



Peeling Back the Onion on Emotional Well-being May Help Americans Eat More Fruit and Vegetables

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Vision

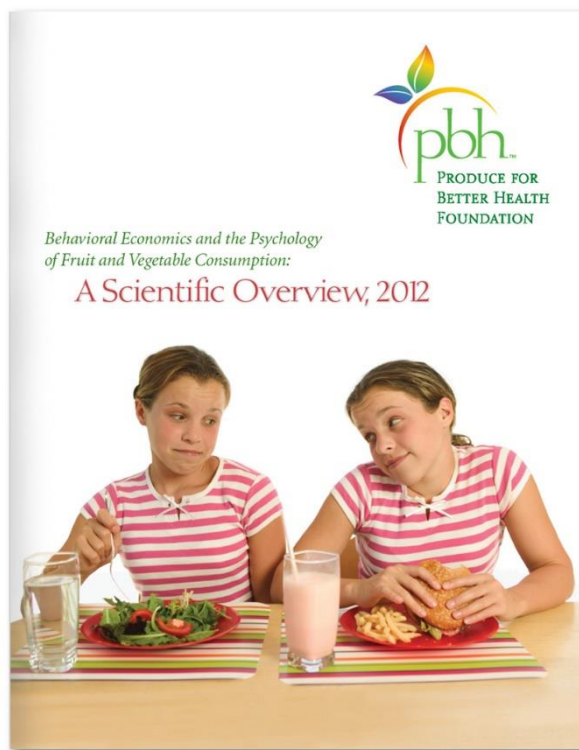
People eat more fruit and vegetables—in all forms—because more matters.

Mission

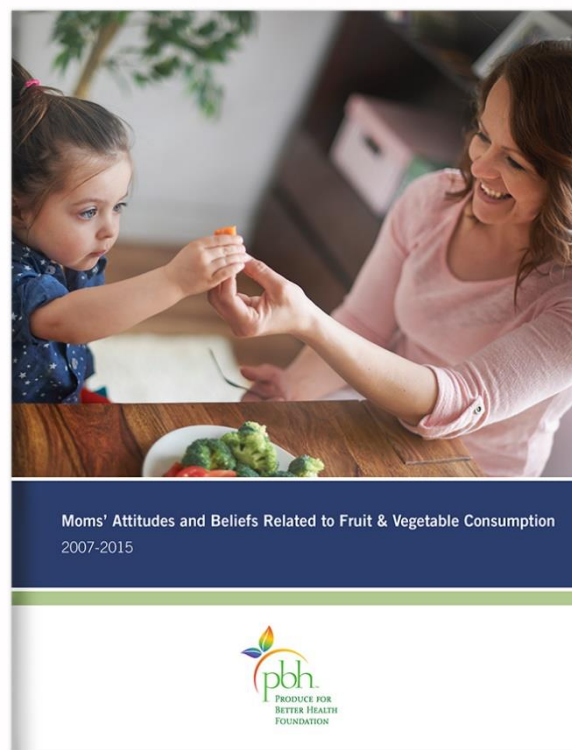
Partner with value chain stakeholders, consumer influencers and thought leaders to facilitate and advocate for increased fruit and vegetable consumption, as well as promote the Fruits & Veggies—More Matters® platform.

[#morehappinesismatters](https://www.morehappinesismatters.org/)

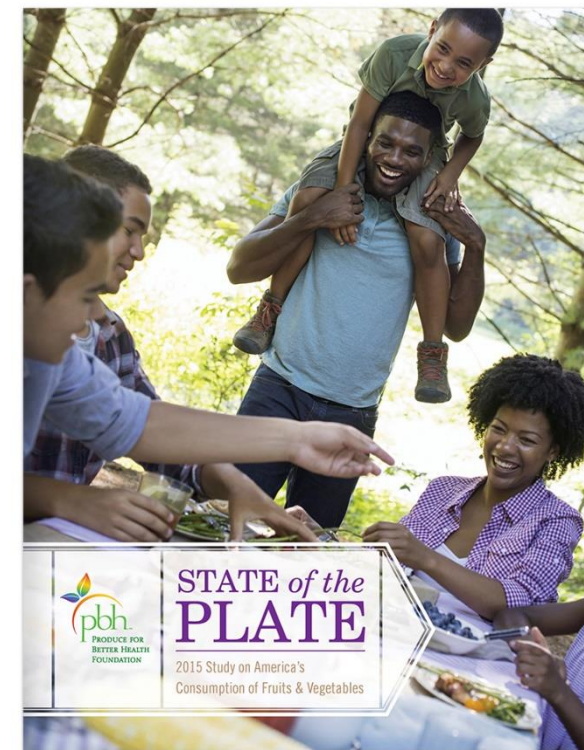
The integration of robust, complementary data strengthens PBH, our programs, and...all of us as we seek to increase consumption.



Science



Consumer Insights



Marketplace Consumption Data

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Health Influencer Webinar Learning Objectives

- 1 Delve into emerging research on the association between fruit and vegetable intake and feelings of life satisfaction and happiness.
- 2 Share expert learnings, key considerations and strategies associated with achieving sustained behavior change.
- 3 Identify ways for health professionals to immediately implement findings into their practice and/or consumer communications.

PBH's Resolution: Elevate and sustain fruit and vegetable intake to recommended levels

Areas to explore today:

- How can tapping into the *feelings or emotions* associated with eating fruit and vegetables be the key to starting the year off right?
- What does emerging research say about a correlation between increased fruit and vegetable intake and life satisfaction and happiness?
- What does long-term data say about consuming fruit and vegetables in all forms and alleviating barriers to produce consumption overall?
- What can we learn from experts and proven behavior change research to help consumers establish sustained and healthful habits?

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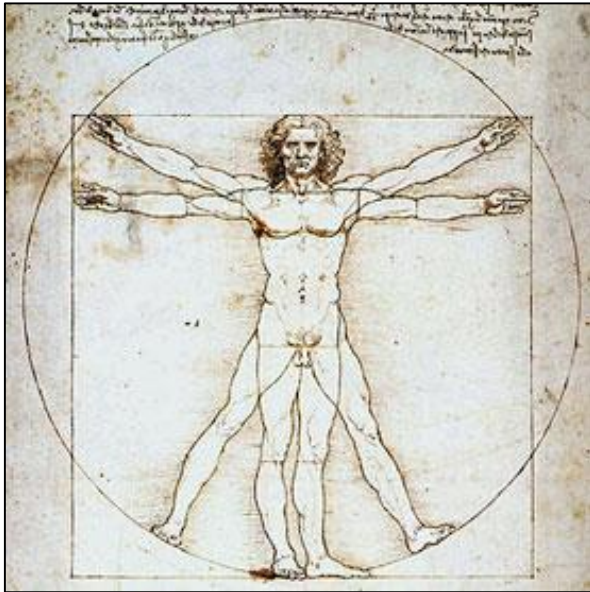
Fruits, Vegetables, and Happiness

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Perspectives from Behavioral Science and Marketing



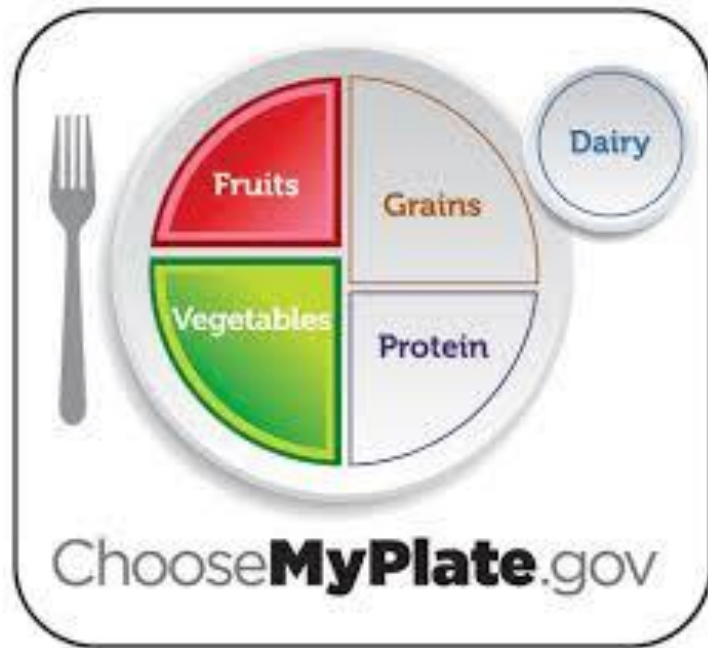
Emotions are powerful and immediate



Produce has been successfully positioned as health food



People know that produce is healthy



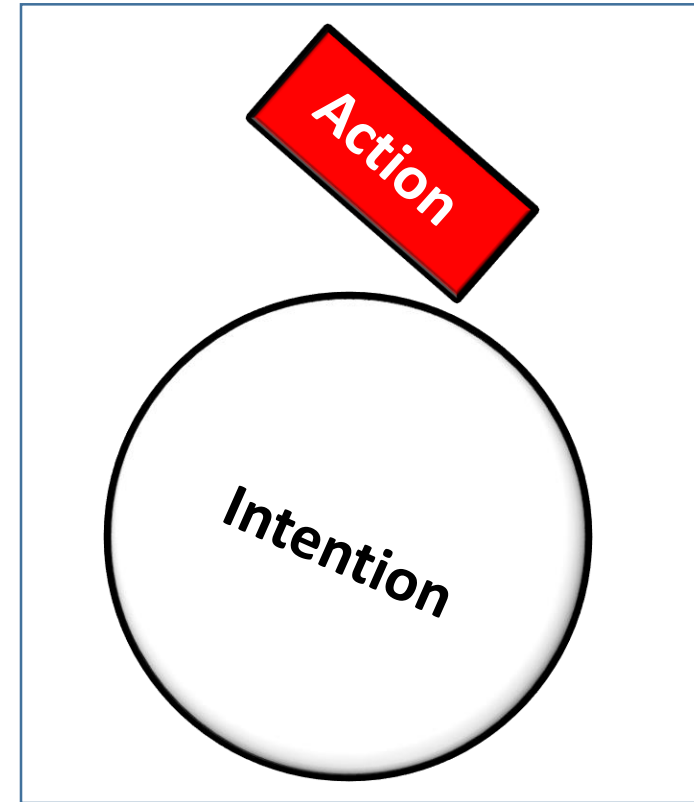
And yet, people do not eat enough produce

“Just 1 in 10 adults meet the federal fruit or vegetable recommendations”

<https://www.cdc.gov/media/releases/2017/p1116-fruit-vegetable-consumption.html>



Intentions do not equal actions



Produce could use better positioning on taste.
But “*healthy ≠ tasty*” is a common intuition.

Healthy and tasty
may be contradictory
(to many consumers)

Raghunathan, Rajagopal, et al. “The Unhealthy = Tasty Intuition and Its Effects on Taste Inferences, Enjoyment, and Choice of Food Products.” *Journal of Marketing*, vol. 70, no. 4, 2006, pp. 170–184.



Health may not be an emotional motivator

Health is a long term gain, and people tend to be more motivated by short term gains



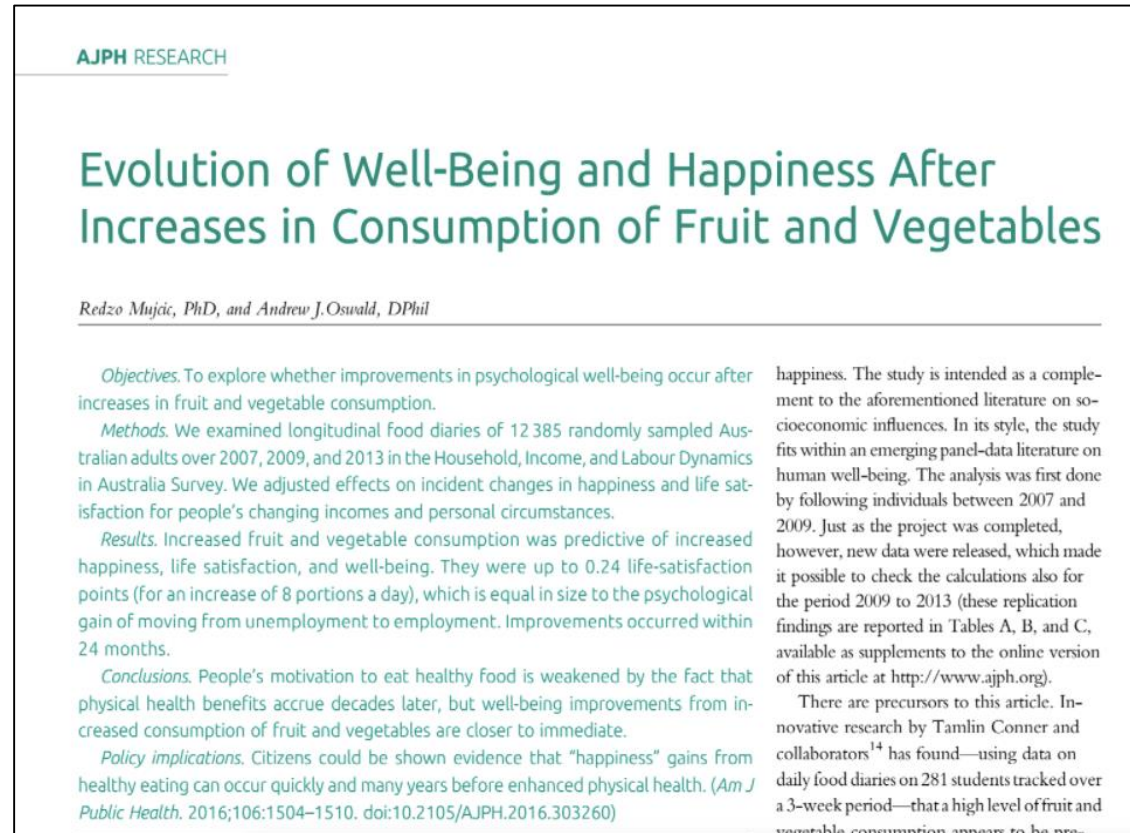
Without emotional motivation, we need self control. But self control is very limited.

We don't want a marketing strategy that relies on consumers having great self control.



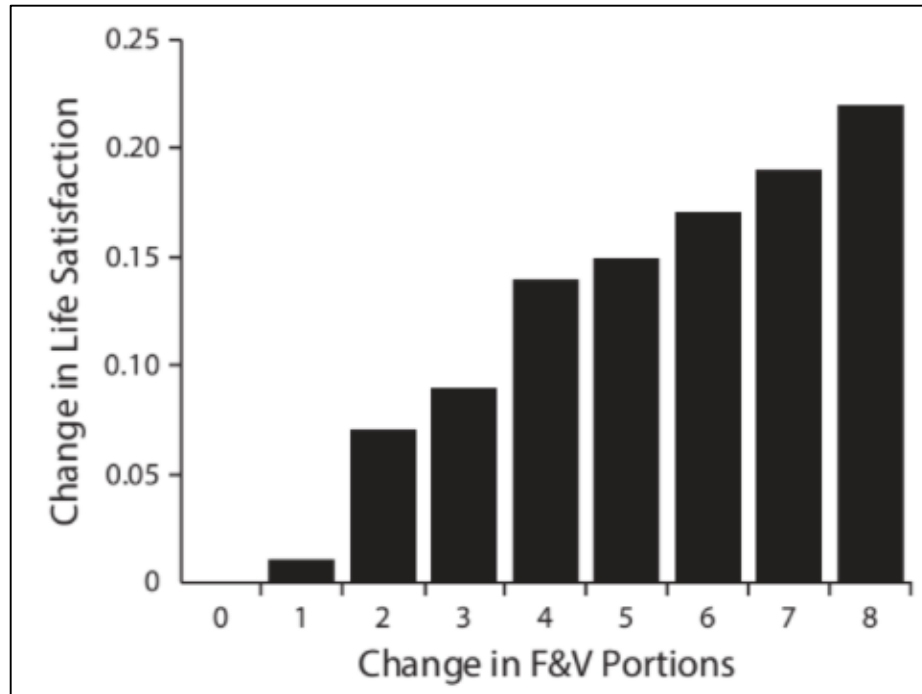
Can Produce Make us Happy?

“We examined longitudinal food diaries of 12,385 randomly sampled Australian adults over 2007, 2009, and 2013”



Mujcic, Redzo, and Andrew J. Oswald. "Evolution of Well-Being and Happiness After Increases in Consumption of Fruit and Vegetables." *American Journal of Public Health*, vol. 106, no. 8, 2016, pp. 1504–1510.

Can Produce Make us Happy?



About “equal in size to the psychological gain of moving from unemployment to employment”.

... and happiness gains may be faster than health gains.

Can Produce Promise Happiness?

*The paper concludes: “Citizens could be shown **evidence** that “happiness” gains from healthy eating can occur quickly and many years before enhanced physical health.”*

BTW, happiness promises rarely come with evidence.



Mujcic, Redzo, and Andrew J. Oswald. “Evolution of Well-Being and Happiness After Increases in Consumption of Fruit and Vegetables.” *American Journal of Public Health*, vol. 106, no. 8, 2016, pp. 1504–1510.

Happiness “Positioning”



How do you measure happiness?



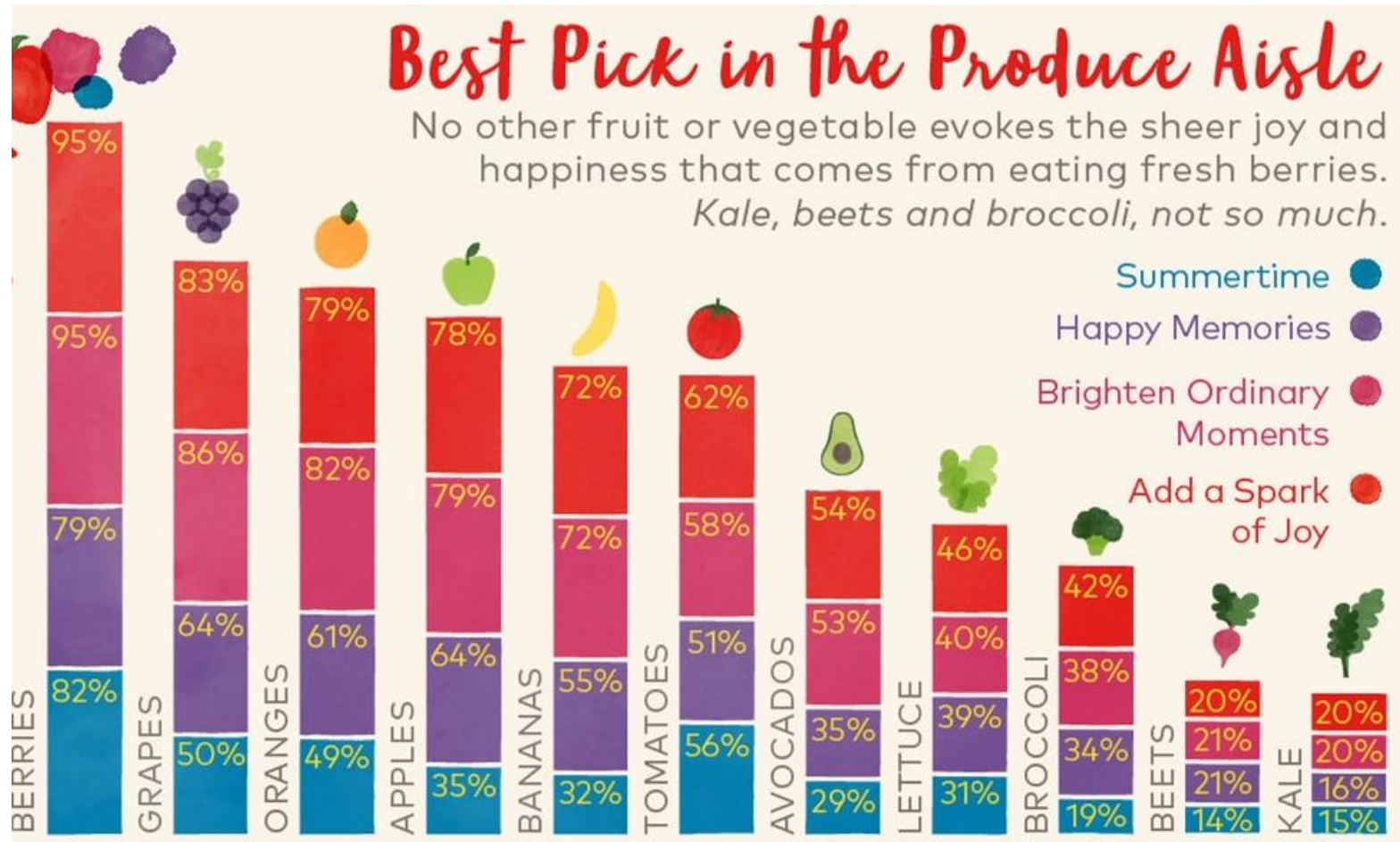
<https://www.ispot.tv/ad/7LDH/campbells-measuring-happiness#>

Happiness “Positioning”



<https://www.driscolls.com/berrytogether>

Happiness “Positioning”

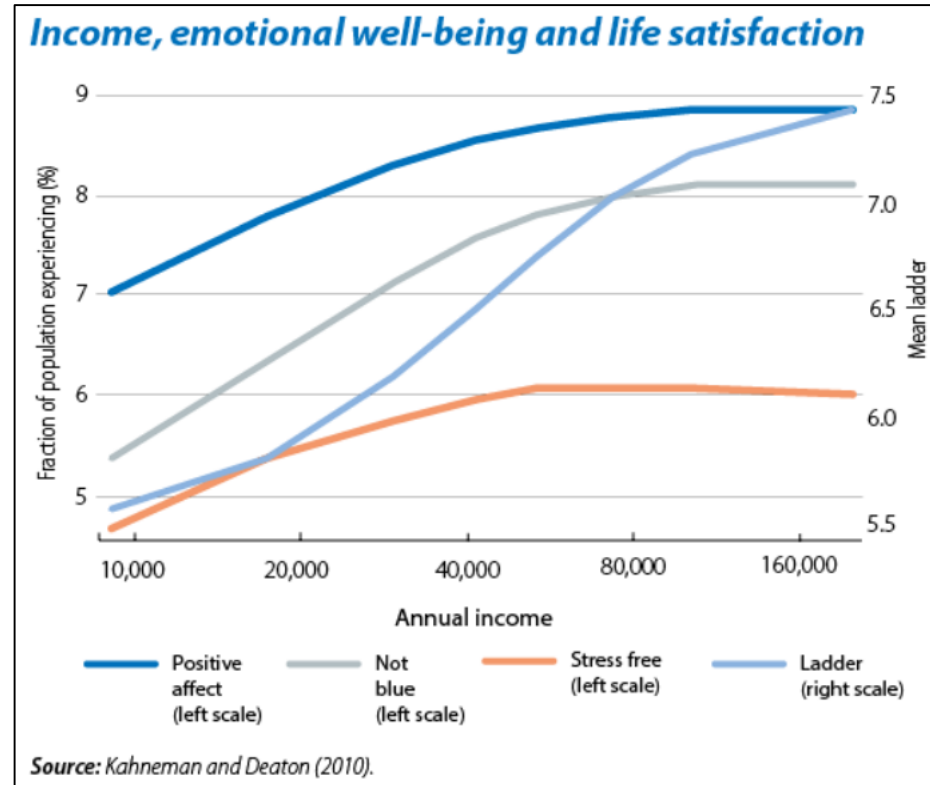


<https://www.driscolls.com/berrytogether>

Happiness has different dimensions

For example:

- *Life satisfaction*
- *Joy*
- *Not sad*
- *Stress free*



Happiness means different things with age

More about excitement
for younger people,
relaxation and comfort for
older people



Happiness means different things with age

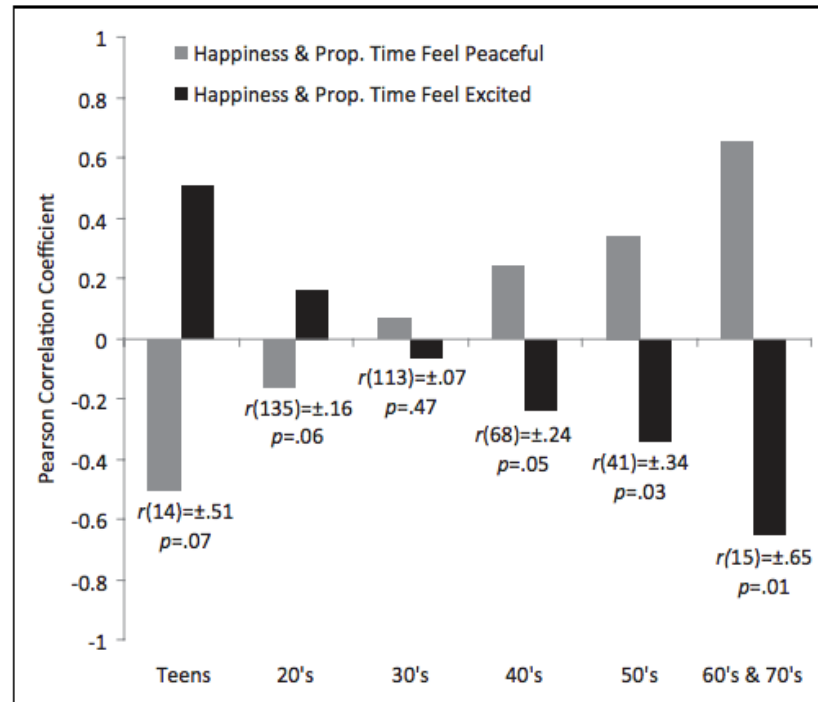


Figure 2. Correlation coefficients between happiness and the proportion of time one feels excited (vs. peaceful) for each 10-year age group

Mogilner, Cassie, et al. "The Shifting Meaning of Happiness." *Social Psychological and Personality Science*, vol. 2, no. 4, 2010, pp. 395–402.

Happiness in pride ... for perseverance

Prosocial emotions – gratitude, compassion, and pride – are easier to generate than willpower and self-denial that underpin traditional approaches to self control and grit

*DeSteno (2018). Emotional Success



Emotions are tied to experiences and moments

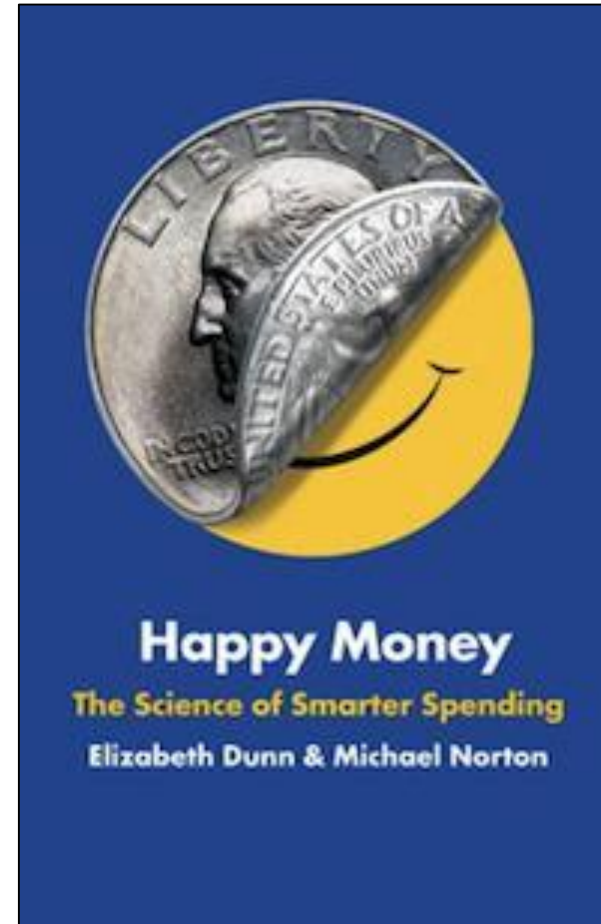
Activities	Mean affect rating				
	Positive	Negative	Competent	Impatient	Tired
Intimate relations	5.10	0.36	4.57	0.74	3.09
Socializing	4.59	0.57	4.32	1.20	2.33
Relaxing	4.42	0.51	4.05	0.84	3.44
Pray/worship/meditate	4.35	0.59	4.45	1.04	2.95
Eating	4.34	0.59	4.12	0.95	2.55
Exercising	4.31	0.50	4.26	1.58	2.42
Watching TV	4.19	0.58	3.95	1.02	3.54
Shopping	3.95	0.74	4.26	2.08	2.66
Preparing food	3.93	0.69	4.20	1.54	3.11
On the phone	3.92	0.85	4.35	1.92	2.92
Napping	3.87	0.60	3.26	0.91	4.30
Taking care of my children	3.86	0.91	4.19	1.95	3.56
Computer/e-mail/Internet	3.81	0.80	4.57	1.93	2.62
Housework	3.73	0.77	4.23	2.11	3.40
Working	3.62	0.97	4.45	2.70	2.42
Commuting	3.45	0.89	4.09	2.60	2.75

Kahneman, Daniel , et al. "A Survey Method for Characterizing Daily Life Experience: The Day Reconstruction Method." *Science*, vol. 306, no. 5702, Mar. 2004, pp. 1776–1780.

Spending on happiness

“It is important to emphasize that happiness, as Dunn and Norton conceive of it, should be seen as plural rather than singular. It includes qualitatively diverse goods, ranging from the pleasure of chocolate to the wonder of nature to the comforts of home to the exhilaration of new experiences to the gratification associated with giving to others.”

Sunstein, Cass R. “What You Can Learn from the New Science of Smarter Spending.” *New Republic*, 2 Aug. 2013.



Preference for experiences over “commodities”

“People tend to adapt to commodities. After a while, they do not much think about them, treating them instead as part of life’s furniture. Novel experiences, by contrast, provide the basis for valuable memories that endure, and that can help to define the texture of a life. ”

Sunstein, Cass R. “What You Can Learn from the New Science of Smarter Spending.” *New Republic*, 2 Aug. 2013.



Make it a treat

“For experiences that tend to be uniform, the effect of interruptions is to “help to ‘re-virginize’ us, wiping our pleasure slates clean. It is best for people to “re-virginize” themselves by using money to create special times and spaces for desirable activities.”

Sunstein, Cass R. “What You Can Learn from the New Science of Smarter Spending.” *New Republic*, 2 Aug. 2013.



People should use money to ‘buy time’

“Too often we spend our time looking for ways to save money—as, for example, by shopping for cheap gas and special deals—when we would do better to spend our money to find ways to save time.”

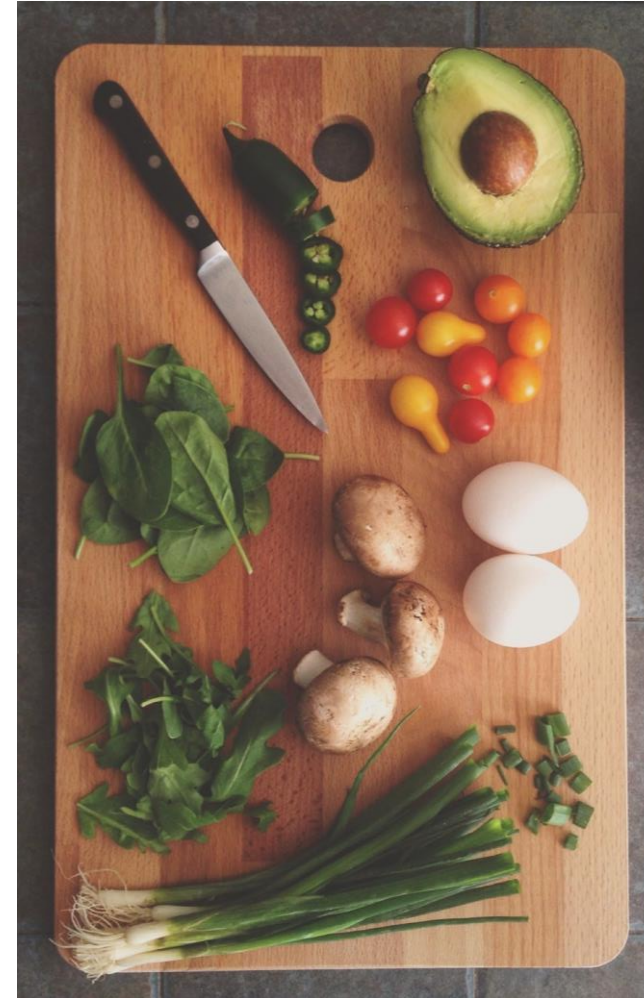
Sunstein, Cass R. “What You Can Learn from the New Science of Smarter Spending.” *New Republic*, 2 Aug. 2013.



Pay now, consume later

“People often get a lot of pleasure from anticipating the future. people tend to be especially happy in the period before vacations, but the phenomenon is far more general.”

Sunstein, Cass R. “What You Can Learn from the New Science of Smarter Spending.” *New Republic*, 2 Aug. 2013.



People benefit from spending on others, not on themselves

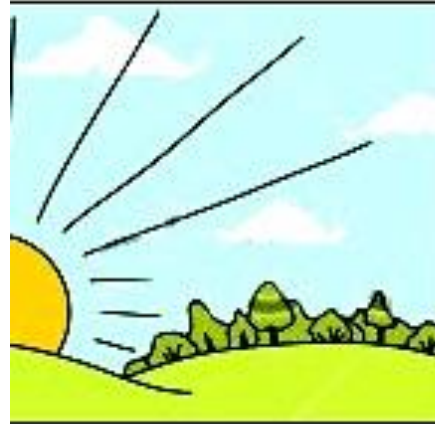
“When people give money away, they experience a significant hedonic boost. The best prediction of people’s happiness was not how much they devoted to personal spending, but instead how much they gave to others.”

Sunstein, Cass R. “What You Can Learn from the New Science of Smarter Spending.” *New Republic*, 2 Aug. 2013.

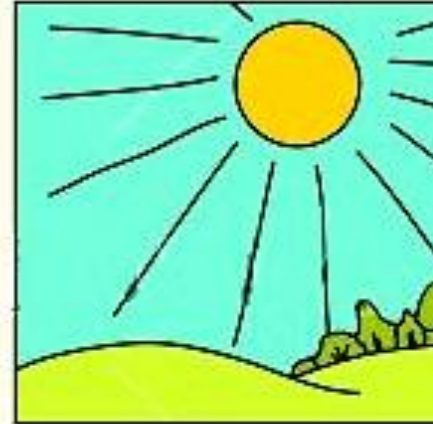


Fruit / veggie emotions through the day

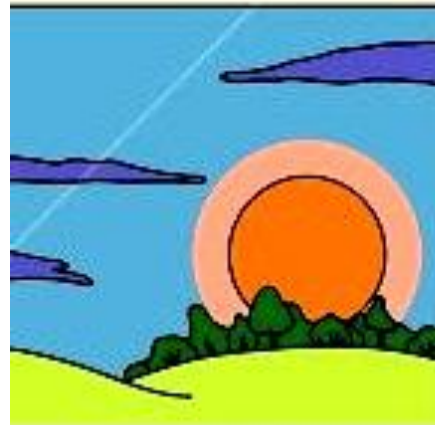
Burst of joy with
juice in the
morning



Relaxing with
vegetable
soup for lunch



Pride in
preparing a
vegetable based
dinner for the
family



Sharing veggie
based comfort
snacks in the
evening



Sautee for love



Chop for joy



Freeze for fun



Warm for calm



Roast for pride



Develop emotional narratives for your customers:
Emotion is an immediate, motivating reward!

Pride	<i>Eating healthful food as a family</i>
Satisfaction	<i>Preparing healthy food for loved ones</i>
Love	<i>Sharing foods with rich cultural traditions</i>
Joy	<i>Sharing delicious foods</i>
Safety	<i>Healthy eating habits for long life</i>
Relaxation	<i>Eating warm comfort food</i>
Social connection	<i>Preparing Sunday brunch</i>
Excitement	<i>New and spicy</i>
Fun	<i>Cooking with kids</i>

Thank you!

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Look for blog post this week



We know that fruit and vegetables are healthy, but is there a correlation between intake, life satisfaction, and happiness?

A PBH Case Study

Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017: Methodology



- 1 Approach**
Online survey
administered to a
nationwide sample
- 2 Data Collection Period**
Data collected
January 23 - 31, 2017
- 3 Sample Size**
n=2025 with quotas by
age and income to reflect
the American population
- 4 Sample Details**
Male and female primary
shoppers with kids in the
household as well as primary
shoppers in households with no
kids. The sample also included
an oversampling of men and
women 50+ years.
- 5 PBH Study Partner**
AARP Foundation
- 6 Research Firm**
OnResearch

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How individuals feel overall is a mix of physical and emotional well-being.

- 7 in 10 say they are satisfied or very satisfied with life.
- 6 in 10 say they are happy or very happy.
- The strongest predictors of happiness are:
 - + Positive outlook on life.
 - Feeling unable to make the most of each day.
 - + Eating FVs makes me feel good about myself.



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Source: Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017

Those who eat fruit and vegetables 6-7 days in a week note a variety of physical, emotional, and social benefits including:



don't worry. be happy.

People who eat fruit and veggies the most days per week say:

"Maintaining my health makes me feel good."

"Eating fruits and vegetables makes me feel good about myself."

"Eating fruits and vegetables makes me feel confident I'm getting the nutrients I need."

SOURCE: Produce for Better Health Foundation.
Novel approaches to measuring and promoting fruit and vegetable consumption, 2017

Pride in their choices.

- Maintaining my health makes me feel good.
- Eating fruits and vegetables makes me feel good about myself.
- Eating fruits and vegetables makes me feel confident that I'm getting nutrients that I need.

Feeling good in their day-to-day activities.

- I am agile and active.
- I have a sharp memory.
- I have more energy when I eat fruits and vegetables.
- If I don't eat fruits and vegetables regularly, I don't feel as well.

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Source: Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017 | Note: Significance at 95% level

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**GOING
TO MY
HAPPY
PLACE**

People who eat the most fruit and veggies are most likely to agree:

"I am agile and active."	"I have more energy when I eat fruits and vegetables."	"I have a sharp memory."
-------------------------------------	---	---

SOURCE: Produce for Better Health Foundation. Novel approaches to measuring and promoting fruit and vegetable consumption, 2017.

Alleviation of physical illness.

- Fruits and vegetables help me with bowel regularity.
- Eating fruits and vegetables has helped me avoid taking certain medications.
- Eating fruits and vegetables helps me control my weight.

Confidence in their future health.

- I eat fruit and vegetables because I want to stay healthy.
- My lifestyle today will help me live a long, healthy and independent life.

Emotional and social benefits.

- I have a positive outlook on life.
- I enjoy eating fruits and vegetables.
- I eat fruits and vegetables for environmental or ethical reasons.

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Source: Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017 | Note: Significance at 95% level


In contrast, those who do not eat fruit and vegetables as often as 6-7 days in a week report not feeling as good physically or emotionally.

Those who do not eat any fruits and vegetables are significantly more likely to report a feeling of hopeless and disengagement in daily activities.

- *I don't feel engaged and interested in my daily activities.*
- *I feel unable to make the most of each day.*

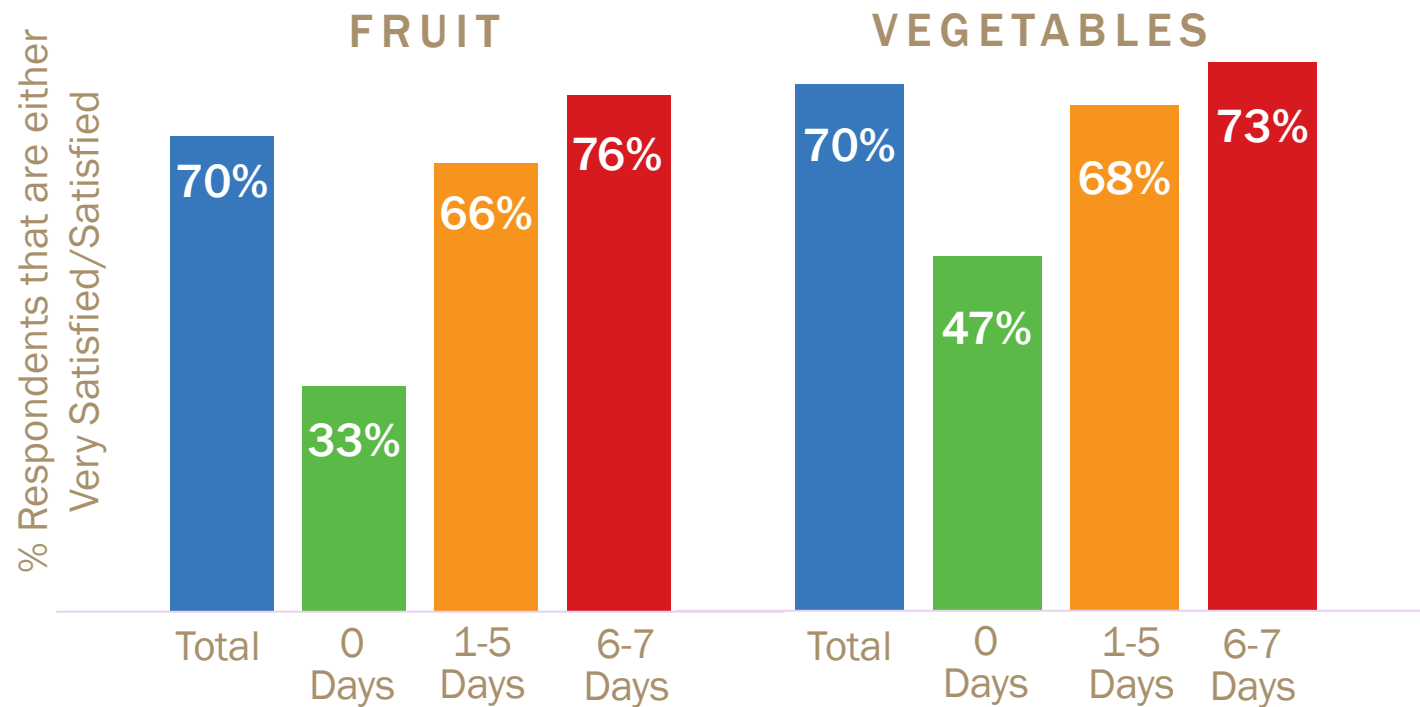
Those who consume fruits and vegetables only 1-5 days per week are more likely to note physical and emotional deficits in how they feel.

- *I don't feel engaged and interested in my daily activities.*
- *In general, I do not feel energetic day-to-day.*
- *I feel unable to make the most of each day.*
- *Report negative perceptions of themselves*
- *I am not happy with how I look.*
- *Compared to others my age, I feel unhealthy.*

A photograph of a table setting with a light-colored, textured tablecloth. In the foreground, there are two white plates. The plate on the left contains a mix of vegetables including broccoli, green beans, and sliced potatoes, along with some red bell peppers. The plate on the right is a colorful salad with lettuce, tomatoes, cucumbers, mushrooms, and other vegetables. Behind the plates, there is a white teapot, a glass of red wine, and a large white flower. A small plate of fruit, including grapes and orange slices, is also visible. The entire image has a soft, warm, reddish-pink tint. Overlaid on the center of the image is the text "How can tapping into emotions help consumers increase fruit and vegetable intake?" in a white, sans-serif font.

How can tapping into emotions help consumers increase fruit and vegetable intake?

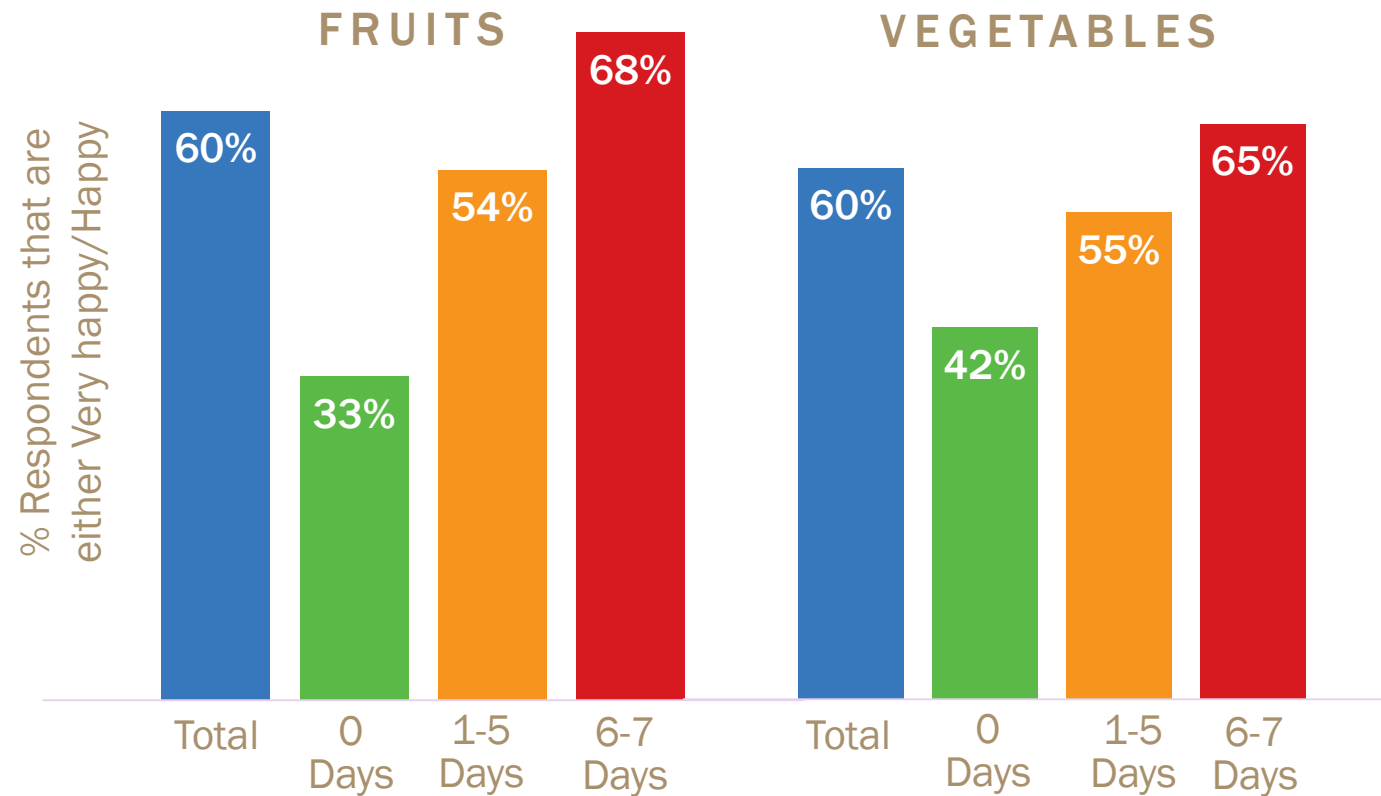
PBH research shows a correlation between number of days/week fruit and vegetables are consumed and level of life satisfaction.



76% of people who eat fruit 6-7 days of the week said they are satisfied with their life as a whole, compared to 66% of those who eat fruit less often and 33% of people who eat no fruit at all.

73% of people who eat vegetables 6-7 days of the week said they are satisfied with their life as a whole, compared to 68% of those who eat vegetables less often and 47% of people who eat no vegetables at all.

PBH research shows a correlation between number of days/week fruit and vegetables are consumed and level of happiness.



68% of people who eat fruit 6 -7 days of the week say they have been happy in the last four weeks, compared to 54% of those who eat fruit less often and 33% of people who eat no fruit at all.

65% of people who eat vegetables 6 -7 days of the week say they have been happy, compared to 55% of those who eat vegetables less often and 42% of people who eat no vegetables at all.

Age, income level, and life stage affect overall satisfaction and happiness.

Gender/Age

- Men are significantly more likely than women to say they are very happy.
- Attitudes toward fruit and vegetables become more positive with age. Older adults are: 1) motivated by short-and long-term lifestyle benefits and 2) more likely to report consuming produce for internally-motivated reasons.
- Younger adults are more likely to report consuming produce for environmental/ethical reasons.

Income

- Regardless of age, lower income earners consume fruit and vegetables less days per week vs. higher income earners.
- Lower income less likely to describe themselves as “agile and active” and to say that “my lifestyle today will help me live a long, healthy, and independent life.”

Life Stage

- Retirees report being happier and more satisfied with their lives than those still working.
- Employed individuals are more likely to say they eat fruit and vegetables:
 - Because someone advises them to;
 - To set a good example;
 - To avoid taking medication; and
 - For environmental or ethical reasons.



Source: *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017*

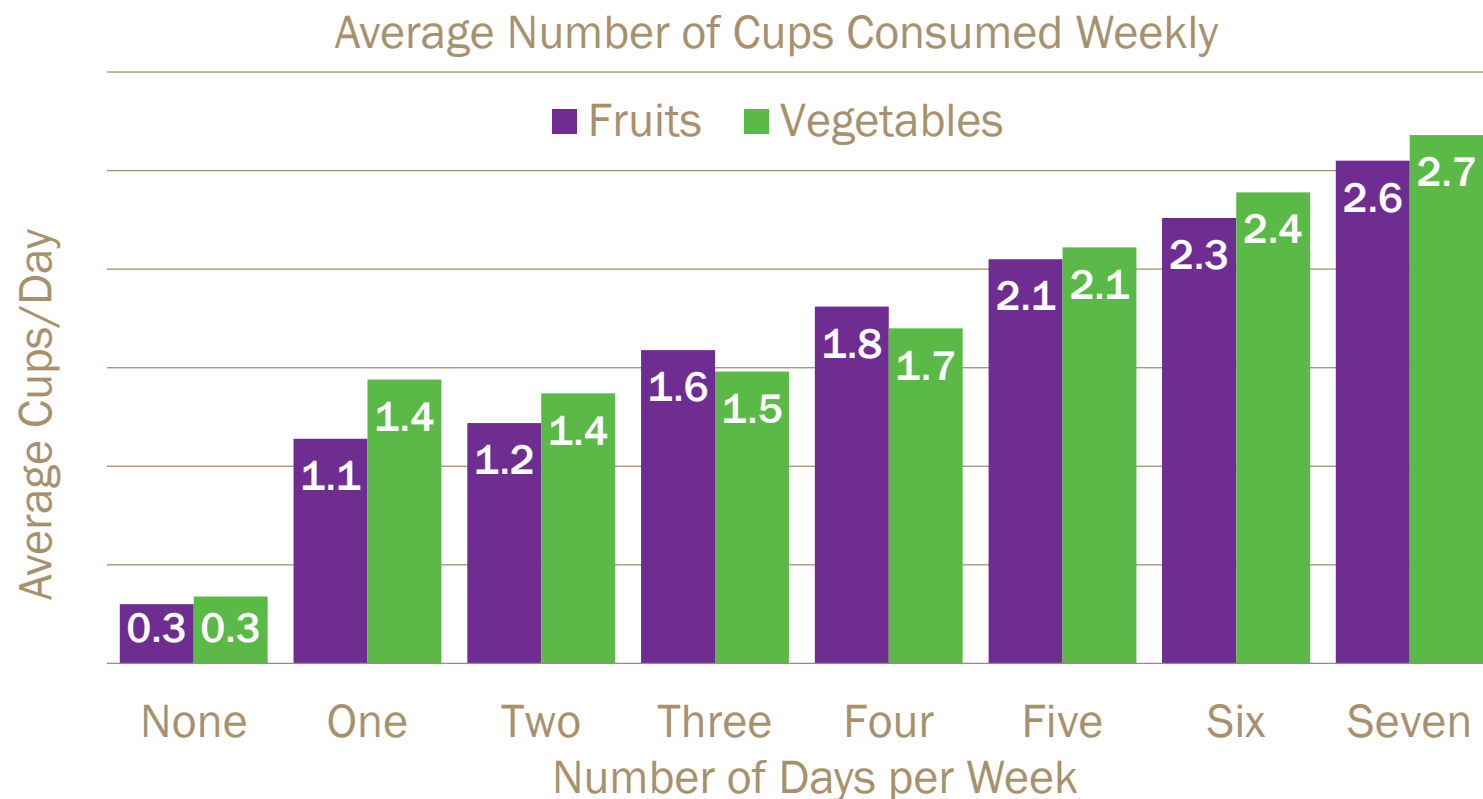
Increased days/week intake of fruit and vegetables correlate with increased amounts/day.

Q. *How many days in a typical week do you eat fruit? And vegetables?*

Q. *About how many cups of **fruit** would you say that you eat in a typical day?*

Q. *About how many cups of **vegetables** would you say that you eat in a typical day?*

Base: All respondents n=2025



Availability of fresh, frozen, canned, dried 100% juice in the home is associated with higher consumption of fruit and vegetables overall.

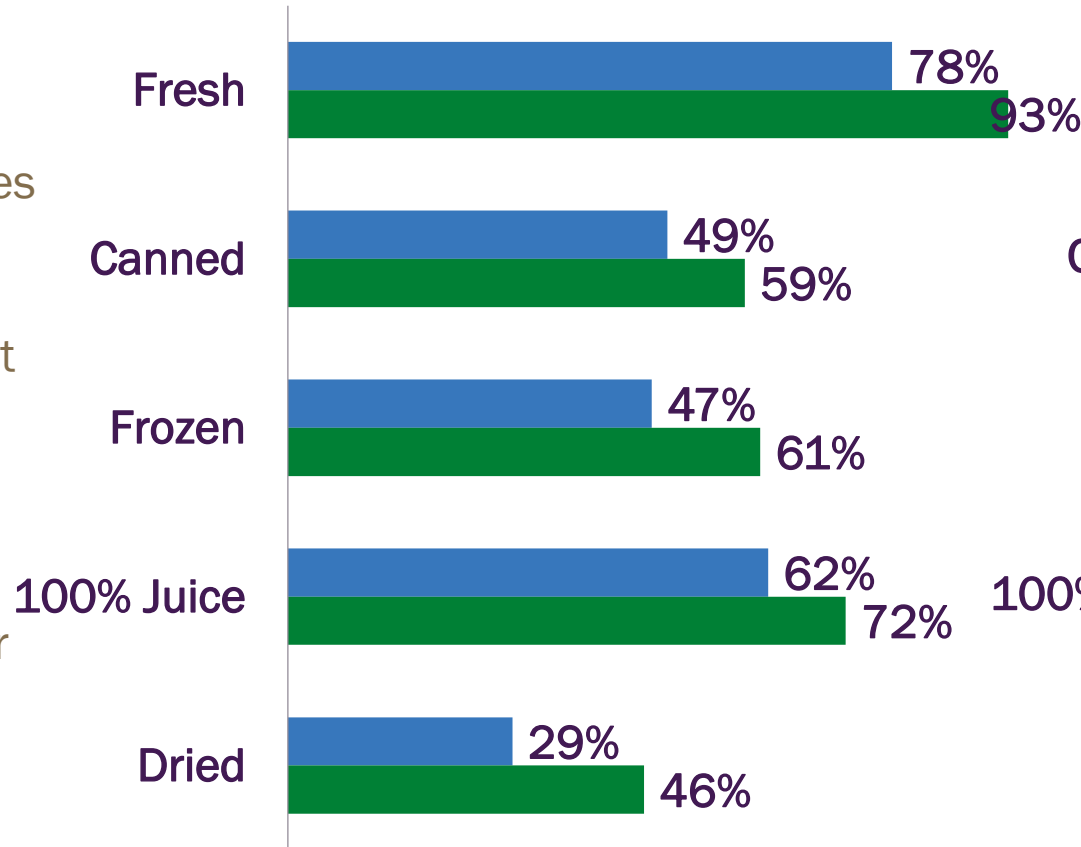
Primary Shoppers
(Parents with Kids >10
yrs) | n=600

Q: About how many
cups of fruit/vegetables
(including canned,
frozen, or dried, and
100% juice) do you eat
or drink each day?

Q: Please rate the
availability of fruits
and vegetables in your
home.

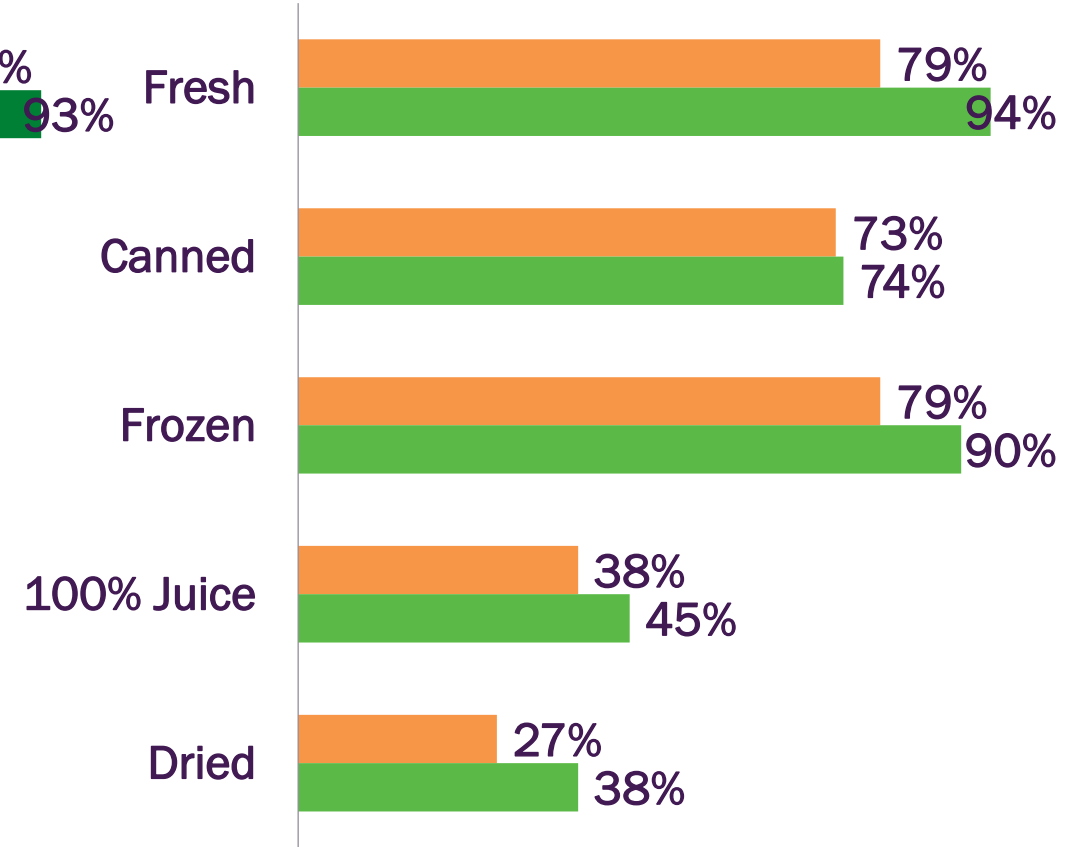
Form of Fruit by Cups/Day Eaten

■ <1 cup ■ >1 cup



Form of Vegetables by Cups/Day Eaten

■ <1 cup ■ >1 cup



Source: Primary Shoppers' Attitudes and Beliefs Related to Fruit & Vegetable Consumption, 2012-2016

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Preparation of fresh, frozen, canned, dried, and 100% juice in the home is associated with higher consumption of fruit and vegetables overall.

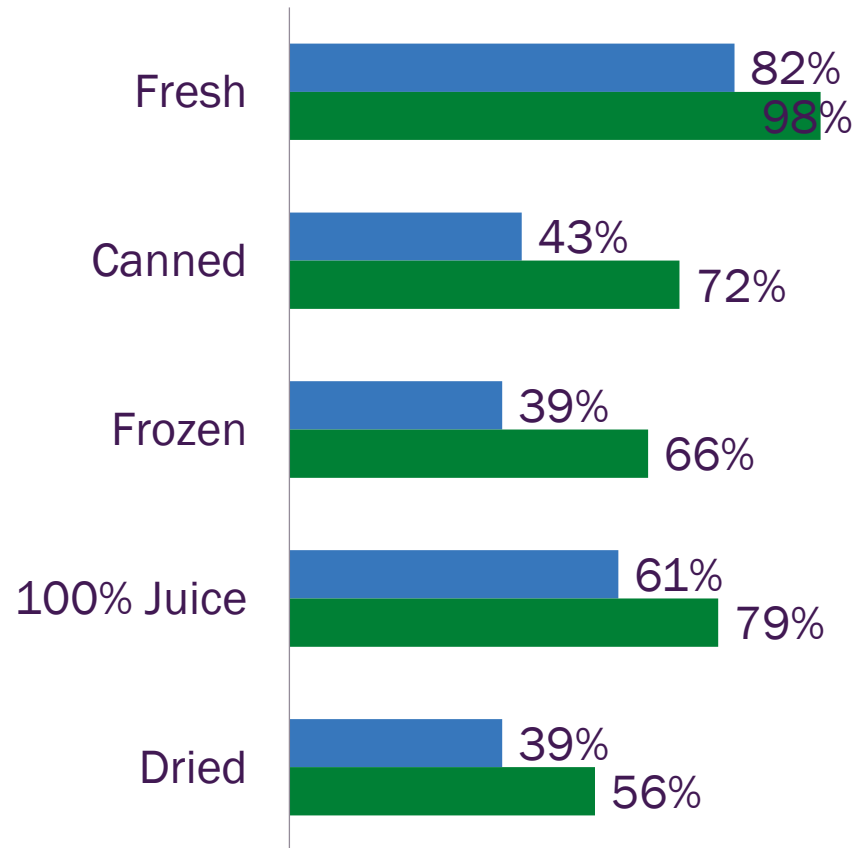
Primary Shoppers (Parents with Kids > 10 yrs) | n=337

Q: About how many cups of fruit/vegetables would you say that you eat in a typical day?

Q: Thinking only about the food that you prepare at home, what percentage, on average, of these foods are from canned, frozen, fresh, dried or 100% juice – fruit/vegetables?

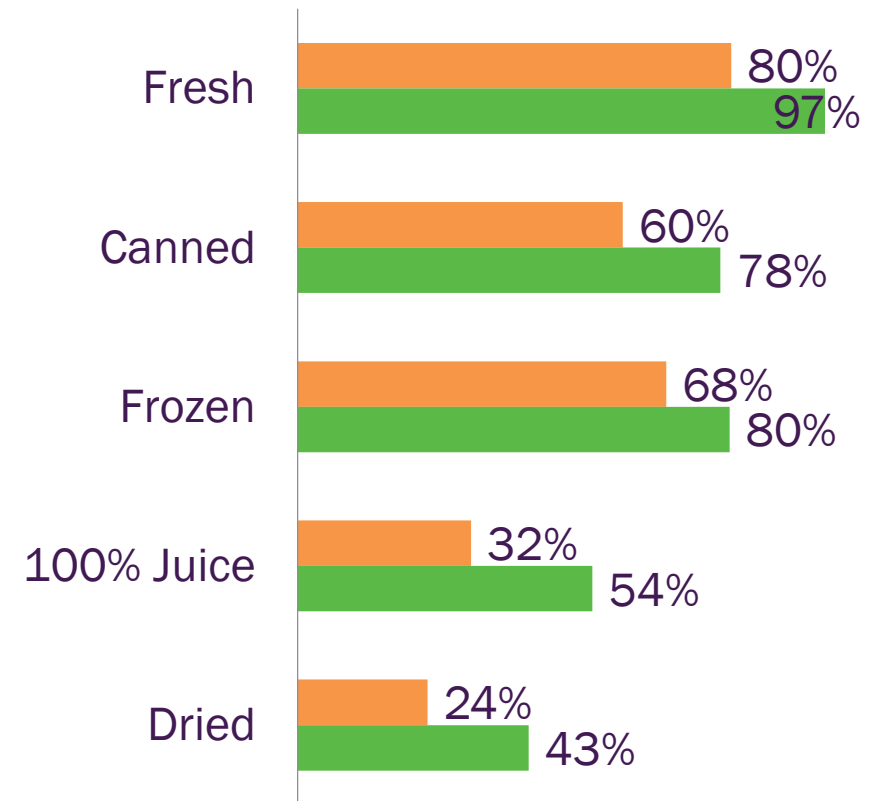
Form of Fruit by Cups/Day Eaten

■ <1 cup ■ >1 cup



Form of Vegetable by Cups/Day Eaten

■ <1 cup ■ >1 cup



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Source: Novel approaches to measuring and promoting fruit and vegetable consumption, 2017

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A photograph of four children sitting at a table, eating and drinking. The image is overlaid with a semi-transparent green filter. The text is centered over the image.

We are at a crossroads and need to find new ways to connect, inspire, and facilitate consumers toward incrementally increasing fruit and vegetable intake.

Be A Fruit and Veggies Ambassador: 4 Ways to Start Today!

1 Be realistic by nudging Americans on their path to eating ONE MORE.

- Start with ONE MORE day per week and ONE MORE cup per day to close the reported consumption gap.

2 Be inclusive by promoting fruit and vegetable intake with all forms language and provide solutions for every lifestyle.

- Show consumers how actionable and doable it is to increase consumption by 1 cup of fruit and 1 cup of vegetables per day and support them in choosing a combination of fresh, canned, frozen, dried, and 100% juice at various eating occasions.

3 Be compelling and relevant by acknowledging the benefits that fruit and vegetables provide to overall well-being.

- Help consumers identify potential benefits beyond those they typically think of (e.g., pride in their choices, confidence that they will feel good physically now and into the future, and other emotional and social benefits).

4 Be resourceful. Stay connected with PBH and Fruits & Veggies—More Matters®.



Related Research (not a comprehensive list)

1. [Let them eat fruit! The effect of fruit and vegetable consumption on psychological well-being in young adults: A randomized controlled trial](#)
2. [Evaluating and establishing national norms for mental wellbeing using the short Warwick-Edinburgh Mental Well-being Scale \(SWEMWBS\): findings from the Health Survey for England.](#)
3. [Evolution of Well-Being and Happiness After Increases in Consumption of Fruit and Vegetables](#)
4. [Eating breakfast, fruit and vegetable intake and their relation with happiness in college students](#)
5. [On carrots and curiosity: eating fruit and vegetables is associated with greater flourishing in daily life](#)
6. [Major health-related behaviours and mental well-being in the general population: the Health Survey for England](#)
7. [Positive effects of a healthy snack \(fruit\) versus an unhealthy snack \(chocolate/crisps\) on subjective reports of mental and physical health: a preliminary intervention study](#)
8. [Many apples a day keep the blues away--daily experiences of negative and positive affect and food consumption in young adults](#)
9. [Is Psychological Well-being Linked to the Consumption of Fruit and Vegetables?](#)
10. [The potential role of fruit and vegetables in aspects of psychological well-being: a review of the literature and future directions.](#)

Get started today with these resources at:
https://pbhfoundation.org/pub_sec/happiness

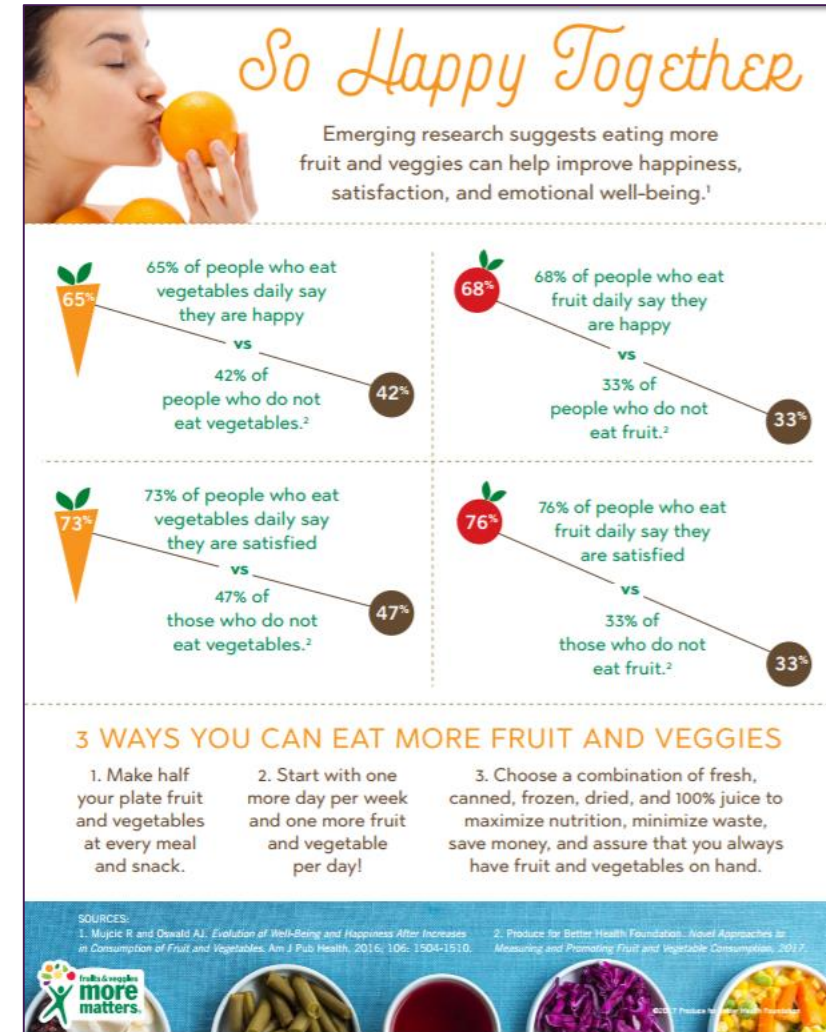
Professional Resources

- Executive Summary: *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017*
- Research infographic
- Webinar slides and CPE
- Related research

Consumer-targeted Resources

- Sample social media posts
- Social graphics/meme
- Recipes

Use this PBH Hashtag: **#morehappinessmatters**



Questions and Answers





Thank you to our generous supporter
of today's webinar.



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Thank you!

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