



**Arizona Department of Health Services
(ADHS)/
Arizona Nutrition Network (AzNN)**

**Behavior Model Research Report
Wave II**

**Report Prepared for:
Arizona Department of Health Services / AzNN**

Date: August 2009

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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, Supplemental Nutrition Assistance Program (SNAP) 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 family meals.

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 the second wave of the Behavior Model Research quantitative study. This research provides a framework for understanding individuals' psychological readiness or intention to take action related to the three health messages.

The subject of this report is Wave II of the quantitative research. The primary objective of this research was to measure changes in behavior or readiness relating to the three health messages. In addition, similar to Wave I, moms were identified as being in a particular *Stage of Change* with regard to eating fruits and vegetables, drinking 1% low fat or fat free milk, and preparing and providing healthy meals to their families. They were assigned to a specific segment 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 795 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.

All interviews were completed between June 18 and July 14, 2009.

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 Office	1200 N. Country Club, Tucson 2760 S. 4 th Avenue, Tucson 195 W. Irvington, Tucson 5441 E. 22 nd Street	297	June 18 - 20
DES Offices	5038 S. Price Road, Tempe 1824 E. McKinley, Phoenix	297	June 18 - 20
DES Office	1220 S. 4 th Avenue, Yuma	101	July 6 - 7
DES Office	397 Malpais Lane, Flagstaff	100	July 13 - 14

All survey participants met the following screening criteria:

S1. Do you have any children between the ages of 2 and 11?

_____ Yes

_____ No (THANK & TERMINATE)

S2. Which of the following categories best describes your age?

_____ 18 to 25

_____ 26 to 35

_____ 36 to 45

_____ 45 to 49

_____ over 49 (THANK & TERMINATE)

S3. How many people are there living in your household?

_____ 2

_____ 3

_____ 4

_____ 5

_____ 6 or more

S4. What is your household income? You can give that to me as a weekly income, every 2 weeks, monthly, or yearly income. *(Must be under these to qualify.)*

Family Size	Weekly Income	2 Week Income	Monthly Income	Yearly Income
1	385	770	1,670	20,036
2	518	1,036	2,246	26,955
3	651	1,302	2,823	33,874
4	784	1,568	3,399	40,793
5	917	1,834	3,976	47,712

6	1,050	2,101	4,553	54,631
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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 18 and July 14, 2009). 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 1: 2009 Respondent Profile

	n=795	Phoenix n=297	Tucson n=297	Yuma n=101	Flagstaff n=100
Age					
18 – 25	34%	32%	34%	35%	33%
26 – 35	40%	42%	39%	38%	40%
36 – 45	18%	18%	20%	16%	16%
46 – 49	<u>8%</u>	<u>8%</u>	<u>7%</u>	<u>11%</u>	<u>11%</u>
Total	100%	100%	100%	100%	100%
Education					
8 th Grade or less	8%	11%	7%	<u>4%</u>	<u>3%</u>
Some High School	19%	20%	22%	<u>14%</u>	<u>14%</u>
GED/HS Grad	38%	39%	41%	37%	<u>27%</u>
Some College+	<u>35%</u>	<u>30%</u>	<u>30%</u>	45%	56%
Total	100%	100%	100%	100%	100%
Ethnicity					
Hispanic	54%	52%	66%	61%	<u>19%</u>
Caucasian	21%	<u>20%</u>	<u>17%</u>	31%	24%
Native American	13%	10%	7%	<u>2%</u>	48%
African American	7%	12%	<u>4%</u>	<u>3%</u>	<u>4%</u>
Other	<u>5%</u>	<u>6%</u>	<u>6%</u>	<u>3%</u>	<u>5%</u>
Total	100%	100%	100%	100%	100%
Food Assistance					
Yes	79%	82%	78%	<u>72%</u>	84%
No	<u>21%</u>	<u>18%</u>	<u>22%</u>	28%	<u>16%</u>
Total	100%	100%	100%	100%	100%
Food Stamps*	86%	<u>78%</u>	90%	90%	93%
WIC*	41%	46%	40%	<u>31%</u>	40%
Other*	30%	<u>24%</u>	39%	<u>25%</u>	<u>28%</u>

* Among those receiving assistance

Differences from 2008:

- Slightly more women in the 18 to 25 year age range (34% compared to 27% in 2008)
- Slightly more Hispanic moms (54% compared to 48% in 2008)
- More women with some college or college graduates (35% compared to 19% in 2008)¹
- More moms taking advantage of school lunch/breakfast program (23% compared to 9% in 2008) ¹
- More bilingual women (32% compared to 5% in 2008)

¹ Increase likely due to the economic downturn in Arizona and the nation. National data indicates an increase in the number of people on food assistance programs every month since November 2008.

II. Key Findings & Conclusions

Current Eating Habits

- **Just over one in five (22%) mothers describe their diet as “excellent” or “very good.”** However, more moms (34%) rate the quality of their diet on the other end of the spectrum (10% “poor” + 24% “fair”). Forty-four percent (44%) feel their diet is “good.” (Refer to chart on page 12.)
- Mothers are most likely to indicate they include water, cereal, eggs, chicken, cheese, and rice in their diets. **Moms report an increase in canned, frozen, and dried fruit consumption compared to 2008.** In addition, **more women report including canned vegetables in their diets, however consumption of fresh veggies has decreased.** (Refer to Table 4 on page 14.)
- **When comparing their choice for milk, moms are most likely to include 2% milk (57%), followed by whole milk (43%), 1% low fat milk (31%), and fat free milk (14%).** This data suggests that moms include more than one type of milk in their diets. (Refer to Table 4 on page 14.)
- Mothers were significantly more likely to report *skipping meals, often eating fast food for lunch, and eating cereal for dinner.* **Significantly fewer moms say they eat vegetables every day.** (Refer to Table 5 on page 17.)

Implications:

- ✓ Moms may be getting the message that “all forms count,” as there was an increase in *all forms* of fruit, as well as an increase in consumption of canned vegetables.
- ✓ Though there was no change in the types of milk moms include in their diets, there is data later in this report that suggests moms are at least “trying to” incorporate 1% low fat or fat free milk into their diets. This may be reflected in the increase in those who say they eat cereal for dinner.
- ✓ Or, eating cereal for dinner may be considered convenient, as is skipping meals, and eating fast food for lunch. Moms definitely seem to be more pressed for time than they were last year. Consequently, they are looking for shortcuts that sometimes result in opting for fast food or frozen pizza rather than preparing a healthy meal for their families.

Perceptions about Eating Healthy

- **Nearly all mothers agree that *eating a variety of fruits and vegetables is an important part of eating healthy and eating fruits and vegetables is important for overall health*. In addition, 73% strongly agree/agree with the statement *drinking 1% low fat or fat free milk is important*. This is a statistically significant increase over 2008. (Refer to chart on page 18 and Table 6 on page 19.)**
- **Just over half (53%) of moms agree that *1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk*. This is the same as 2008. (Refer to Table 6 on page 19.)**
- **Taste and habit are major barriers to drinking 1% low fat and fat free milk**, with 60% of moms saying they strongly agree/agree that *whole or 2% milk tastes better than 1% low fat or fat free milk*, and 45% saying they have been *drinking whole milk since childhood*. (Refer to chart on page 24 and Table 8 on page 26.)
- **There has been an increase in moms who associate eating healthy with preventing specific diseases such as heart disease, cancer, and diabetes**. Last year, moms were more likely to agree with those statements that addressed the connection between healthy eating and general health (e.g., feeling better, having more energy, helping my body) than they were to agree with those statements connecting healthy eating to the prevention of specific diseases. (Refer to Table 7 on page 22/23.)
- **There has also been a significant increase in the portion of mothers who realize the benefits of eating family meals**. More moms agree that children who eat with their parents eat more fruits and vegetables, and more believe that families that eat together eat more balanced meals. (Refer to Table 7 on page 22/23)
- **In terms of barriers to healthy eating, moms were most likely to agree with the statement - *sometimes it is easier to eat fast food or frozen pizza* – with nearly half saying they strongly agree or agree with this statement**. Over four in ten mothers (44%) say they *often fix different things for different members of their family*, an increase over last year. In addition, **four in ten women maintain they often run out of ideas/recipes for preparing healthy meals**. (Refer to chart on page 24.)
- Somewhat surprisingly, **significantly fewer moms consider the cost of fruits and veggies a barrier in 2009 than did in 2008**. (Refer to Table 8 on page 26.)
- **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. Eight in ten 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, up significantly from last year. (Refer to chart on page 27.)
- Moms feel most confident they can cook and serve healthy meals and snacks to their families and that they can eat more veggies. In addition, **there was an increase in the portion of moms who feel confident they can buy low fat milk for their families.** This increased from 67% in 2008 to 75% this year. (Refer to Table 10 on page 30/31.)

 - **There was a statistically significant decrease in the portion of moms who say they make the rules in the kitchen, as well as in the statement, I decide what my family eats. However, it's important to point out that moms report an increase in shared decision making.** (Refer to Table 10 on page 30/31 and Table 11 on page 32.)

Implications:

- ✓ In general, moms have a good understanding of the health benefits of eating fruits and vegetables. This year, more of them understand the health benefits of drinking 1% low fat and fat free milk. Unfortunately, nearly half still don't believe/know that 1% milk has the same amount of vitamins and minerals as whole milk.
- ✓ Taste and habit are the major barriers to drinking 1% low fat and fat free milk. However, as moms continue to learn about and believe the health benefits of 1% low fat milk, they are feeling more empowered to transition their families to the healthier choice.
- ✓ Moms are beginning to understand the benefits a healthy diet has on specific diseases such as heart disease, diabetes, and cancer, which may have an impact on their readiness to act. That said, they still feel the greatest risks of not eating healthy are weight gain and low energy levels.

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 already . . .*

Table 2: Stages of Change

	Eating Fruit		Eating Vegetables		Changing to 1% Low fat or Fat free milk		Serving Healthy Meals	
	2008	2009	2008	2009	2008	2009	2008	2009
Pre-contemplation	2%	3%	2%	3%	33%	33%	3%	2%
Contemplation	8%	4%	7%	5%	10%	9%	5%	5%
Preparation	9%	11%	8%	11%	11%	8%	9%	12%
Action	51%	47%	47%	44%	11%	18%	39%	44%
Maintenance	30%	35%	36%	37%	35%	32%	44%	37%

- Table 2 shows a comparison of the *Stages of Change* distribution in 2008 and 2009. As noted by the circles, there have been statistically significant improvements (i.e., increases in the portion of the target audience that fall into the three most prepared stages of readiness) in all four healthy eating categories. The box denotes a decrease in the stage of readiness.
 - **Fruit** - Last year, more moms were in the *Action Stage* with regard to eating fruit than any of the other healthy eating behaviors. Between 2008 and 2009, there was a decrease in the percentage of women in this stage; however, there was a corresponding increase in the portion of women in the *Maintenance Stage*. This suggests that more women have practiced

this behavior (eating fruit) for longer than six months and are comfortable incorporating it into their way of life.

- **Vegetables** – Although there were no statistically significant changes in the Action or Maintenance Stages, there was an increase in the number of moms who fell into the *Preparation Stage* with regard to eating vegetables. It appears that most of this movement was women moving out of the Action Stage into *Preparation*, as there was a directional (but not statistically significant) decrease in *Action Stage* moms.
 - **1% Low Fat or Fat Free Milk** – More moms say they are *trying to drink 1% low fat or fat free milk* this year than last. This is the statement that represents those in the *Action Stage*. This increase is positive, as there was a decrease in moms in the *Preparation Stage* of milk consumption (as well as a slight decrease in *Maintenance Stage* moms).
 - **Healthy Meals** – Last year, more moms fell into the *Maintenance Stage* with regard to serving healthy meals than any other healthy eating behavior. This dropped between 2008 and 2009, with a significant number of women moving out of the *Maintenance Stage* into the *Action* and *Preparation Stages*.
- 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, 83% of Fruit Action Stage moms are in the Veggie Action Stage, 64% are in the Serving Healthy Meals Action Stage, and only 23% are in the Milk Action Stage. If in the Milk Action Stage, there is a high probability they will be in the Action or Maintenance Stage for all other healthy eating behaviors.
- 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. Interestingly, there are *benefits, barriers, and self-efficacy* statements that are strongly correlated with the milk states of change.
- *Two 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.*
 - *It is easier for me to pick something up from a fast food restaurant because my family has different schedules or likes different things.*

Implications:

- ✓ In general, those in the Maintenance segment have better eating habits today, and 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. For example, the main difference in Maintenance and Action Stage moms is that those in the Maintenance Stage seem to have an extra dose of willpower, conviction to do what's best for their family, and perhaps time. They are willing to make the extra effort to find new recipes and prepare them for their family. With regard to milk, these moms understand the benefits of drinking 1% low fat and fat free milk. In addition, the majority of those in the Maintenance Stage of the Milk Stages of Change said they disagree/strongly disagree with the statement *I have been drinking milk ever since I was a little girl*.
- ✓ Conversely, women in the Pre-contemplation/Contemplation/ Preparation stage are more likely to have poor eating habits currently, with a large portion admitting to snacking on popcorn/chips, having snacks before going to bed, skipping meals, and having fast food for lunch. These moms are less likely to understand the benefits, are more hindered by the barriers, are less confident they can make changes to their diet, and feel less empowered to make decisions regarding what they serve their family, than are those in the Action and Maintenance Stages.

III. Current Eating Habits

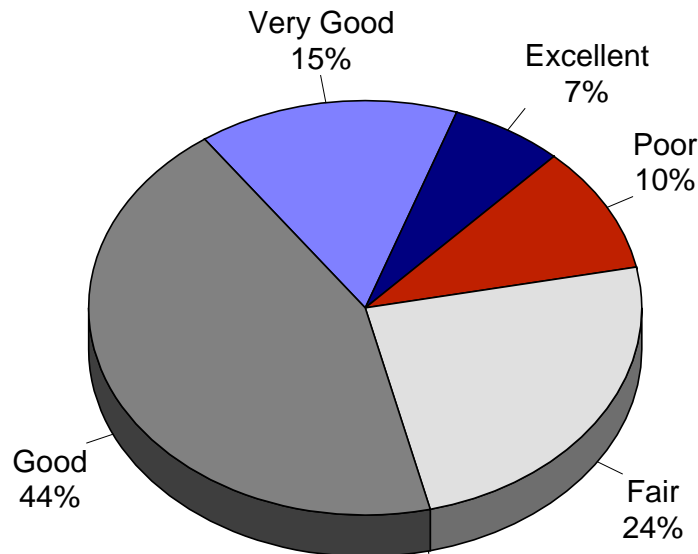
A. Description of Diet

Just over one in five mothers describe their diet as “excellent” (7%) or “very good” (15%). However, a greater portion of moms (34%) rates the quality of their diets on the other end of the spectrum (10% “poor” + 24% “fair”). Forty-four percent (44%) feel their own diet is “good.”

Flagstaff moms report having the best diet, with 35% rating it “excellent” or “very good.” This compares to 25% of Yuma mothers, and 19% of Phoenix and Tucson mothers who maintain their diet is “excellent” or “very good.” Conversely, moms in Phoenix and Tucson are more likely to admit having a “poor” diet (11%) than are moms in the smaller communities (4% in Yuma and 7% in Flagstaff).

Description of Diet

How would you describe your diet?



n=791

Demographic Differences:

Caucasian women and women in other ethnic groups are significantly more likely to describe their diet as “excellent” or “very good” than are Hispanic moms.

Moms with some college or more are also more likely to say their diet is “excellent” or “very good” than are moms with less education.

2008 / 2009 Comparison

Comparing the 2008 and 2009 data, the most noticeable difference is with those mothers who rate their diets “poor” - up from 4% last year to 10% this year. Those stating their diet is “excellent” or “very good” remained fairly consistent, with 25% “excellent” and “very good” ratings in 2008 and 22% in 2009.

Table 3: Description of Diet

Rating	2008 Total (n=800)	2009 Total (n=791)
Excellent	7%	7%
Very Good	18%	15%
Good	49%	44%
Fair	22%	24%
Poor	4%	10%

B. Foods Included in Diet

Mothers are most likely to indicate they include water, cereal, eggs, chicken, cheese, and rice in their diets (91% to 85%). These foods are similar to those most frequently mentioned in the 2008 tracking study, although water is mentioned most frequently this year compared to cereal and eggs last year.

Moms report an increase in canned, frozen, and dried fruit consumption, as well as an increase in consumption of canned veggies. Though slightly more say they eat fresh fruit, fewer say they eat fresh veggies.

The types of milk moms say they include in their diets are virtually unchanged from 2008 – 43% include whole milk, 57% include 2% milk, 31% include 1% low fat, and 14% include fat free milk. This data suggests that many moms include more than one type of milk in their diet.

Table 4: Foods Included in Diet

Foods	2008 (n=800)	2009 (n=795)	Foods	2008 (n=800)	2009 (n=795)
Water	<u>88%</u>	91%	Frozen vegetables	51%	53%
Cereal	91%	90%	Pizza	47%	51%
Eggs	91%	89%	Chips	<u>44%</u>	50%
Chicken	89%	89%	Bacon	53%	49%
Cheese	88%	86%	Olive oil	42%	46%
Rice	<u>80%</u>	85%	Sub sandwiches	<u>30%</u>	45%
Lettuce	88%	<u>82%</u>	Stew	<u>25%</u>	44%
Fresh fruit	79%	82%	Canned fruit	<u>35%</u>	43%
Fruit juice	80%	79%	Whole milk	45%	43%
Fresh vegetables	85%	<u>77%</u>	White bread	<u>37%</u>	42%
Pasta	<u>64%</u>	76%	Fast-food burgers	43%	41%
Yogurt	<u>68%</u>	75%	Candy	36%	33%
Whole grain bread	76%	72%	1% low fat milk	30%	31%
Tortillas	<u>59%</u>	68%	Frozen fruit	<u>20%</u>	28%
2% milk	53%	57%	Dried fruit	<u>16%</u>	27%
Soda	53%	56%	Fat free milk	13%	14%
Canned vegetables	<u>43%</u>	56%			

Table Q2: Which of the following foods do you include in your diet?

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

Demographic Differences:

Hispanic moms are more likely than Caucasian or those in other ethnic groups to include the following foods in their diet:

- Lettuce
- Yogurt
- Tortillas
- Stew (*more likely than Caucasian but not other ethnicities*)
- Candy (*more likely than other ethnicities*)
- 1% low fat milk (*more likely than Caucasian but not other ethnicities*)
- Fat free milk (*more likely than Caucasian but not other ethnicities*)

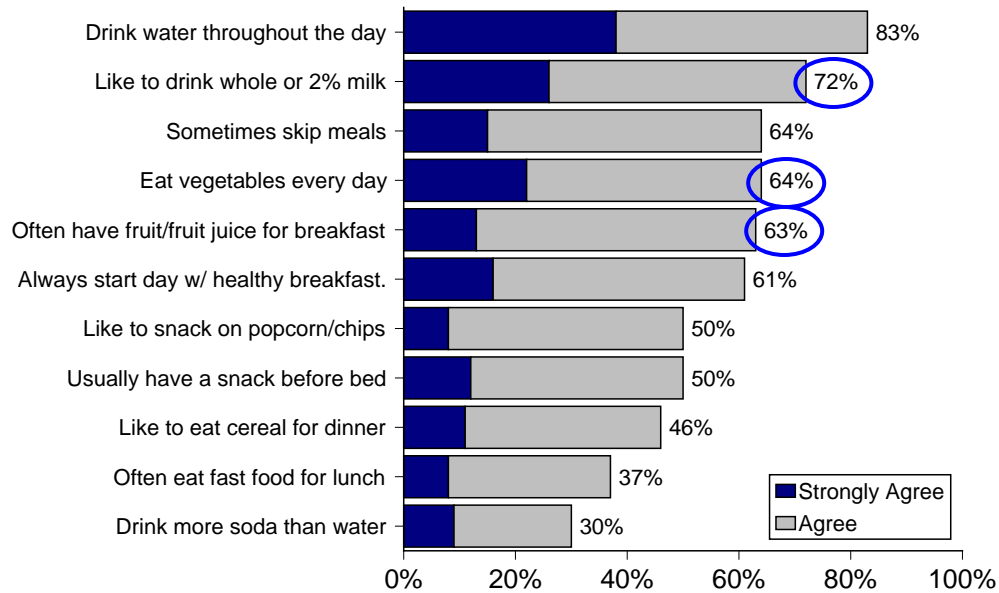
C. Eating Habits

As might be expected, mothers in the target audience combine good habits with not so good habits. On a positive note, 83% of moms strongly agree/agree that they *drink water throughout the day on most days*. However, in a new statement this year, over seven in ten (72%) say that *when they drink milk, they like to drink whole or 2%*. In addition, almost two-thirds indicate they *sometimes skip meals because they do not have enough time to eat*. Again, in the good news column, nearly two-thirds (64%) say they *eat vegetables every day* or *often have fruit or fruit juice for breakfast* (63%).

Moms are least likely to indicate *drinking more soda than water* (30% strongly agree/agree ratings), *often eating fast food for lunch* (37%), and *eating cereal for dinner* (46%).

Current Eating Habits

Combined Strongly Agree and Agree Ratings



n=795; Tables Q3-Q12B: Please indicate your level of agreement or disagreement with each statement.

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.

Caucasian women are more likely than Hispanics to:

- eat veggies every day,
- drink more soda than water.

Women under 25 years of age are significantly more likely than those age 26-35 to:

- snack on popcorn and/or chips,
- drink more soda than water.

Women with a high school education or less are significantly more likely than those with some college or more education to:

- drink whole or 2% milk when they drink milk,
- snack on popcorn and/or chips,
- eat cereal for dinner,
- eat fast food for lunch,
- drink more soda than water.

2008 /2009 Comparison

Overall, there are five significant differences between the two data sets. Mothers were significantly more likely to report *skipping meals* (64%, up from 55% in 2008), *often eating fast food for lunch* (37%, up from 30% in 2008), and *eating cereal for dinner* (46%, up from 37% in 2008). Significantly fewer moms say they *eat vegetables every day* (64%, down from 78% in 2008). Additionally, significantly fewer moms reported *snacking on popcorn and/or chips* (50%, down from 56% in 2008).

Table 5: Current Eating Habits Tracking Data
Combined Strongly Agree and Agree Ratings

	2008 Total (n=800)	2009 Total (n=795)
Most days, I drink water throughout the day.	86%	83%
When I drink milk, I like to drink whole or 2% milk.	n/a	72%
I sometimes skip meals because I don't have time to eat.	<u>55%</u>	64%
I eat vegetables every day.	78%	64%
I often have fruit juice or a piece of fruit for breakfast.	60%	63%
I always start my day with a healthy breakfast.	61%	61%
I like to snack on popcorn and/or chips.	56%	<u>50%</u>
I usually have a snack before I go to bed.	48%	50%
I like to eat cereal for dinner because it's light & healthy.	<u>37%</u>	46%
I often eat fast food for lunch.	<u>30%</u>	37%
I drink more soda than water.	31%	30%

Note: Throughout this report, increases and decreases in the portion of women who agree with behavior statements directly related to the three health messages are highlighted. When comparing 2008 to 2009, arrows indicate improvements in desired behavior, and decreases in desired behavior (or increases in less desired behavior) are boxed.

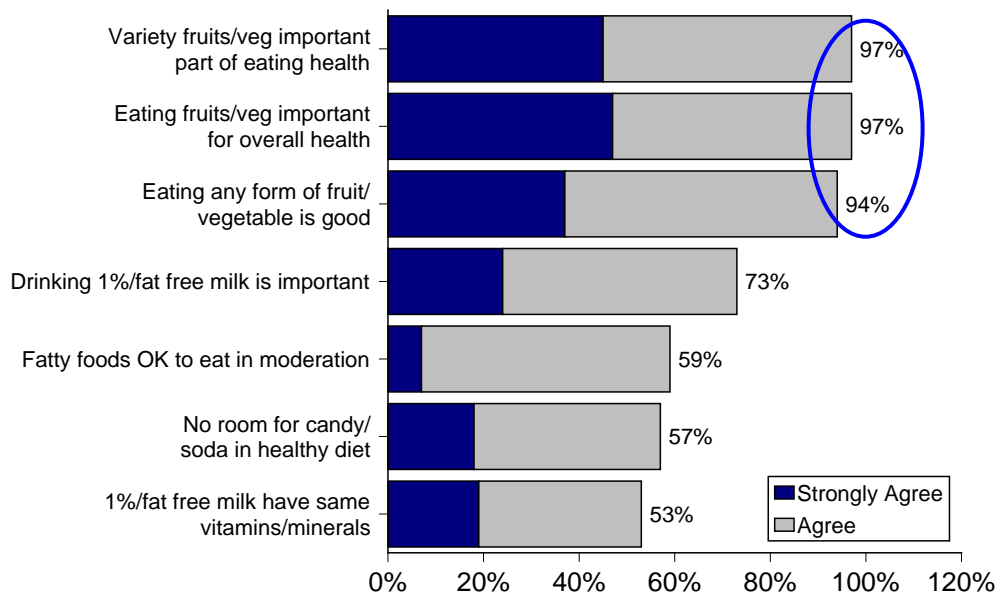
V. Perceptions about Eating Healthy

A. Healthy Eating

Nearly all mothers interviewed strongly agree or agree with the three positive statements about fruits and vegetables (94% to 97%), with *eating a variety of fruits and vegetables is an important part of eating healthy* and *eating fruits and vegetables is important for overall health* getting the highest levels of agreement overall (97% each). In addition, 73% strongly agree/agree with the statement *drinking 1% or fat free milk is important*. On the other hand, moms were least likely to agree that *1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk* (53% strongly agree/agree ratings).

Healthy Eating Opinions

Combined Strongly Agree and Agree Ratings



n=791; Tables Q13 - Q19: Please indicate your level of agreement or disagreement with each of the following statements.

Demographic Differences:

Hispanic women are significantly more likely than Caucasians or other ethnicities to believe:

- drinking 1% low fat or fat free milk is an important part of a healthy diet,
- there is no room for candy or soda in a healthy diet.

Bilingual women are significantly more likely than monolingual women to believe that

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

Women with a college education or higher and those ages 36-45 are significantly more likely to believe that 1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk.

2008 / 2009 Comparison

Three significant differences are visible between the data sets, and all contribute to a healthier diet: 1) 73% of moms now believe *drinking 1% low fat or fat free milk is an important part of a healthy diet* (up from 64% in 2008), 2) fewer moms feel *fatty foods are okay to eat in moderation* (59% vs. 75% in 2008), and 3) more mothers say *there is no room for candy or soda in a healthy diet* (57% vs. 39% in 2008).

Table 6: Healthy Eating Opinions Tracking Data
Combined Strongly Agree and Agree Ratings

	2008 Total (n=800)	2009 Total (n=791)
Eating a variety of fruits and vegetables is an important part of eating healthy.	97%	97%
I believe eating fruits and vegetables is important for my overall health.	97%	97%
Eating any form of fruit or vegetable is good for you. That includes fresh, frozen, dried, canned and 100% juice.	95%	94%
Drinking <u>1% low fat or fat free milk</u> is an important part of a healthy diet.	<u>64%</u>	73%
Fatty foods are OK to eat in moderation.	75%	<u>59%</u>
There is no room for candy or soda in a healthy diet.	<u>39%</u>	57%
1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk.	54%	53%



B. Perceived Benefits of Eating Healthy

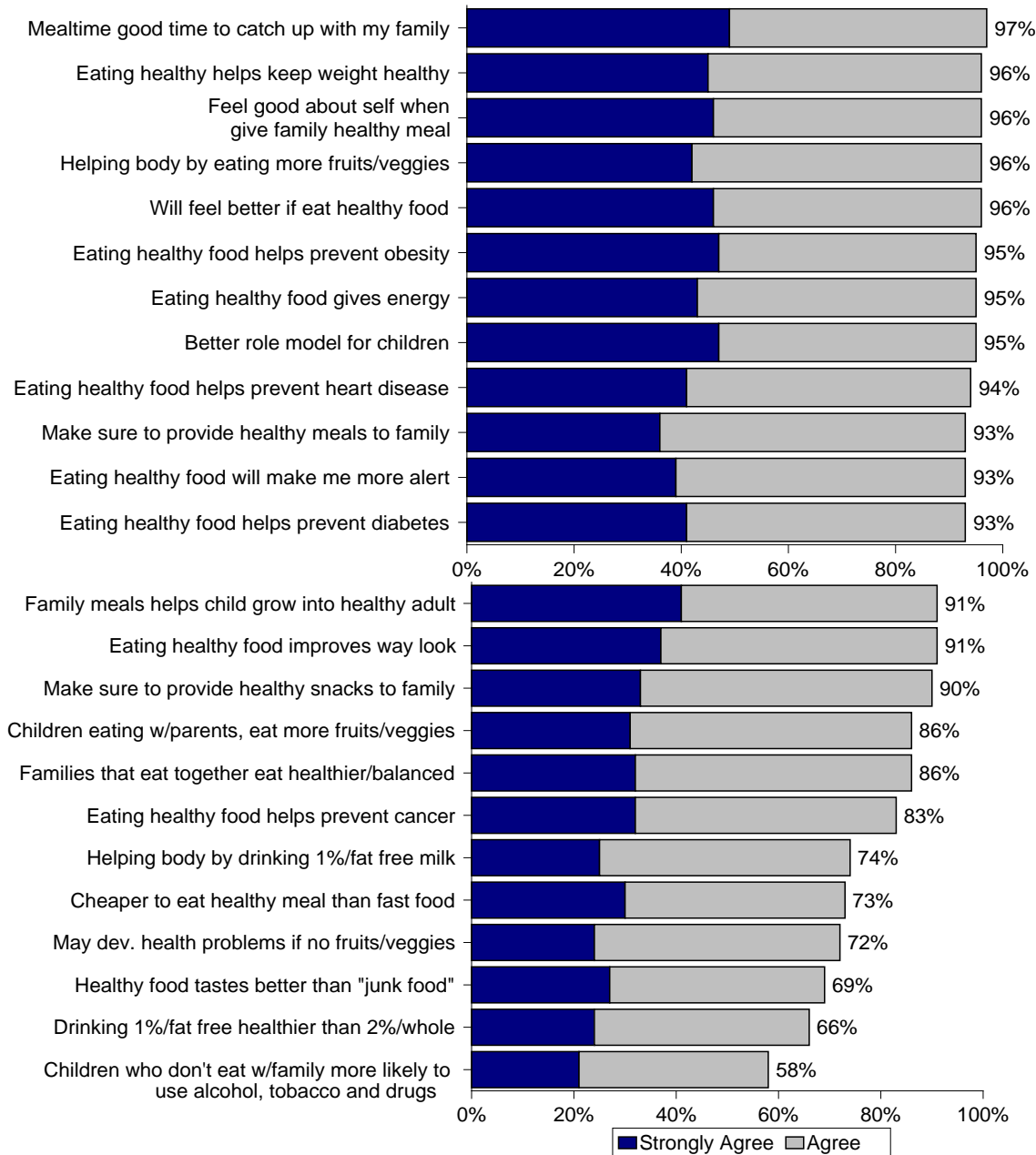
There is a high level of agreement with statements measuring the perceived benefits of healthy eating. More than half of Arizona mothers agreed or strongly agreed with all of the statements presented. Nine in ten (or higher) moms agreed with more than half of the statements. The statement garnering the highest level of agreement was *mealtime is a good time to catch up with my family* (97% strongly agree /agree ratings). This was followed by several statements with over 90% agreement, including statements relating to eating fruits and veggies, providing healthy meals to family, and healthy eating helping to prevent serious diseases.

A somewhat smaller portion strongly agree/agree with the two milk statements: *I feel that I am helping my body by drinking 1% low fat or fat free milk* (74% strongly agree/agree) and *drinking 1% low fat and fat free milk is healthier than drinking whole and 2% milk* (66% strongly agree/agree).

Interestingly, while *mealtime is a good time to catch up with my family* was the statement with the greatest agreement, *children who do not eat dinner with their families are more likely to use alcohol, tobacco, or illegal drugs had the lowest level of agreement* (58% strongly agree/agree).

Pereceived Benefits of Eating Healthy

Combined Strongly Agree and Agree Ratings



n=306; Tables Q22-Q43: Please indicate your level of agreement or disagreement with each of the following statements.

Demographic Differences:

Hispanic moms are significantly more likely than Caucasian moms to believe:



- drinking 1% low fat and fat free milk is healthier than drinking whole and 2% milk,
- they are helping their body by drinking 1% low fat or fat free milk,
- healthy food tastes better than “junk food.”

Bilingual mothers are more likely than monolingual mothers to believe:

- eating healthy will make them more alert,
- eating meals as a family will help their child grow into a healthy adult,
- families that eat together eat healthier food and more balanced meals,
- they are helping their bodies by drinking 1% low fat or fat free milk,
- drinking 1% low fat and fat free milk is healthier than drinking whole or 2% milk.

Women with a high school education or higher are significantly more likely than those with some high school or less to:

- indicate eating healthy food is helpful in preventing obesity.

Women over age 26 are significantly more likely than those 25 and under to:

- believe children who do not eat dinner with their families are more likely to use alcohol, tobacco, or illegal drugs.

2008 / 2009 Comparison

As seen in the following table, many of the statements had significantly higher levels of agreement from Arizona mothers this year compared to 2008.

Table 7: Perceived Benefits to Healthy Eating Tracking Data
Combined Strongly Agree and Agree Ratings

	2008 Total (n=800)	2009 Total (n=795)
Mealtime good time to catch up with my family	96%	97%
Eating healthy helps keep weight healthy	96%	96%
Feel good about self when give family healthy meal	98%	96%
Will feel better if eat healthy food	96%	96%
Eating healthy food helps prevent obesity	95%	95%
Eating healthy food gives energy	94%	95%
Helping body by eating more fruits/veggies	96%	96%
Better role model for children	97%	<u>95%</u>
Eating healthy food helps prevent heart disease	78%	94%
Eating healthy food helps prevent diabetes	<u>81%</u>	93%
Eating healthy food will make me more alert	<u>90%</u>	93%
Make sure to provide healthy meals to family	93%	93%
Eating healthy food improves way look	<u>81%</u>	91%
Family meals helps child grow into healthy adult	93%	91%

Make sure to provide healthy snacks to family	90%	90%	
Children eating w/parents, eat more fruits/veggies	<u>73%</u>	86%	←
Families that eat together eat healthier/balanced	<u>74%</u>	86%	←
Eating healthy food helps prevent cancer	<u>70%</u>	83%	←
Helping body by drinking 1%/fat free milk	<u>64%</u>	74%	←
Cheaper to eat healthy meal than fast food	<u>66%</u>	73%	
May develop health problems if no fruits/veggies	68%	72%	
Healthy food tastes better than "junk food"	81%	<u>69%</u>	
Drinking 1%/fat free healthier than 2%/whole	62%	66%	
Children who do not eat w/family more likely to...	<u>40%</u>	58%	←

Some of the most notable increases include an awareness that eating healthy food helps prevent specific diseases such as heart disease, cancer, and diabetes. Last year, moms were more likely to agree with those statements that addressed the connection between healthy eating and general health (e.g., feeling better, having more energy, helping my body) than they were to agree with those statements connecting healthy eating to the prevention of specific diseases. In addition, moms are more likely to recognize the benefits of families eating together, with significant increases in *children who eat with their parents eat more fruits and vegetables*, *families that eat together eat healthier food and more balanced meals*, and *children who do not eat with their families are more likely to use alcohol, tobacco, or illegal drugs*.

The most sizeable decrease was in the portion that said *healthy food tastes better than "junk food."*

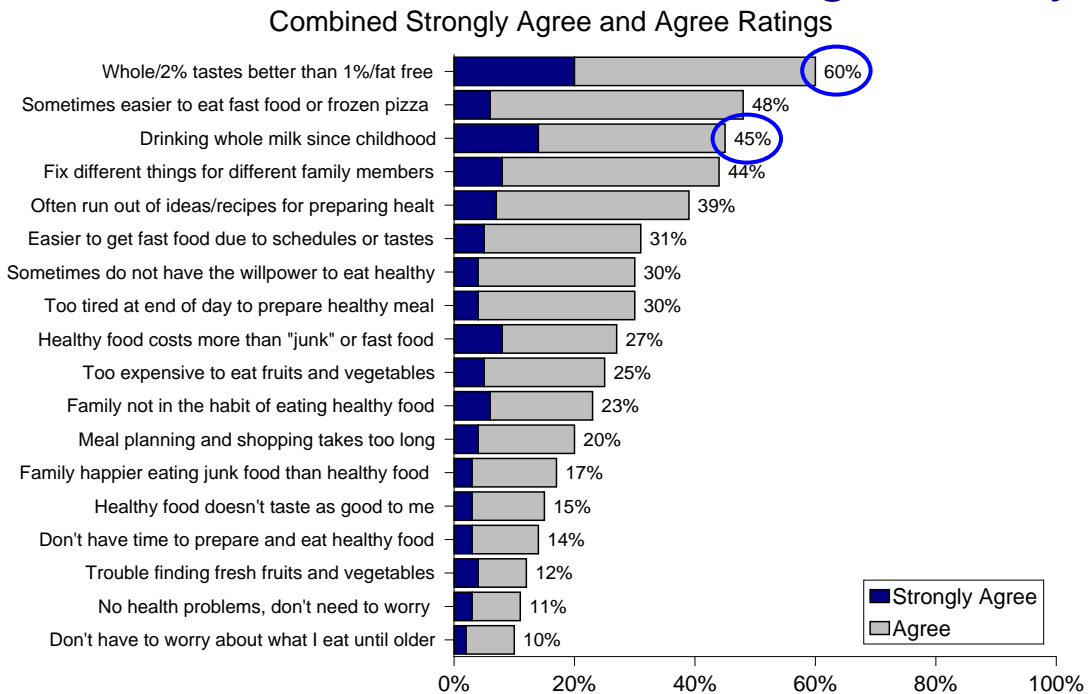
C. Perceived Barriers to Eating Healthy

Taste and habit are major barriers to drinking 1% low fat and fat free milk, with 60% of moms saying they strongly agree/agree that *whole or 2% milk tastes better than 1% low fat or fat free milk* and 45% saying they have been *drinking whole milk since childhood*.

Though there are many barriers to eating healthy food, moms were most likely to agree with the statement - *sometimes it is easier to eat fast food or frozen pizza* – with nearly half saying they strongly agree or agree with this. Slightly fewer (44%) say they *often fix different things for different members of their family*, and 39% maintain they *often run out of ideas/recipes for preparing healthy meals*.

The three barriers Arizona moms were least likely to agree with were *don't have to worry about what I eat until I am older* (10% strongly agree/agree ratings), *no health problems/don't need to worry* (11%), and *have trouble finding fresh fruits and vegetables* (12%).

Perceived Barriers to Eating Healthy



n=795; Tables Q44-Q59B: Please indicate your level of agreement or disagreement with each of the following statements.

Demographic Differences:

Caucasian women are significantly more likely than Hispanic women and women in other ethnic groups to say:

- sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal,
- sometimes I do not have the willpower to eat healthy.

Hispanic moms are significantly more likely than Caucasian moms to say:

- their family is not in the habit of eating healthy food.

Bilingual women are more likely than monolingual women to say they have trouble finding fresh fruits and vegetables.

Women with some college or more are significantly more likely than those with less education to say:

- sometimes I do not have the willpower to eat healthy,
- healthy food costs more than “junk” or fast food.

English speakers, moms with a high school education or less, those participating in food assistance programs, and those 45 and over are significantly more likely than other ethnicities, those with some college or more, and moms ages 18-44 to believe:

- whole or 2% milk tastes better than 1% low fat or fat free milk.

Spanish speaking moms and those with a high school education or less are significantly more likely than English speakers or bilinguals and those with some college or more to say:

- healthy food doesn't taste as good to me.

Native American women are less likely than non Native Americans to:

- Run out of recipes,
- Say it's easier to eat fast to get fast food due to schedules or tastes,
- Say meal planning takes too long.

2008 / 2009 Comparison

A larger portion of moms say they *often fix different things for different family members* compared to last year, with a similar increase seen in the number of moms who say they *often run out of ideas and recipes for preparing healthy meals*. There was also an increase in those who said their *family is not in the habit of eating healthy*. In addition, three in ten say they're *too tired at the end of the day to prepare a healthy meal* compared to two in ten last year. Interestingly, moms are much *less likely to consider cost a barrier*, as agreement with these statements was down significantly from last year.

Table 8: Perceived Barriers to Eating Healthy
 Combined Strongly Agree and Agree Ratings

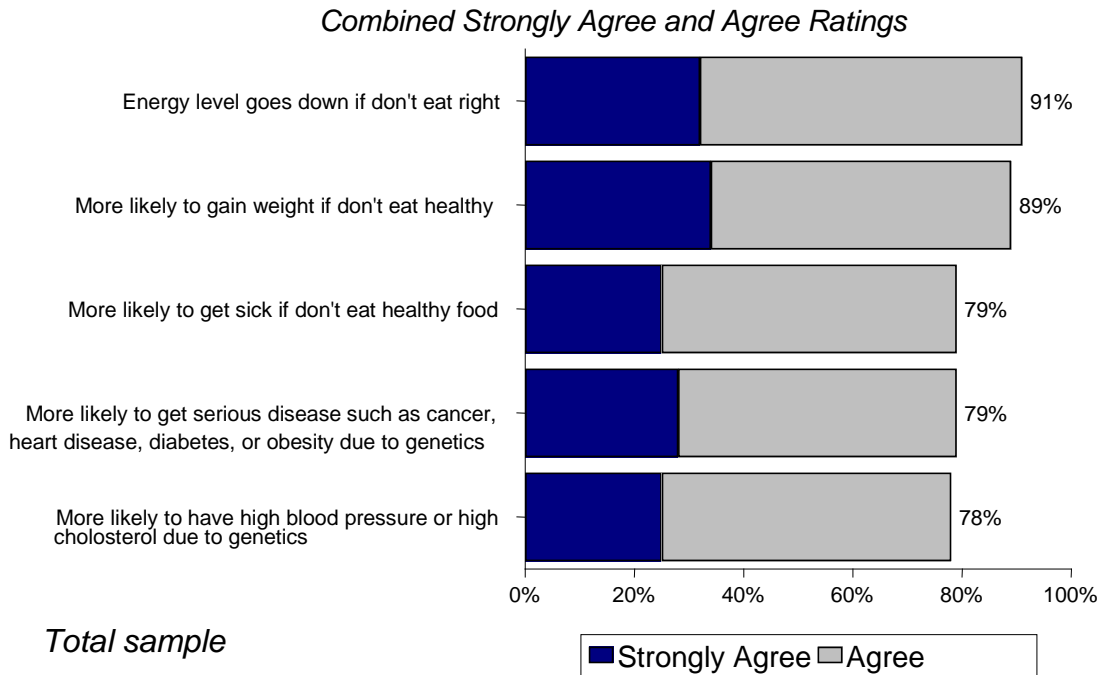
	2008 Total (n=800)	2009 Total (n=795)
Whole or 2% milk tastes better to me than 1% low fat or fat free milk.	n/a	60%
Sometimes easier to eat fast food or frozen pizza	51%	48%
I have been drinking whole milk ever since I was a little girl.	n/a	45%
Fix different things for different family members	29%	44%
Run out of ideas/recipes for preparing healthy meals	<u>26%</u>	39%
Easier to get fast food due to schedules or tastes	34%	31%
Sometimes do not have the willpower to eat healthy	<u>26%</u>	30%
Too tired at end of day to prepare healthy meal	20%	30%
Healthy food costs more than "junk" or fast food	34%	<u>27%</u>
Too expensive to eat fruits and vegetables	53%	<u>25%</u>
Family not in the habit of eating healthy food	<u>16%</u>	23%
Meal planning and shopping takes too long	19%	20%
Family happier eating junk food than healthy food	<u>12%</u>	17%
Healthy food doesn't taste as good to me	12%	15%
Don't have time to prepare and eat healthy food	13%	14%
Trouble finding fresh fruits and vegetables	10%	12%
No health problems, don't need to worry	10%	11%
Don't have to worry about what I eat until older	8%	10%



D. Perceived Risks of Not Eating Healthy

A vast majority of moms interviewed agree their *energy level goes down if they do not eat properly* and they are *more likely to gain weight if they do not eat healthy food* (91% and 89% strongly agree/agree). Over three-quarters agree they are more likely to get sick, have health issues, or get a serious disease if they do not eat healthy foods (78% to 79% strongly agree/agree for the health-related statements).

Perceived Risks of Not Eating Healthy



Demographic Differences:

Spanish-speaking moms are significantly more likely than English-speakers or bilinguals to believe:

- they are more likely to get sick if they don't eat healthy food,
- they are more like to get a serious disease such as cancer, heart, disease, diabetes, or obesity because some in the family has the disease.

Moms over 26 years old are more likely than those between 18 and 25 to believe:

- their energy level goes down if they don't eat right,
- they are more likely to get sick if they don't eat healthy food.

Women over 45 are significantly more likely than those under 45 years of age to say they are more likely to have high blood pressure or high cholesterol because someone in their family has the condition.

2008 / 2009 Comparison

Moms are significantly more likely to strongly agree/agree with all but one of the perceived risk statements than they were in 2008.

Table 9: Perceived Risks to Eating Health Tracking Data
Combined Strongly Agree and Agree Ratings

	2008 Total (n=800)	2009 Total (n=795)
Energy level goes down if don't eat right	<u>87%</u>	91%
More likely to gain weight if don't eat healthy	90%	89%
More likely to get sick if don't eat healthy food	<u>67%</u>	79%
More likely to get serious disease such as cancer, heart disease, diabetes, or obesity due to genetics	<u>66%</u>	79%
More likely to have high blood pressure or high cholesterol due to genetics	<u>68%</u>	78%

E. Self-Efficacy

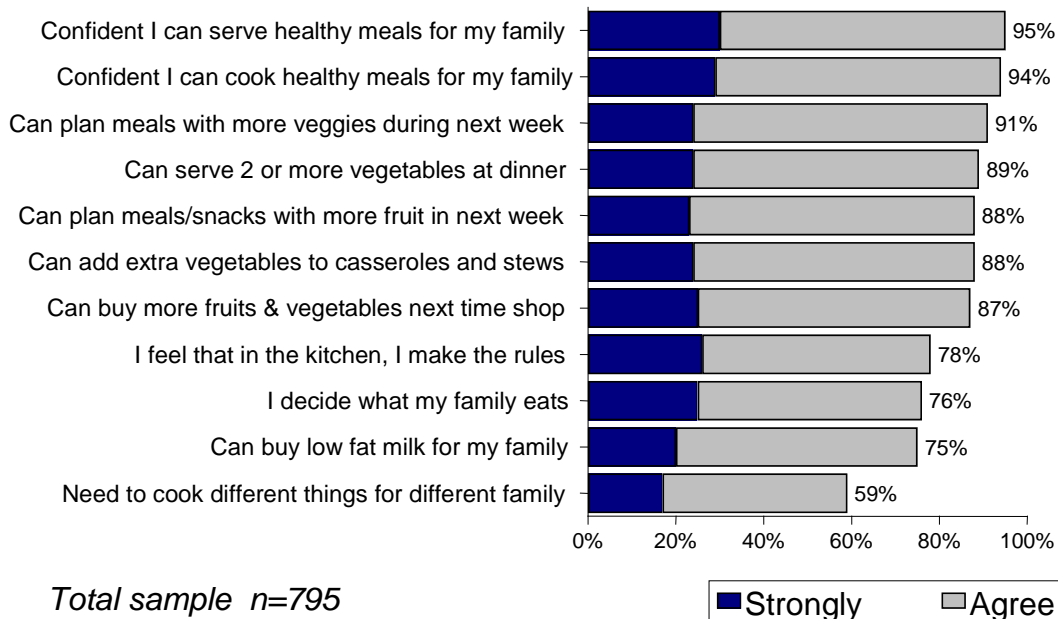
1. Agreement with Statements

Nearly all mothers indicate they feel confident about being able to serve and cook healthy meals for their families (95% and 94% strongly agree/agree). A strong majority also agrees with five of the remaining nine empowerment statements (87% to 91%). Eight in ten (78%) agree that, *when in the kitchen, they make the rules*, with 76% saying *they decide what their family eats*. Three-quarters believe they can buy low fat milk for their families. Nearly six in ten (59%) 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 (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 sees 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

Combined Strongly Agree and Agree Ratings



Demographic Differences:

Hispanic women are significantly more likely than Caucasian women and those in other ethnic groups to strongly agree/agree:

- in the kitchen, they make the rules,
- they decide what their family eats,
- they can transition their family to 1% low fat or fat free milk,
- they need to cook different things for different people.

Bilingual moms are more likely than monolingual moms to feel:

- they can buy low fat milk for their families,
- they can transition their families to 1% low fat or fat free milk,
- they need to cook different things for different people.

Native American mothers are significantly less likely than non Native American women to strongly agree/agree:

- in the kitchen, they make the rules,
- they decide what their family eats,
- they can buy low fat milk for their families.

Women over 26 are significantly more likely than those between 18 and 25 to strongly agree/agree that *in the kitchen, they make the rules*.

2008 / 2009 Comparison

Similar to 2008, moms feel most confident they can cook and serve healthy meals and snacks to their families and that they can eat more veggies. In addition, there was an increase in the portion of moms who feel confident they can *buy low fat milk for their families*. This increased from 67% in 2008 to 75% this year. This increase is best explained by the jump in the percentage of Caucasian women who strongly agreed/agreed with this statement – up from 55% in 2008 to 69% this year. This is a statistically significant increase.

Also of interest this year, is the statistically significant decrease in the portion of moms who say they *make the rules in the kitchen*, as well as in the statement, *I decide what my family eats*. The important thing to remember here is that moms report an increase in shared decision making as seen on the following page.

Table 10: Self-Efficacy
Combined Strongly Agree and Agree Ratings

	2008 Total (n=800)	2009 Total (n=795)
Confident I can serve healthy meals for my family	94%	95%
Confident I can cook healthy meals to my family	95%	94%
Can plan meals with more veggies during next week	89%	91%

Can serve 2 or more vegetables at dinner	87%	89%
Can plan meals/snacks with more fruit in next week	86%	88%
Can add extra vegetables to casseroles and stews	83%	88%
Can buy more fruits & vegetables next time shop	85%	87%
I feel that in the kitchen, I make the rules	83%	<u>78%</u>
I decide what my family eats	85%	<u>76%</u>
Can buy low fat milk for my family	<u>67%</u>	75%
Cook different things for different family members	<u>53%</u>	59%

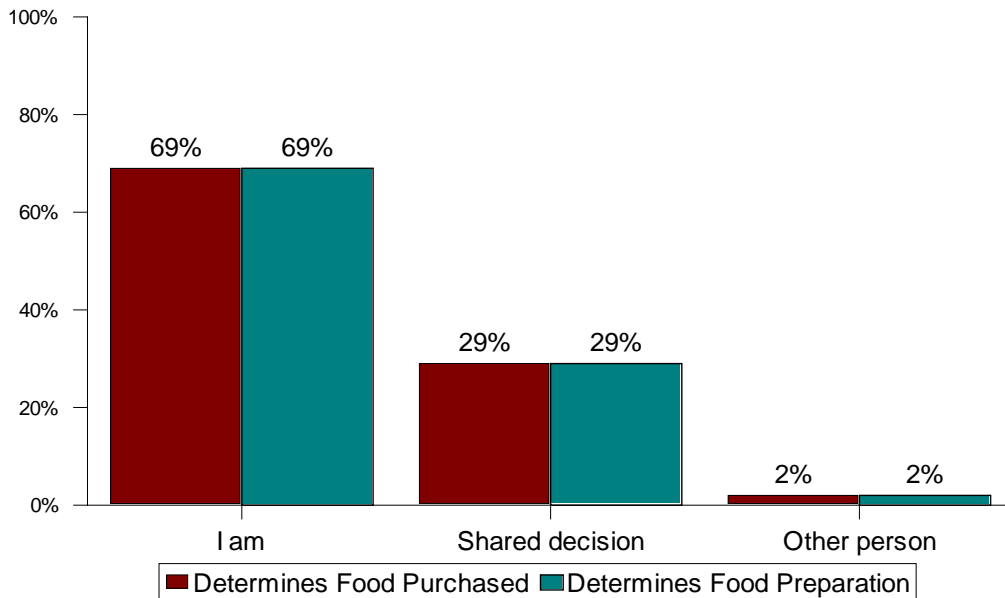


2. Household Food Determination

Seven in ten mothers say they are in charge of what foods to buy and how to prepare the food. Three in ten report that purchasing and/or preparing foods is a shared decision. 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?*



2008 / 2009 Comparison

Although there was a decrease in those who say they alone decide, there was a corresponding increase in those who maintain such decisions are shared. There are no statistically significant differences by ethnicity.

Table 11: Household Food Determination Tracking Data

Determines Food Purchased:	2008 Total (n=800)	2009 Total (n=795)
I am	76%	<u>69%</u>
Shared decision	<u>23%</u>	29%
Other person	1%	2%
Determines Food Preparation:	2008 Total (n=800)	2009 Total (n=795)
I am	78%	<u>69%</u>
Shared decision	<u>22%</u>	29%
Other person	<u><.5%</u>	2%

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.

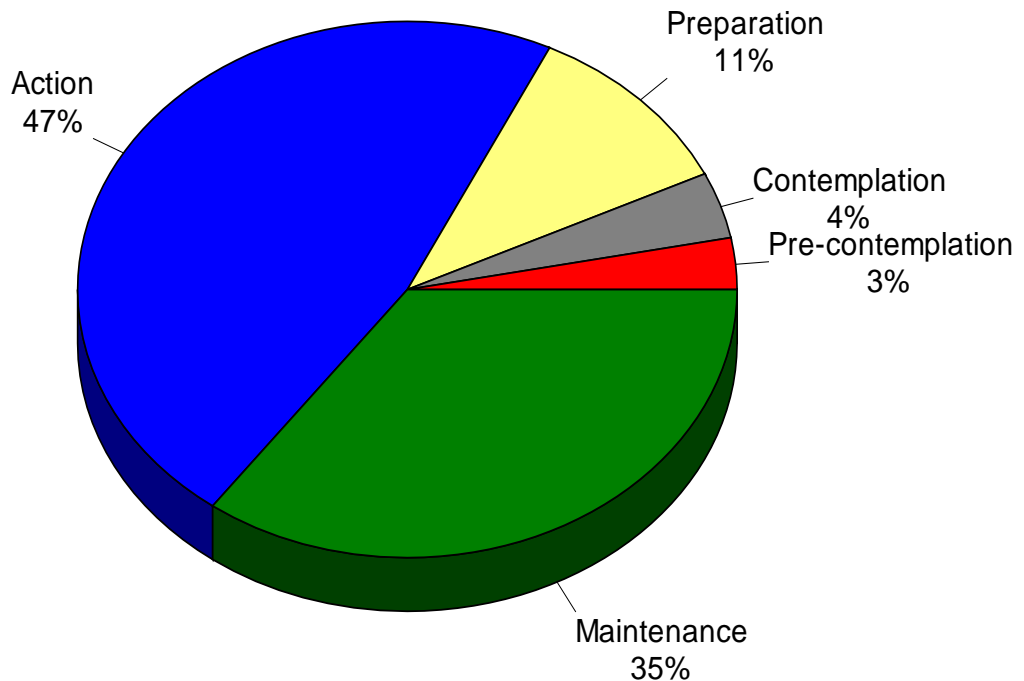
Maintenance – Refers to the period in which people have performed the new behavior for longer than six months, incorporating it as part of their way of life.

I am already . . .

A. Fruit Stages of Change

Nearly half (47%) 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 35% report already eating three or more servings of fruit each day, placing them in the Maintenance Stage. One in ten are in the Preparation Stage (11% selected the statement *I am definitely planning to eat more fruit in the next month*), with 4% selecting the statement *I am thinking about eating more fruit... planning to start in the next six months*, placing them in the Contemplation Stage. Three percent (3%) are considered to be in the Pre-contemplation Stage as they are not currently thinking about eating more fruit.

Fruit: Stages of Change



2008 / 2009 Comparison

Last year, more moms were in the Action Stage with regard to eating fruit than any of the other healthy eating behaviors. Between 2008 and 2009, there was a decrease in the percentage of women in this stage; however, there was a corresponding increase in the portion of women in the Maintenance Stage. This suggests that more women have practiced this behavior (eating fruit) for longer than six months and are comfortable incorporating it into their way of life.

There was also a significant decrease in the portion of women in the Contemplation Stage. It appears these women are further along the continuum of change as there was not a significant increase in the portion of women in the Pre-contemplation Stage.

The increase in the percentage of moms who “moved up” to the Maintenance Stage appears to be the result of an increase in the number who believes in the *benefits* of eating healthy such as, *healthy eating is helpful in preventing heart disease and cancer*. In addition, cost – *it is too expensive to eat fruits and vegetables* – was perceived to be less of a barrier in 2009 than it was in the 2008 study.

Table 12: Fruit Stages of Change
2008 / 2009 Comparison

	2008 Total (n=800)	2009 Total (n=795)
I am not thinking about eating more fruit	2%	3%
I am thinking about eating more fruit...planning to start within 6 months	8%	4%
I am definitely planning to eat more fruit in the next month	9%	11%
I am trying to eat more fruit now	51%	47%
I am already eating 3 or more servings of fruit a day	30%	35%

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.

**Table 13: Fruit Stages of Change
by Key Demographics**

Demographics	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintncc. (n=280)
Participate in Food Assistance Program	84%	79%	78%
Food Stamps	89%	86%	91%
WIC	40%	44%	43%
Other	28%	31%	26%
Primary language spoken at home			
English	59%	59%	<u>48%</u>
Both English and Spanish	29%	29%	36%
Spanish	12%	10%	12%
Other	<u>1%</u>	2%	4%
Ethnicity			
Hispanic	58%	53%	54%
Caucasian	16%	23%	20%
Native American	13%	12%	14%
African American	8%	8%	6%
Other	6%	4%	7%

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, have a snack before bed, and eat fast food for lunch*.
- Similar to those in the Pre-contemplation/Contemplation/Preparation group in regard to diet rating, but are significantly more likely to *start their day with a healthy breakfast and have juice or a piece of fruit for breakfast*. They are less likely to *have a snack before bed and eat fast food for lunch*.

**Table 14: Fruit Stages of Change
by Current Eating Habits**

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintncc. (n=280)
Current Eating Habits			
How would you describe your diet? (Excellent / Very Good)	<u>13%</u>	<u>17%</u>	34%
I always start my day with a healthy breakfast.	<u>43%</u>	<u>56%</u>	77%
I often have fruit juice or a piece of fruit for breakfast.	<u>43%</u>	58%	79%
I like to snack on popcorn and/or chips.	60%	54%	<u>40%</u>
I usually have a snack before I go to bed.	63%	<u>53%</u>	<u>38%</u>
I often eat fast food for lunch.	57%	<u>41%</u>	<u>20%</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.

b. Healthy Eating

(Action Stage moms are not significantly different from other moms in the key healthy eating statements related to fruit.)

**Table 15: Fruit Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintnce. (n=280)
Healthy Eating			
Eating a variety of fruits and vegetables is an important part of eating healthy.	<u>92%</u>	97%	99%
I believe eating fruits and vegetables is important for my overall health.	<u>94%</u>	97%	99%
Eating any form of fruit or vegetable is good for you. That includes fresh, frozen, dried, canned and 100% juice.	92%	94%	93%

c. *Perceived Benefits to Healthy Eating*

Action Stage moms are ...

- Significantly less likely than those in the Maintenance Stage to say they make sure to *provide healthy snacks to their families*.
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation group to understand the positive implications of eating healthy, specifically, *preventing obesity, cancer, and developing other health problems*. They are also more likely to *provide healthy snacks to their families*.

Table 16: Fruit Stages of Change
by Key Perceived Benefits to Healthy Eating Statements

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintnce. (n=280)
Perceived Benefits to Healthy Eating			
Eating healthy food is helpful in preventing obesity.	<u>91%</u>	97%	96%
I make sure to provide healthy snacks to my family.	<u>77%</u>	90%	96%
Eating healthy food is helpful in preventing diabetes.	90%	93%	93%
Eating healthy food is helpful in preventing heart disease.	<u>90%</u>	95%	95%
Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.	83%	84%	88%
I may develop health problems if I do not eat fruit and vegetables.	<u>65%</u>	74%	73%
Eating healthy food is helpful in preventing cancer.	<u>75%</u>	84%	86%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	<u>68%</u>	72%	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 sometimes easier to eat fast food/frozen pizza,
 - it is easier to pick up fast food due to different schedules
 - they run out of ideas and recipes for preparing healthy meals,
 - they sometimes do not have the willpower to eat healthy.

- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree with several of the healthy eating statements, including:
 - it is sometimes easier to eat fast food,
 - it is easier to pick up fast food due to different schedules,
 - run out of ideas for healthy meals,
 - they sometimes do not have the willpower to eat healthy,
 - they are too tired at the end of the day to prepare a healthy meal,
 - my family is not in the habit of eating healthy food.

Table 17: Fruit Stages of Change
by Key Perceived Barriers to Healthy Eating Statements

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintnce. (n=280)
Perceived Barriers to Healthy Eating			
It is too expensive to eat fruits and vegetables.	35%	<u>24%</u>	<u>21%</u>
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	65%	<u>52%</u>	<u>35%</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.	54%	<u>31%</u>	<u>21%</u>
Healthy food costs more than “junk” food	39%	<u>26%</u>	<u>22%</u>
I often run out of ideas and recipes for preparing healthy meals.	53%	<u>41%</u>	<u>29%</u>
I do not have the willpower to eat healthy.	45%	<u>30%</u>	<u>23%</u>
I am too tired at the end of the day to prepare a healthy meal.	42%	<u>30%</u>	<u>24%</u>
Meal planning and shopping takes too long.	29%	<u>18%</u>	<u>17%</u>
My family is happier eating “junk” food.	29%	<u>17%</u>	<u>10%</u>
My family is not in the habit of eating healthy food.	43%	<u>20%</u>	<u>15%</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 not significantly different from other moms in the perceived risk statements.)

Table 18: Fruit Stages of Change
by Key Perceived Risks of Not Eating Healthy Statements

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintnce. (n=280)
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.	78%	78%	77%
I am more likely to get sick if I don't eat healthy food.	75%	78%	83%
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.	78%	80%	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 that *in the kitchen, they make the rules.*
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation stages to feel they can *plan meals or snacks with more fruit during the next week.*

**Table 19: Fruit Stages of Change
by Key Self-Efficacy Statements**

Summary of Agreement Statements (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=144)	Action (n=368)	Maintnce. (n=280)
Self-Efficacy			
I feel that in the kitchen, I make the rules.	78%	<u>75%</u>	82%
I decide what my family eats.	<u>70%</u>	75%	80%
I feel that I can plan meals or snacks with more fruit during the next week.	<u>80%</u>	89%	90%
I feel that I can buy more fruits and vegetables the next time I shop.	<u>80%</u>	87%	91%
I feel I need to cook different things for different family members depending on what they like.	62%	59%	58%

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

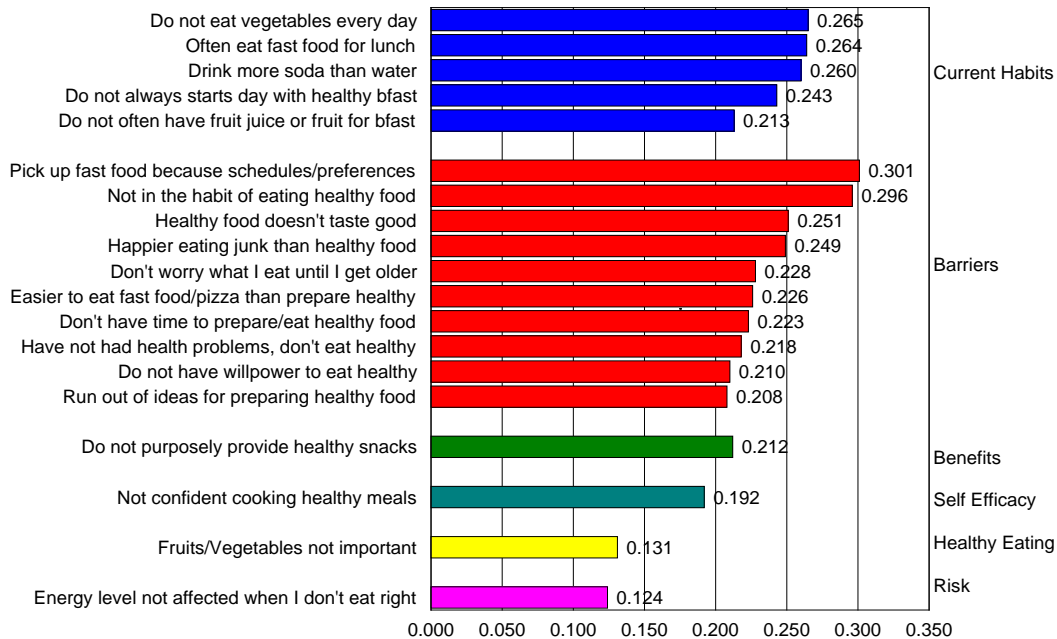
A correlation analysis was conducted to identify those statements that are most closely related to the stages of change construct for each behavior (e.g., fruit consumption, vegetable consumption, 1% low fat or fat free milk consumption, and serving healthy meals). This type of analysis results in a *correlation coefficient*, which measures the degree to which two variables are related. For example, the chart below indicates that *It is easier to pick up fast food because the family has different schedules or prefers/likes different things* is the statement that most strongly correlates with the fruit stages of change behavior.

The analysis affirms that there is an *inverse relationship* between being in the habit of eating healthy food and being further along in the continuum. The more likely they are to have a negative attitude/belief about healthy food, the lower they are along the continuum towards healthy eating.

Not being in the habit of eating healthy foods and food choices such as *I do not eat vegetables every day* and *I often eat fast food for lunch*, also influence fruit consumption.

Fruit Stages of Change

Correlation Analysis



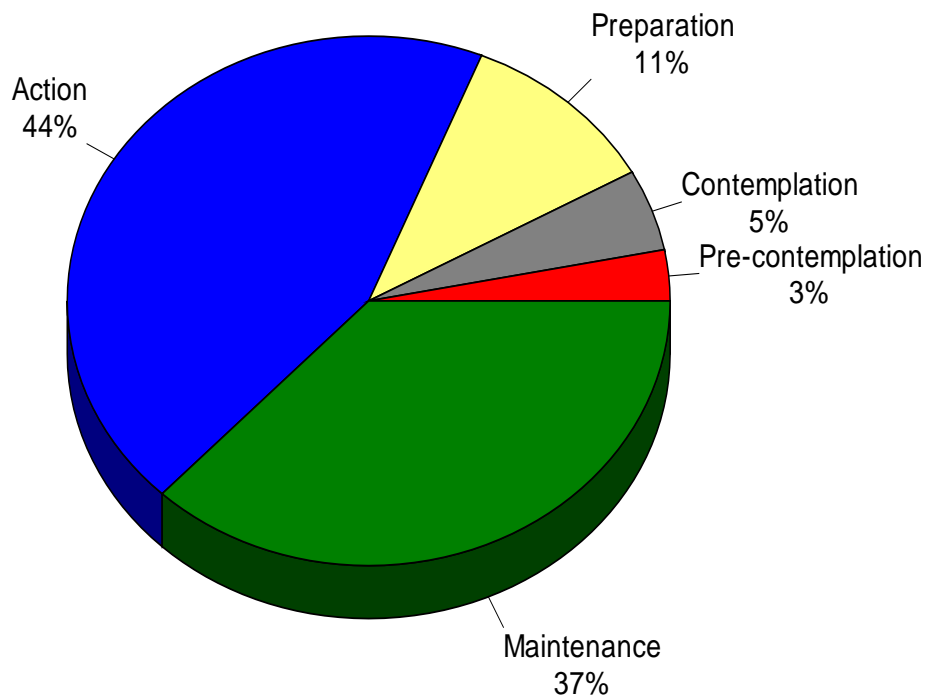
This chart indicates that perceived *barriers* play a major role with women who have not incorporated eating fruit as part of their daily lives.

Note: In some cases the wording in the chart was “reversed” in order to provide a consistent comparison between statements and the correlations (e.g., *I make sure to provide healthy snacks to my family* was switched to *Do not purposely provide healthy snack*.)

B. Vegetable Stages of Change

Over four in ten (44%) mothers report they are *trying to eat more vegetables now*, placing them in the Action Stage for increased vegetable consumption. More than one-third (37%) is categorized as being in the Maintenance Stage, as they are already eating three or more servings of vegetables each day. The 19% who are not already or not currently trying to eat more vegetables include 3% in the Pre-contemplation Stage (indicating they are not considering eating more vegetables at this time), 5% in the Contemplation Stage (selected the statement *I am thinking about eating more fruit... planning to start in the next six months*), and 11% in the Preparation Stage (selected the statement *I am definitely planning to eat more fruit in the next month.*)

Vegetable: Stages of Change



2008 / 2009 Comparison

There were no statistically significant changes in the Action or Maintenance Stages, however, there was an increase in the number of moms who fell into the *Preparation Stage* with regard to eating vegetables. Much of this movement was likely women moving out of the Action Stage into *Preparation*.

The increase in the percentage of moms who fall into the Preparation Stage and the corresponding decrease in Action Stage moms, appears to be the result of a decrease in those who believe they *may develop health problems if they do not eat fruits and veggies* (a *benefit* of eating fruits and veggies), *not being in the habit of eating vegetables*, *not having the willpower to eat healthy* (barriers to healthy eating), and not having complete *control of what their families eat* (self-efficacy).

Table 20: Vegetable Stages of Change
2008 / 2009 Comparison

	2008 Total (n=800)	2009 Total (n=795)
I am not thinking about eating more vegetables	2%	3%
I am thinking about eating more vegetables ...planning to start within 6 months	7%	5%
I am definitely planning to eat more vegetables in the next month	<u>8%</u>	11%
I am trying to eat more vegetables now	47%	44%
I am already eating 3 or more servings of vegetables a day	36%	37%

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 21: Vegetable Stages of Change
by Key Demographics

Demographics	Pre-contempl. Contemplation Preparation (n=151)	Action (n=351)	Maintnce. (n=290)
Participate in Food Assistance Program	84%	77%	80%
Food Stamps	92%	87%	88%
WIC	45%	44%	39%
Other	26%	31%	28%
Language primarily spoken at home			
English	61%	58%	<u>49%</u>
Spanish	11%	10%	13%
Both English and Spanish	27%	31%	34%
Other	<u>1%</u>	<u>1%</u>	5%
Ethnicity			
Hispanic	55%	54%	53%
Caucasian	19%	23%	19%
Native American	13%	11%	14%
Afro-American	7%	7%	7%
Other	6%	4%	7%

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 *snacking on popcorn and/or chips*, but are significantly more likely to indicate they *eat vegetables every day* and *often have fruit juice or a piece of fruit for breakfast*.

**Table 22: Vegetable Stages of Change
by Key Current Eating Habits**

	Pre-contempl. Contemplation Preparation (n=151)	Action (n=351)	Maintnce. (n=290)
Current Eating Habits			
How would you describe your diet? (Excellent / Very Good)	<u>12%</u>	<u>16%</u>	34%
I eat vegetables every day.	<u>36%</u>	<u>60%</u>	83%
I like to snack on popcorn and/or chips.	54%	54%	<u>44%</u>
I often have fruit juice or a piece of fruit for breakfast.	<u>45%</u>	<u>58%</u>	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.

b. Healthy Eating

Action Stage moms are ...

- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree that *eating fruits and vegetables is important for their overall health.*

**Table 23: Vegetable Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=351)	Maintnce. (n=290)
Healthy Eating			
Eating a variety of fruits and vegetables is an important part of eating healthy.	<u>93%</u>	97%	99%
I believe eating fruits and vegetables is important for my overall health.	<u>92%</u>	<u>97%</u>	99%
Eating any form of fruit or vegetable is good for you. That includes fresh, frozen, dried, canned and 100% juice.	92%	95%	92%

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 make sure *they provide healthy snacks to their families.*
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation groups to strongly agree/agree that *eating healthy food is helpful in preventing obesity and cancer* and that *eating healthy food will improve the way they look.* In addition, they are more likely to *provide healthy snacks to their families.*

Table 24: Vegetable 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=351)	Maintnce. (n=290)
Perceived Benefits to Healthy Eating			
Eating healthy food is helpful in preventing obesity.	<u>90%</u>	97%	96%
I make sure to provide healthy snacks to my family.	<u>79%</u>	91%	95%
Eating healthy food will improve the way I look.	<u>85%</u>	92%	92%
Eating healthy food is helpful in preventing diabetes.	90%	95%	92%
Eating healthy food is helpful in preventing heart disease.	<u>89%</u>	94%	96%
Eating healthy food is helpful in preventing cancer.	<u>75%</u>	84%	86%
I may develop health problems if I do not eat fruit and vegetables.	65%	73%	74%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	69%	72%	77%
Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.	84%	84%	89%

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:
 - it is sometimes easier to eat fast food/frozen pizza,
 - it is easier to pick up fast food due to different schedules,
 - healthy food costs more than “junk” or fast food,
 - they sometimes do not have the willpower to eat healthy,
 - meal planning and shopping takes too long,
 - 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:
 - it is sometimes easier to eat fast food/frozen pizza,
 - it is easier to pick up fast food due to different schedules,
 - their families are not in the habit of eating healthy food,
 - meal planning and shopping takes too long.

Table 25: Vegetable 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=351)	Maintnce. (n=290)
Perceived Barriers to Healthy Eating			
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	64%	<u>53%</u>	<u>34%</u>
It is too expensive to eat fruits and vegetables.	30%	26%	21%
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>32%</u>	<u>21%</u>
Healthy food costs more than “junk” or fast food.	35%	29%	<u>20%</u>
My family is not in the habit of eating healthy food.	41%	<u>21%</u>	<u>15%</u>
Sometimes I do not have the willpower to eat healthy.	41%	32%	<u>22%</u>
Meal planning and shopping takes too long.	31%	<u>20%</u>	<u>14%</u>
I often run out of ideas and recipes for preparing healthy meals.	49%	42%	<u>30%</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 not significantly different from other moms in the perceived risk statements.)

Table 26: Vegetable 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=351)	Maintnce. (n=290)
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.	80%	78%	76%
I am more likely to get sick if I don't eat healthy food.	<u>71%</u>	80%	82%
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.	80%	80%	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 more likely than those in the Pre-contemplation/Contemplation/Preparation Stages feel they *can serve two or more servings of vegetables at dinner*, and that *they can add extra vegetables to casseroles and stews*.

Table 27: Vegetable Stages of Change
by Key Self-Efficacy Statements

Summary of Agreement (Strongly Agree/Agree)	Pre-contempl. Contemplation Preparation (n=151)	Action (n=351)	Maintnce. (n=290)
Self-Efficacy			
I feel that I can buy more fruits and vegetables the next time I shop.	<u>81%</u>	87%	90%
I feel that I can plan meals or snacks with more vegetables during the next week.	87%	91%	93%
I feel that I can serve two or more servings of vegetables at dinner.	<u>79%</u>	90%	91%
I feel that I can add extra vegetables to casseroles and stews.	<u>81%</u>	91%	89%
I feel I need to cook different things for different family members depending on what they like.	63%	59%	56%
I feel that in the kitchen, I make the rules.	80%	75%	81%
I decide what my family eats.	<u>71%</u>	75%	80%

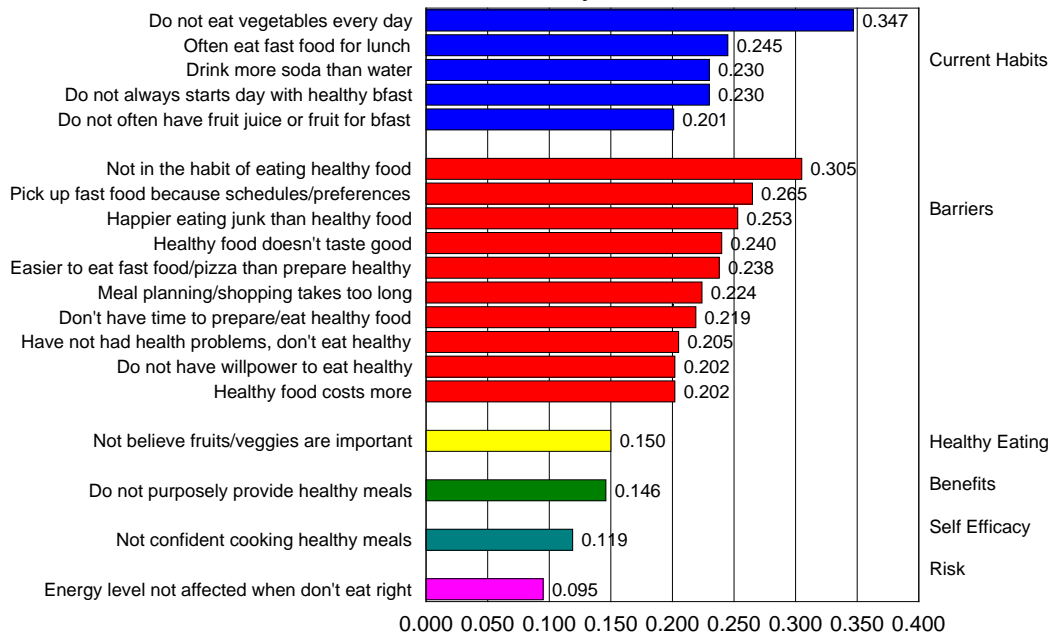
Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

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 one of the statements 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. *It is easier to pick up fast food because of schedules/preferences, being happier eating junk food than healthy food*, and food choices such as *I do not eat vegetables everyday* and *I often eat fast food for lunch* are also correlated with vegetable consumption.

Vegetable Stages of Change

Correlation Analysis

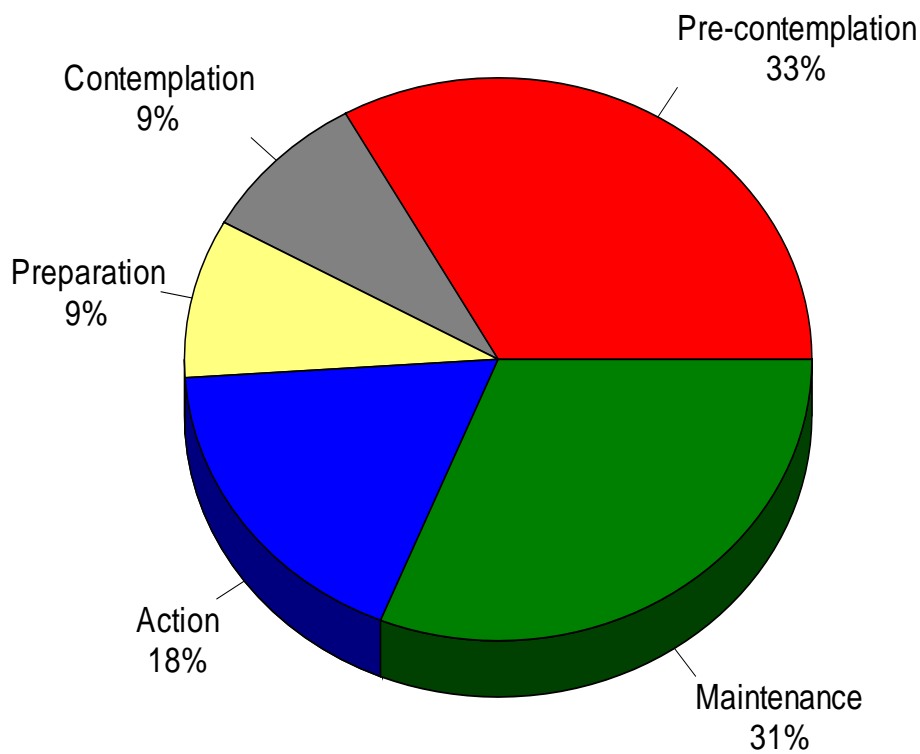


Note: In some cases the wording in the chart was “reversed” in order to provide a consistent comparison between statements and the correlations (e.g., *I make sure to provide healthy meals to my family* was switched to *Do not purposely provide healthy meals*.)

C. Milk Stages of Change

While three in ten 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 1% low fat or fat free milk (Pre-contemplation Stage). Approximately two in ten (18%) fall into the Action Stage (trying to switch), 9% are in the Preparation Stage (definitely planning to change in next month), and 9% are in the Contemplation Stage (thinking about changing to low fat or fat free milk in the next six months).

Milk: Stages of Change



2008 / 2009 Comparison

More moms say they are *trying to drink 1% low fat or fat free milk* this year than last. This is the statement that represents those in the Action Stage. Some of this increase is due to women *dropping back* from *Maintenance* into *Action*, and some reflects movement from *Preparation* to *Action*.

The increase in the percentage of moms who fall into the Action Stage appears to be the result of an increase in agreement with two of the benefit statements – *Drinking 1% low fat and fat free milk is healthier than drinking whole or 2% milk* and *I feel that I am helping my body by drinking 1% low fat or fat free milk*.

Table 28: Milk Stages of Change
2008 / 2009 Comparison

	2008 Total (n=800)	2009 Total (n=795)
I am not thinking about changing to 1% low fat or fat free milk	33%	33%
I am thinking about changing to 1% low fat or fat free milk ...planning to start within 6 months	10%	9%
I am definitely planning change to 1% low fat or fat free milk to in the next month	11%	9%
I am trying to change to 1% low fat or fat free milk now	<u>11%</u>	18%
I am already drinking 1% low fat or fat free milk	35%	31%

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 29: Milk Stages of Change
by Key Demographics**

Demographics	Pre-contemp Contemplation Preparation (n=400)	Action (n=142)	Maintnce. (n=249)
Participate in Food Assistance Program	81%	77%	79%
Food Stamps	91%	89%	<u>83%</u>
WIC	<u>31%</u>	47%	59%
Other	31%	29%	25%
Language primarily spoken at home			
English	60%	<u>47%</u>	<u>52%</u>
Spanish	11%	11%	12%
Both English and Spanish	<u>27%</u>	38%	35%
Other	3%	4%	1%
Ethnicity			
Hispanic	<u>47%</u>	63%	61%
Caucasian	25%	<u>15%</u>	<u>17%</u>
Native American	14%	12%	12%
Afro-American	9%	6%	4%
Other	6%	5%	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 Stage to *like to eat cereal for dinner because it's light and healthy.*
- Significantly more likely than those in the Maintenance Stage to say that *when they drink milk, they like to drink whole or 2% milk.* Interestingly, Action Stage mothers are similar to Pre-contemplation/Contemplation/Preparation Stage moms in regards to drinking these types of milk.

**Table 30: Milk Stages of Change
by Key Current Eating Habits**

Summary of Agreement (Strongly Agree/Agree)	Pre- contem- plation (n=259)	Contem- plation (n=69)	Prepar- ation (n=72)	Action (n=142)	Maintnce. (n=249)
Current Eating Habits					
How would you describe your diet? (Excellent / Very Good)	24%	19%	16%	17%	25%
Most days, I drink water throughout the day.	81%	82%	81%	85%	86%
I always start my day with a healthy breakfast.	<u>54%</u>	56%	61%	67%	67%
I like to eat cereal for dinner because it's light and healthy.	<u>44%</u>	<u>37%</u>	<u>37%</u>	58%	<u>46%</u>
I drink more soda than water.	36%	26%	26%	37%	<u>22%</u>
When I drink milk, I like to drink whole or 2% milk	83%	76%	81%	87%	<u>49%</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 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. Preparation Stage moms, appropriately, fall between Pre-contemplation/Contemplation Stage moms and Maintenance Stage moms with regard to the two healthy eating milk statements.

**Table 31: Milk Stages of Change
by Key Healthy Eating Statements**

Summary of Agreement (Strongly Agree/Agree)	Pre- contem- plation (n=259)	Contem- plation (n=69)	Prepar- ation (n=72)	Action (n=142)	Maintnce. (n=249)
Healthy Eating					
Drinking <u>1% low fat or fat free milk</u> is an important part of a healthy diet.	<u>55%</u>	<u>65%</u>	77%	73%	91%
1% low fat and fat free milk have the same amount of vitamins and minerals as whole milk.	<u>43%</u>	<u>44%</u>	53%	59%	63%

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 moms are significantly less likely than those in the Preparation, Action, and Maintenance Stages to *provide healthy meals to their families*, and to believe *healthy food is helpful in preventing diabetes*.
- Agreement with the two milk statements increases as the stage of readiness progresses.

Table 32: Milk Stages of Change
by Key Perceived Benefits to Healthy Eating Statements

Summary of Agreement (Strongly Agree/Agree)	Pre-contem- plation (n=259)	Contem- plation (n=69)	Prepar- ation (n=72)	Action (n=142)	Maintnce. (n=249)
Perceived Benefits to Healthy Eating					
I am sure to provide healthy meals to my family.	<u>90%</u>	<u>86%</u>	99%	96%	95%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	72%	79%	71%	79%	72%
Eating healthy food is helpful in preventing diabetes.	<u>90%</u>	<u>83%</u>	100%	95%	94%
Eating healthy food is helpful in preventing heart disease.	92%	91%	96%	94%	96%
Eating healthy food will improve the way I look.	<u>86%</u>	87%	91%	93%	95%
Drinking 1% low fat and fat free milk is healthier than drinking whole and 2% milk.	<u>46%</u>	59%	66%	70%	84%
I feel that I am helping my body by drinking 1% low fat or fat free milk.	<u>51%</u>	68%	80%	81%	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 moms are ...

- Significantly more likely than mothers in the Preparation, Action, and Maintenance Stages to agree that *whole or 2% milk tastes better to them than 1% low fat or fat free milk* and that *they have been drinking whole milk since childhood*.

Table 33: Milk Stages of Change
by Key Perceived Barriers to Healthy Eating Statements

Summary of Agreement (Strongly Agree/Agree)	Pre-contem- plation (n=259)	Contem- plation (n=69)	Prepar- ation (n=72)	Action (n=142)	Maintnce. (n=249)
Perceived Barriers to Healthy Eating					
It is too expensive to eat fruits and vegetables.	25%	33%	22%	25%	24%
Sometimes it is easier to eat fast food or frozen pizza than to prepare a healthy meal.	58%	48%	49%	<u>40%</u>	<u>44%</u>
I often fix different things for different family members	<u>39%</u>	54%	50%	48%	44%
I often run out of ideas and recipes for preparing healthy meals.	41%	39%	40%	39%	36%
Healthy food costs more than “junk” or fast food.	27%	23%	34%	26%	27%
Sometimes I do not have the willpower to eat healthy.	36%	34%	41%	<u>26%</u>	<u>23%</u>
Meal planning and shopping takes too long.	21%	24%	22%	21%	17%
Whole or 2% milk tastes better to me than 1% low fat or fat free milk	79%	77%	<u>63%</u>	<u>62%</u>	<u>34%</u>
I have been drinking whole milk ever since I was a little girl	56%	58%	50%	<u>44%</u>	<u>28%</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 more likely than Preparation Stage mothers to believe they are more likely to get sick if they don't eat healthy food.

Table 34: Milk Stages of Change
by Key Perceived Risks of Not Eating Healthy Statements

Summary of Agreement (Strongly Agree/Agree)	Pre- contem- plation (n=259)	Contem- plation (n=69)	Prepar- ation (n=72)	Action (n=142)	Maintnce. (n=249)
Perceived Risks of Not Eating Healthy					
I am more likely to get sick if I don't eat healthy food.	80%	72%	<u>67%</u>	82%	82%
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.	81%	72%	82%	80%	77%
I am more likely to have high blood pressure or high cholesterol because someone in my family has this condition.	77%	76%	80%	81%	76%

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 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.
- Significantly less likely than mothers in other stages to feel they *can transition their family to 1% low fat or fat free milk*. This is particularly true with women in the Pre-contemplation Stage.
- Significantly less likely than those in the Preparation and Action Stages to feel they need to cook different things for different family members depending on what they like.
- Women in the Pre-contemplation Stage are significantly less likely than those in other stages to say *they decide what their family eats*.

**Table 35: Milk Stages of Change
by Key Self-Efficacy Statements**

Summary of Agreement Statements (Strongly Agree/Agree)	Pre- contem- plation (n=259)	Contem- plation (n=69)	Prepar- ation (n=72)	Action (n=142)	Maintnce. (n=249)
Self-Efficacy					
I feel that I can buy low fat milk for my family.	<u>51%</u>	<u>69%</u>	88%	86%	92%
I feel I need to cook different things for different family members depending on what they like.	<u>53%</u>	<u>59%</u>	78%	66%	<u>56%</u>
I feel that in the kitchen, I make the rules.	78%	78%	83%	78%	77%
I decide what my family eats.	<u>69%</u>	72%	83%	82%	79%
I feel I can transition my family to 1% low fat or fat free milk	<u>34%</u>	<u>68%</u>	80%	<u>81%</u>	89%

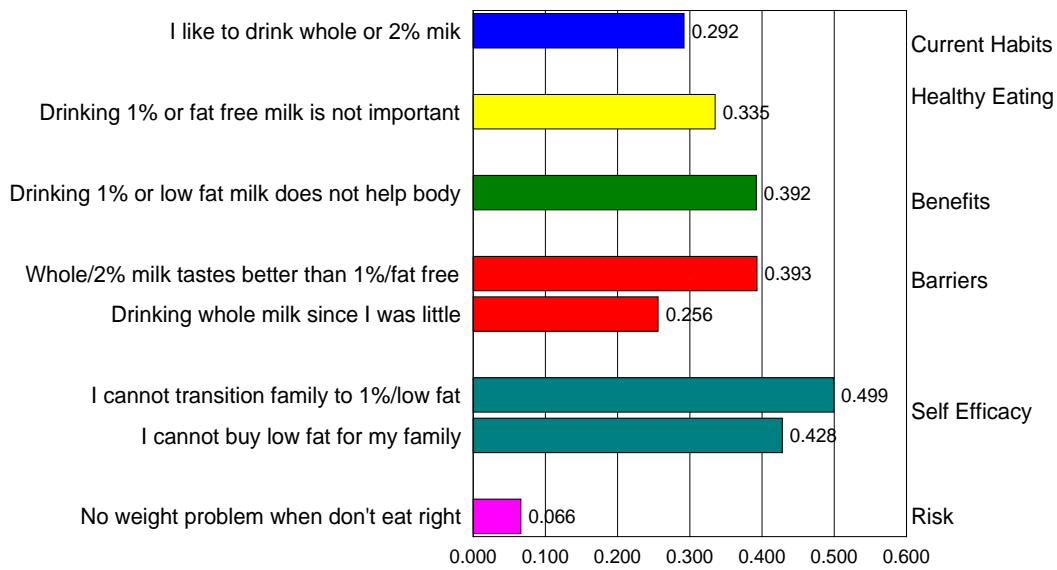
Bold denotes a significantly higher percentage than the underlined comparative group. A percentage may be both in bold and underlined because there are three categories.

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 that *self efficacy* is the strongest factor related to where moms are in the milk preference continuum. In addition, attitudes about milk from several other perspectives appear to affect where the moms are positioned along the continuum – i.e., *their current habits, their perceptions about eating healthy, the benefits* (or perceived lack of benefits), and *the barriers* also have an impact in driving these opinions.

Milk Stages of Change

Correlation Analysis



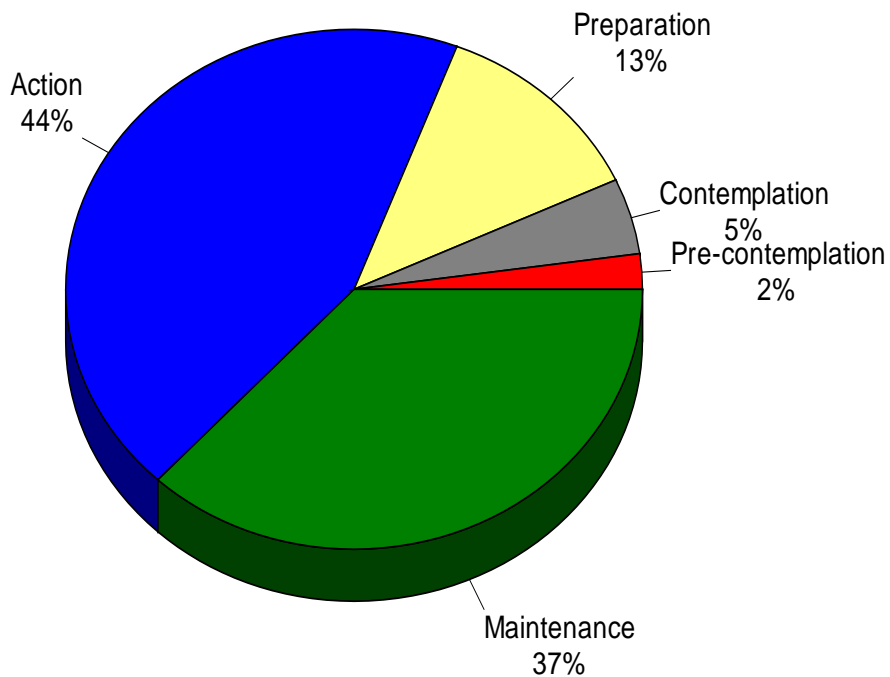
Note: In some cases the wording in the chart was “reversed” in order to provide a consistent comparison between statements and the correlations (e.g., *I am more likely to gain weight if I don’t eat healthy food* was switched to *No weight problem when don’t eat right*).

D. Serving Healthy Meals Stages of Change

Over four in ten (44%) moms say they are *trying to serve more healthy meals to their family now*, which means they are in the Action Stage. Over one-third of moms (37%) are in the Maintenance Stage, as they are already serving healthy meals to their families.

The remaining 20% are split as follows: 13% 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 2% fall into the Pre-contemplation Stage because they are not currently thinking about serving their families more healthy meals.

Healthy Meals: Stages of Change



2008 / 2009 Comparison

Last year, more moms fell into the *Maintenance Stage* with regard to serving healthy meals than any other healthy eating behavior. This dropped between 2008 and 2009, with a significant number of women moving out of the *Maintenance Stage* into the *Action* and *Preparation Stages*.

The reasons for the shift in women out of the Maintenance Stage is likely related to an increase in the portion of women who say they *skip meals because they don't have time to eat* and say they are *too tired at the end of the day to prepare a healthy meal*, as well as an increase in the portion who say their *family is not in the habit of eating healthy meals*. In addition, more moms maintain they *often run out of ideas and recipes for preparing healthy meals*. That said, women are more likely to agree with many of the benefit statements in 2009 than they were in 2008. This leaves them in the position of planning to serve more healthy meals when they have more time, or in the Preparation Stage of readiness.

Table 36: Healthy Meals Stages of Change
2008 / 2009 Comparison

	2008 Total (n=800)	2009 Total (n=795)
I am not thinking about serving more healthy meals to my family	3%	2%
I am thinking about serving more healthy meals to my family...planning to start within 6 months	5%	5%
I am definitely planning to serve more healthy meals to my family in the next month	<u>9%</u>	13%
I am trying to serve more healthy meals to my family now	39%	44%
I am already serving healthy meals to my family	44%	<u>37%</u>

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

Significant demographic observations of Action Stage moms are:

- There are significantly more African American women in the Action Stage than there are in the Maintenance Stage.

**Table 37: Serving Healthy Meals Stages of Change
by Key Demographics**

Demographics	Pre-contemp Contemp/Prep (n=153)	Action (n=347)	Maintnce. (n=292)
Participate in Food Assistance Program	82%	81%	77%
Food Stamps	93%	87%	88%
WIC	37%	46%	41%
Other	32%	29%	26%
Language primarily spoken at home			
English	61%	56%	<u>51%</u>
Spanish	11%	11%	12%
Both English and Spanish	<u>26%</u>	30%	35%
Other	2%	3%	2%
Ethnicity			
Hispanic	54%	54%	55%
Caucasian	20%	21%	21%
Native American	14%	12%	13%
Afro-American	8%	9%	<u>5%</u>
Other	5%	5%	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.

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*.
- Significantly more likely than Pre-contemplation/Contemplation/Preparation Stage mothers to *start their day with a healthy breakfast*, and less likely to have a *snack before they go to bed* or *eat fast food for lunch*.

**Table 38: 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>11%</u>	<u>16%</u>	35%
I always start my day with a healthy breakfast.	<u>44%</u>	58%	74%
I sometimes skip meals because I don't have time to eat.	68%	64%	63%
I usually have a snack before I go to bed.	64%	50%	<u>41%</u>
I often eat fast food for lunch.	57%	37%	<u>26%</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.

b. Healthy Eating

Action Stage moms are ...

- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to say there is no room for candy or soda in a healthy diet.

Table 39: 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.	60%	63%	56%
Drinking <u>1% low fat or fat free milk</u> is an important part of a healthy diet.	<u>64%</u>	72%	78%
There is no room for candy or soda in a healthy diet.	<u>50%</u>	62%	57%

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 that:
 - eating meals as a family will help their child grow into a healthy adult,
 - they provide healthy meals to their family,
 - they provide healthy snacks to their family,
 - eating healthy food is helpful in preventing heart disease,
 - families that eat together eat healthier food and more balanced meals.
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree with several of the healthy eating statements.

Table 40: 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.	92%	97%	96%
Eating meals as a family will help my child grow into a healthy adult.	<u>87%</u>	<u>91%</u>	95%
I make sure to provide healthy meals to my family.	<u>78%</u>	<u>94%</u>	99%
I make sure to provide healthy snacks to my family.	<u>76%</u>	<u>90%</u>	97%
Eating healthy food is helpful in preventing diabetes.	<u>88%</u>	93%	94%
Eating healthy food is helpful in preventing heart disease.	<u>90%</u>	<u>93%</u>	97%
Families that eat together eat healthier food and more balanced meals.	<u>79%</u>	<u>85%</u>	91%
Children who eat meals with their parents regularly, tend to eat more fruits and vegetables.	<u>78%</u>	86%	89%
It is cheaper to eat a healthy meal than to go to a fast food restaurant.	<u>65%</u>	73%	79%
Children who do not eat dinner with their families are more likely to use alcohol, tobacco, or illegal drugs.	<u>43%</u>	62%	62%

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:
 - sometimes it is easier to eat fast food or frozen pizza,
 - easier to pick up fast food because of different schedules,
 - they often run out of ideas and recipes for preparing healthy meals,
 - they are too tired at the end of the day to prepare a healthy meal,
 - their family is not in the habit of eating healthy,
 - their family is happier eating “junk food” than healthy food.
- Significantly less likely than those in the Pre-contemplation/Contemplation/Preparation Stages to agree with several of the perceived barriers to eating healthy.

Table 41: 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.	65%	<u>53%</u>	<u>34%</u>
Healthy food costs more than “junk” or fast food.	36%	28%	<u>22%</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.	53%	<u>32%</u>	<u>19%</u>
I often run out of ideas and recipes for preparing healthy meals.	50%	47%	<u>24%</u>
Sometimes I do not have the willpower to eat healthy.	47%	34%	<u>17%</u>
I am too tired at the end of the day to prepare a healthy meal.	43%	<u>33%</u>	<u>20%</u>
Meal planning and shopping takes too long.	28%	21%	<u>15%</u>
My family is not in the habit of eating healthy.	41%	<u>22%</u>	<u>13%</u>
My family is happier eating “junk food” than healthy food.	30%	<u>19%</u>	<u>7%</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 more likely than Pre-contemplation/Contemplation/Preparation Stage moms to believe they are *more likely to get sick if they don't eat healthy food*.

**Table 42: 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.	75%	76%	80%
I am more likely to get sick if I don't eat healthy food.	<u>68%</u>	80%	84%
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.	73%	81%	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.

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.
- Significantly more likely than those in the Pre-contemplation/Contemplation/Preparation Stages to indicate:
 - they decide what their family eats,
 - feel confident they can serve healthy meals to their family,
 - feel they can plan meals or snacks with more fruit during the next week.

**Table 43: 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>65%</u>	76%	82%
I feel confident I can serve healthy meals to my family.	<u>87%</u>	96%	97%
I feel that I can plan meals with more vegetables during the next week.	<u>86%</u>	91%	93%
I feel that in the kitchen, I make the rules.	<u>72%</u>	<u>77%</u>	83%
I feel that I can plan meals or snacks with more fruit during the next week.	<u>82%</u>	90%	88%
I feel I need to cook different things for different family members depending on what they like.	57%	61%	58%

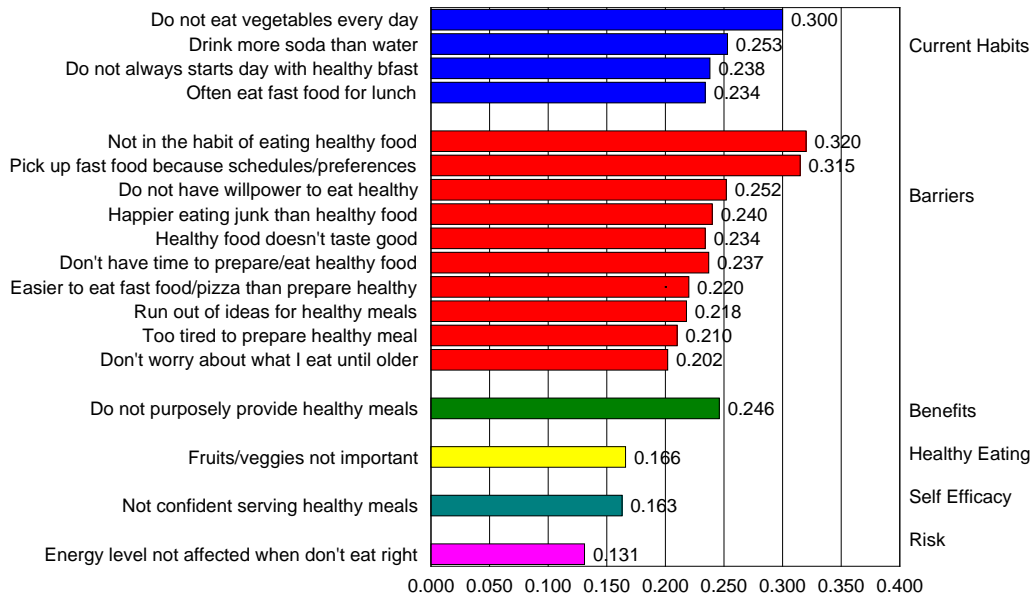
Bold denotes a significantly higher percentage than the underlined comparative group.
A percentage may be both in bold and underlined because there are three categories.

3. Correlation Analysis

Similar to the fruits 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. *My family is not in the habit of eating healthy foods* is one of the statements that most 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 *picking up fast food because of scheduling/preferences* and this behavior.

Healthy Meal Stages of Change

Correlation Analysis



Note: In some cases the wording in the chart was “reversed” in order to provide a consistent comparison between statements and the correlations (e.g., *I make sure to provide healthy meals to my family* was switched to *Do not purposely provide healthy meals*.)