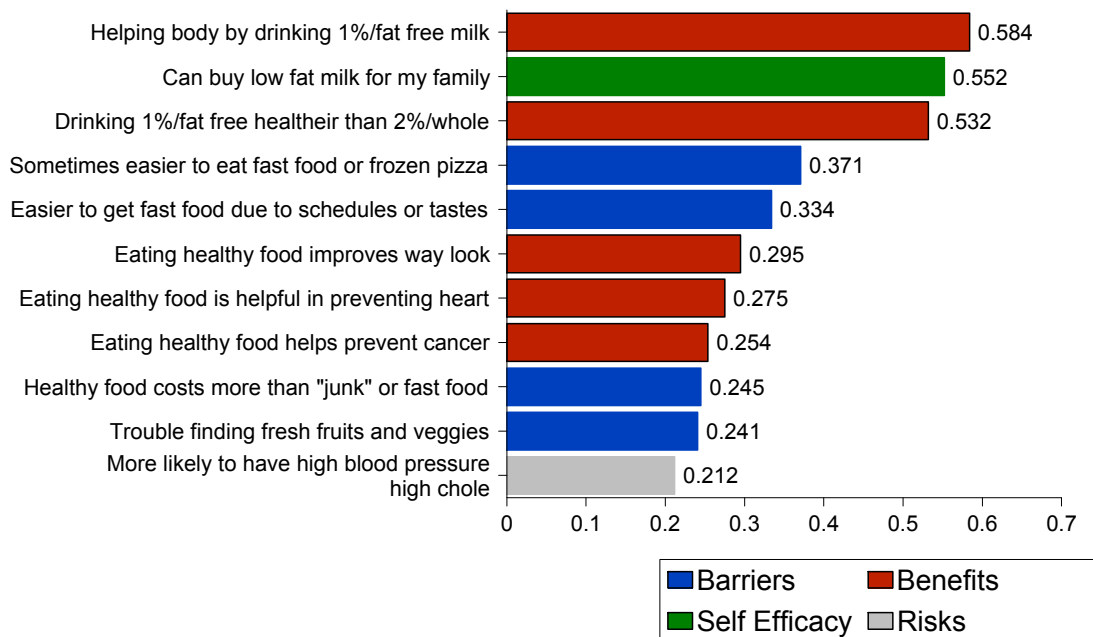
3. *Correlation Analysis*

It is not surprising that those statements that specifically relate to milk are most strongly correlated with the milk stages of change construct. The chart below indicates the two milk *benefit statements* and the *self-efficacy statement* are closely related. That is, the more likely a mom is to agree with the statement *I feel that I am helping my body by drinking 1% low fat or fat free milk*, the more likely she is to be in the Action or Maintenance phase of the milk consumption continuum. Similarly, the more likely a woman is to agree she *can buy low fat milk for her family* the further along she is in the continuum.

Though there is considerably less correlation with any of the *barrier statements*, it is important to note that there were no barrier statements that dealt specifically with drinking 1% low fat or fat-free milk.

Milk Stages of Change

Correlation Analysis

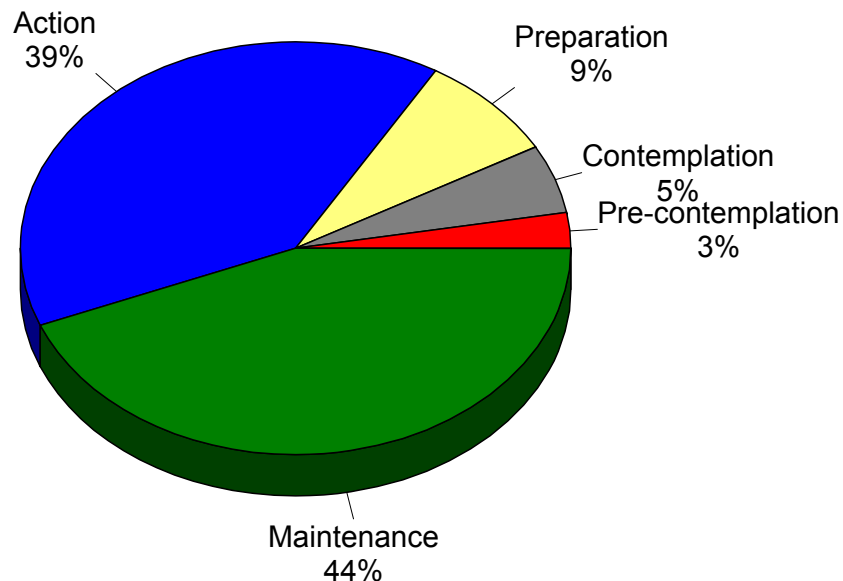


D. Serving Healthy Meals Stages of Change

Two in five (39%) moms say they are *trying to serve more healthy meals to their family now*, which means they are in the Action Stage. Four in nine (44%) are in the Maintenance Stage, as they are already serving healthy meals to their families.

The remaining 17% are split as follows: 9% are in the Preparation Stage (definitely planning to serve more healthy meals next month), 5% are in the Contemplation Stage (thinking about serving more healthy meals in the next six months), and 3% fall into the category of the Pre-contemplation Stage because they are not currently thinking about serving their families more healthy meals.

Healthy Meals: Stages of Change



2. *Serving Healthy Meals Stages of Change by Key Demographics*

Significant demographic observations of Action Stage moms are:

- Action Stage moms who participate in a food assistance program are significantly more likely than those in the Maintenance Stage to receive food stamps. They are significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to participate in WIC.
- Action Stage moms are significantly more likely than those in the Maintenance Stage to (primarily) speak English at home and significantly less likely to (primarily) speak Spanish. Correspondingly, those in the Action Stage are significantly less likely to be of Hispanic descent than are those in the Maintenance Stage. They are more likely to be Caucasian than those in any other stage.

Table 24: Serving Healthy Meals Stages of Change by Key Demographics

Demographics	Pre-contemp Contemp/Prep (n=129)	Action (n=305)	Maintncc. (n=341)
Participate in Food Assistance Program	76%	85%	87%
Food Stamps	96%	98%	<u>93%</u>
WIC	41%	<u>28%</u>	34%
Other	15%	9%	12%
Language primarily spoken at home			
English	68%	75%	<u>59%</u>
Spanish	27%	<u>18%</u>	35%
Both English and Spanish	<u>2%</u>	7%	3%
Navajo	--	--	2%
Both English and Navajo	3%	--	1%
Ethnicity			
Hispanic	48%	<u>38%</u>	48%
Caucasian	<u>26%</u>	36%	<u>24%</u>
Native American	13%	<u>10%</u>	17%
Afro-American	8%	7%	6%
Other	4%	9%	5%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

a. *Key Current Eating Habits*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to describe their diet as very good or excellent or to start their day with a healthy breakfast.
- Likely to fall between Pre-contemplation/Contemplation/Preparation women and Maintenance segment women in “unhealthy habits” such as skipping meals and eating fast food for lunch.

**Table 25: Serving Healthy Meals Stages of Change
by Key Current Eating Habits**

Summary of Agreement (Strongly Agree + Agree)	Pre-contempl. Contemplation Preparation (n=129)	Action (n=305)	Maintnce. (n=341)
Current Eating Habits			
How would you describe your diet? (Excellent + Very Good)	<u>17%</u>	<u>12%</u>	40%
I always start my day with a healthy breakfast.	<u>46%</u>	<u>50%</u>	76%
I sometimes skip meals because I don't have time to eat.	80%	<u>63%</u>	<u>39%</u>
I usually have a snack before I go to bed.	64%	<u>50%</u>	<u>40%</u>
I often eat fast food for lunch.	50%	<u>37%</u>	14%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

b. Healthy Eating

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to agree with the statements about 1% low fat or fat free milk and about candy and soda in a healthy diet.
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree that *fatty foods are OK to eat in moderation*.

**Table 26: Serving Healthy Meals Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Precontemp. Contemplation Preparation (n=129)	Action (n=305)	Maintnce. (n=341)
Healthy Eating			
Fatty foods are OK to eat in moderation.	<u>66%</u>	79%	76%
Drinking <u>1% low fat or fat free milk</u> is an important part of a healthy diet.	<u>55%</u>	<u>57%</u>	73%
There is no room for candy or soda in a healthy diet.	44%	<u>29%</u>	46%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

c. *Perceived Benefits to Healthy Eating*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to agree with most of the key perceived benefits to healthy eating (similar agreement on the benefit of families eating together).
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree that *eating healthy food is helpful in preventing obesity* and to say they *provide healthy snacks and meals to their families*.

**Table 27: Serving Healthy Meals Stages of Change
by Key Perceived Benefits to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Precontemp. Contemplation Preparation (n=129)	Action (n=305)	Maintnce. (n=341)
Perceived Benefits to Healthy Eating			
Eating healthy food is helpful in preventing obesity.	<u>89%</u>	95%	96%
Eating meals as a family will help my child grow into a healthy adult.	<u>88%</u>	93%	96%
I make sure to provide healthy meals to my family.	<u>80%</u>	92%	99%
I make sure to provide healthy snacks to my family.	<u>76%</u>	88%	96%
Eating healthy food is helpful in preventing diabetes.	82%	<u>74%</u>	86%
Eating healthy food is helpful in preventing heart disease.	83%	<u>72%</u>	82%
Families that eat together eat healthier food and more balanced meals.	79%	<u>70%</u>	75%
Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.	77%	<u>66%</u>	76%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	<u>58%</u>	<u>58%</u>	74%
Children who do not eat dinner with their families are more likely to use alcohol, tobacco, or illegal drugs.	39%	<u>35%</u>	44%

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

d. Perceived Barriers to Healthy Eating

Action Stage moms are ...

- Significantly more likely than those in the Maintenance Stage to agree with all of the key perceived barriers to eating healthy.
- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree with several of the perceived barriers to eating healthy.

**Table 28: Serving Healthy Meals Stages of Change
by Key Perceived Barriers to Healthy Eating Statements**

Summary of Agreement (Strongly Agree + Agree)	Precontemp. Contemplation Preparation (n=129)	Action (n=305)	Maintnce. (n=341)
Perceived Barriers to Healthy Eating			
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	57%	66%	<u>36%</u>
Healthy food costs more than “junk” or fast food.	45%	40%	<u>24%</u>
It is easier for me to pick something up from a fast food restaurant because my family has different schedules or likes different things.	52%	42%	<u>18%</u>
I often run out of ideas and recipes for preparing healthy meals.	47%	<u>30%</u>	<u>12%</u>
I often fix different things for different members of my family.	54%	<u>30%</u>	<u>19%</u>
I am too tired at the end of the day to prepare a healthy meal.	48%	<u>23%</u>	<u>7%</u>
Meal planning and shopping takes too long.	42%	<u>20%</u>	<u>7%</u>
My family is not in the habit of eating healthy.	46%	<u>12%</u>	<u>6%</u>
My family is happier eating “junk food” than healthy food.	33%	<u>10%</u>	<u>3%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.

A percentage may be both in bold and underlined because there are three categories.

e. Perceived Risks of Not Eating Healthy

Action Stage moms are ...

- Significantly less likely than all other segments to agree with the key risk statements about not eating healthy.

**Table 29: Serving Healthy Meals Stages of Change
by Key Perceived Risks of Not Eating Healthy**

Summary of Agreement (Strongly Agree + Agree)	Precontemp. Contemplation Preparation (n=129)	Action (n=305)	Maintnce. (n=341)
Perceived Risks of Not Eating Healthy			
I am more likely to have high blood pressure or high cholesterol because someone in my family has this condition.	73%	<u>62%</u>	71%
I am more likely to get sick if I don't eat healthy food.	69%	<u>59%</u>	74%
I am more likely to get a serious disease such as cancer, heart disease, diabetes, or obesity because someone in my family has this disease.	69%	<u>59%</u>	72%

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

f. Key Self-Efficacy Statements

Action Stage moms are ...

- Significantly less likely than moms in the Maintenance Stage to feel empowered to make the rules in their kitchen or to decide what their family eats and to feel confident they can serve healthy meals to their family.
- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to indicate they cook differently for different family members.

Table 30: Serving Healthy Meals Stages of Change by Key Self-Efficacy Statements

Summary of Agreement with Self-efficacy Statements (Strongly Agree + Agree)	Pre-contemp Contemp/Prep (n=129)	Action (n=305)	Maintnce. (n=341)
Self-Efficacy			
I decide what my family eats.	<u>75%</u>	<u>82%</u>	91%
I feel confident I can serve healthy meals to my family.	<u>88%</u>	<u>94%</u>	98%
I feel that I can plan meals with more vegetables during the next week.	88%	88%	91%
I feel that in the kitchen, I make the rules.	<u>73%</u>	<u>79%</u>	90%
I feel that I can plan meals or snacks with more fruit during the next week.	85%	84%	87%
I feel I need to cook different things for different family members depending on what they like.	75%	<u>50%</u>	<u>44%</u>

Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

3. *Correlation Analysis*

Similar to the fruit and vegetables stages of change analyses, this chart indicates that perceived *barriers* or difficulties of eating healthy play a major role with women who have not incorporated serving healthy meals to their families into their daily lives. And, similar to those two analyses, *My family is not in the habit of eating healthy foods* is the statement that most strongly correlates with the healthy meals stages of change behavior. Again, there is an *inverse correlation* between being in the habit of eating healthy foods and being further along in the serving healthy meals continuum. In addition, there is a strong correlation between *too tired at the end of the day* and this behavior.

Healthy Meals Stages of Change

Correlation Analysis

