



# Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017

A Focus on Adults Aged 50+

Produce for Better Health Foundation

## About Produce for Better Health Foundation

The Produce for Better Health Foundation (PBH) is a non-profit organization designed to support Americans in eating more fruit and vegetables, in all forms, because more matters given the current consumption gap. PBH partners with value chain stakeholders, consumer influencers, and thought leaders to facilitate and advocate for increased fruit and vegetable consumption. One way PBH does

this is through its Fruit & Veggies—More Matters® platform. PBH is the only national organization focused entirely on promoting produce consumption in all forms (i.e. fresh, frozen, canned, dried, and 100% juice) and is dedicated to conducting and utilizing research and insights to drive efforts to help Americans increase fruit and vegetable intake.

## PBH's Research Commitment

PBH is unequivocally dedicated to, and has made it a priority to invest in, conducting long-term, comprehensive consumer and marketplace research and analyses to:

1. Understand consumers' knowledge, attitudes, and behavior around fruit and vegetables, in all forms;

2. Ascertain and address challenges and opportunities in consumer messaging as well as at eating occasions and in eating environments; and

3. Develop novel approaches to help Americans increase fruit and vegetable consumption.

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## Background

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The *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017* research represents a build on several consumer studies in which PBH has trended data on attitudes, beliefs and reported behaviors associated with consumption of fruit and vegetables in all forms for more than a decade. As with this ongoing research, the 2017 study aimed to capture the frequency of fruit and vegetable consumption, as well as motivators and barriers to intake and differences among various demographic audiences.<sup>1</sup>

In the 2017 research, an emphasis was placed on older adults, as marketplace intake data collected from 2009-2014 demonstrated double digit declines in fruit and vegetable intake among this audience segment.<sup>2</sup> In response, PBH partnered with the AARP Foundation to 1) identify fruit and vegetable consumption habits and norms of those aged 50 years and older; 2) explore factors related to happiness and life satisfaction among this population; and 3) establish attitudinal segments for further targeting of fruit and vegetable consumption.

In addition to focusing on insights related to adults aged 50+, this research study also aimed to examine more deeply those factors that drive and hinder fruit and vegetable consumption, and specifically, investigate any relationship between fruit and vegetable intake and life satisfaction with life overall and happiness in the short-term. This emphasis follows emerging global data showing increased fruit and vegetable consumption to be predictive of improved happiness, life satisfaction, and well-being.<sup>3</sup>

Finding new and novel ways to connect with consumers of all ages and support them in consuming ample amounts of fruit and vegetables is critical. The *Dietary Guidelines for Americans* consistently note that intake of fruit and vegetables falls below recommended levels. The *Dietary Guidelines for Americans 2015-2020* identified the importance of achieving and maintaining a healthy dietary pattern in which it recommended an increase in



the amount and variety of fruit and vegetables consumed, in various forms.<sup>4</sup> PBH data over time continues to demonstrate an association between the availability<sup>5</sup> and preparation<sup>1</sup> of all forms of fruit and vegetables in the

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## Methodology

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home and higher produce intake overall. An online survey was administered by PBH's data partner, OnResearch, to a panel of Americans. The sample was balanced to be nationally representative and included parents with kids under 10 years of age; primary shoppers in households with kids over 10 years or no kids; and an oversampling of men and women aged 50+ made possible through support by the AARP Foundation. The responses of 2,025 total survey participants were collected between January 23-31, 2017, including 931 respondents aged 50+.

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# Overview

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Over time there has been an evolution in how consumers view “health” as a relative and multi-faceted state that is comprised of typical wellness elements (e.g., physical activity, nutrition, family history), lifestyle factors (e.g., stress management, not smoking, adequate rest), and psychosocial components (e.g., friends and family, spirituality). Trends over time indicate that intake of fruit and vegetables is among the top factors that consumers feel contribute to their health. Overall, they say they eat them to stay healthy. However, previous to the 2017 survey, PBH observed 1) decreases over time in expressed “belief” in the disease risk reduction benefits of fruit and vegetables, as well as the healthfulness of the nutrients and components they contain; 2) increases

in the perception that serving fruit and vegetables is not “easy”; and 3) decreases in reported intake.<sup>5</sup>

Further, PBH’s *2015 State of the Plate* study conducted by NPD Group identified changes in behaviors and routines that were connected to a sizable decline in fruit and vegetable intake among older Americans. For fruit, these included decreased consumption at all meals, particularly dinner and lunch; lower intake of 100% fruit juice for breakfast; reduced use “as is”; and less eaten as a dessert. Vegetable intake declines were associated with a reduction in the use of vegetables as side dishes at dinner.<sup>2</sup>

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## Key PBH Fruit and Vegetable Research Findings

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**Fruit and vegetable intake appears to be habitual.** With increased days per week of fruit and vegetable intake, greater amounts are consumed per day.<sup>1</sup>

**All forms (e.g., fresh, frozen, canned, dried, 100% juice) are associated with higher intakes of fruit and vegetables overall.** We know from previously trended research (2012-2016) that in every category, availability of all forms of fruit and vegetables in the home is associated with higher consumption overall.<sup>5</sup>

Based on the 2017 data, it can also be noted that the preparation of all forms in the home is associated with higher intake of fruit and vegetables overall as well. This is true in the general population, as well as for primary shoppers and adults aged 50+.<sup>1</sup>

**There is a correlation between number of days in a week one consumes fruit and vegetables and a person’s reported level of life satisfaction.** Those who consumed fruit and vegetables every day of the week were significantly more likely to report being satisfied with their life as a whole.<sup>1</sup>

**There is a correlation between number of days in a week one consumes fruit and vegetables and a person’s level**

**of happiness.** Those who consumed fruit and vegetables every day of the week were significantly more likely to report being happy in the short-term.<sup>1</sup>

**Those who consume fruit and vegetables 6-7 days in a week note a variety of physical, emotional, and social benefits.** These included: 1) Pride in their choices (“Maintaining my health makes me feel good.” “Eating fruit and vegetables makes me feel good about myself.” “Eating fruit and vegetables makes me feel confident that I’m getting nutrients that I need.”); 2) 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 fruit and vegetables.” “If I don’t eat fruit and vegetables regularly, I don’t feel as well.”); 3) Alleviation of physical conditions (“Fruit and vegetables help me with bowel regularity.” “Eating fruit and vegetables has helped me avoid taking certain medications.” “Eating fruit and vegetables helps me control my weight.”); 4) 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.”); and 5) Emotional and social benefits (“I have a positive outlook on life.” “I enjoy eating fruit and vegetables.” “I eat fruit and vegetables for environmental or ethical reasons.”)<sup>1</sup>

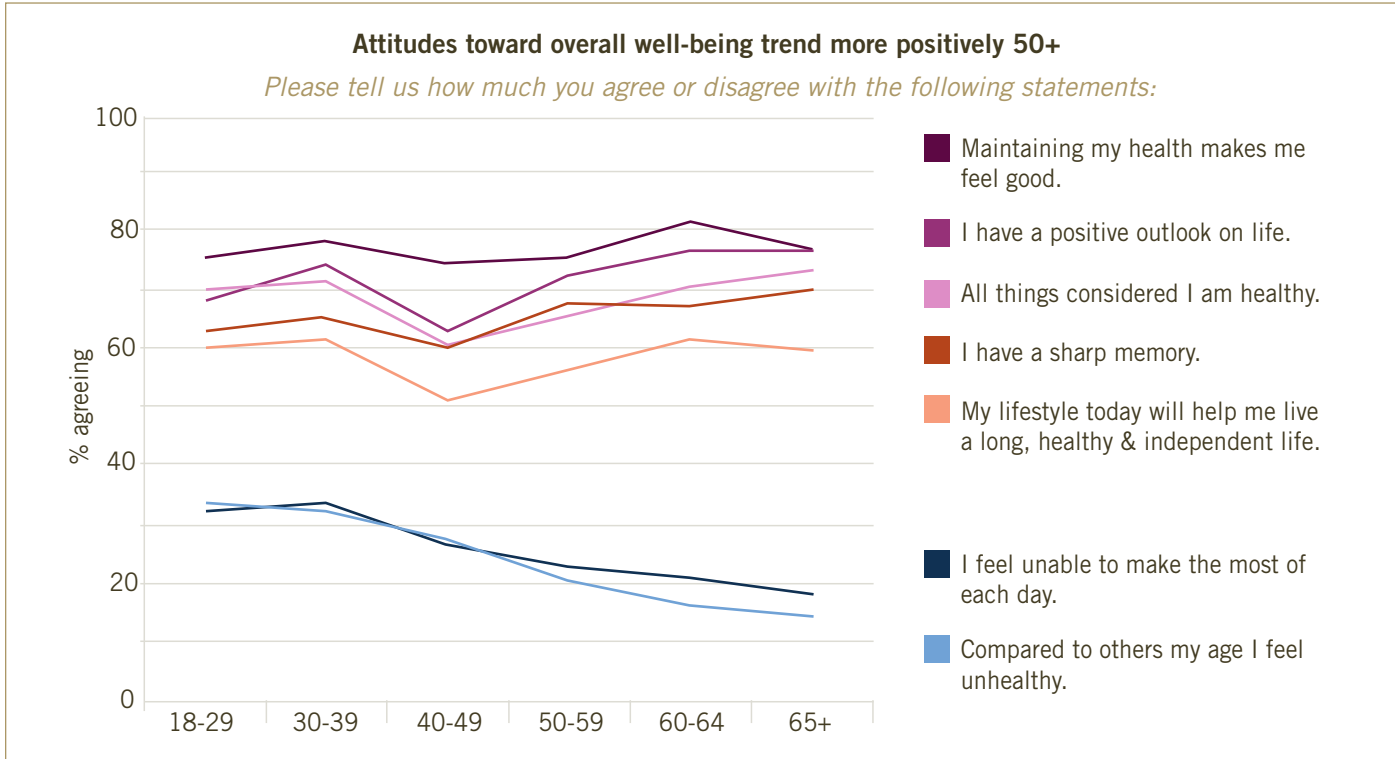
**Those who consume fruit and vegetables 1-5 days per week are more likely to note physical and emotional deficits in how they feel.** Statements more frequently agreed upon by this group include: “I don’t feel engaged and interested in my daily activities.” “In general, I do not feel energetic day-to-day.” “I feel unable to make the most of each day.” “I am not happy with how I look.” “Compared to others my age, I feel unhealthy.”<sup>1</sup>

**Those who do not eat any fruit and vegetables are significantly more likely to report a feeling of hopelessness and disengagement in daily activities.** Statements more frequently agreed upon by this group include: “I don’t feel engaged and interested in my daily activities.” “I feel unable to make the most of each day.”<sup>1</sup>

## Key PBH Findings: The Aged 50+ Population

**Seven in ten Americans aged 50+ report being satisfied with their life as a whole and 6 in 10 report being happy over the past four weeks.** These happiness and life satisfaction levels are consistent with the population average.

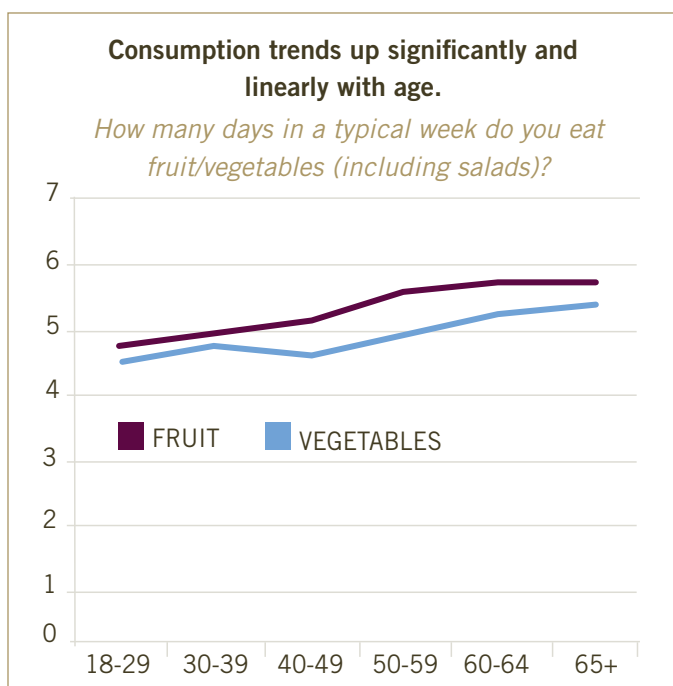
**Attitudes toward overall well-being trend more positively for those aged 50+.** The highest levels of happiness and life satisfaction are reported by those in their 30s. The lowest levels of happiness and life satisfaction are reported by those in their 40s. However, as individuals age beyond their 40s, attitudes toward emotional well-being, as well as life satisfaction and happiness, increase.<sup>1</sup>



**Positive attitudes toward fruit and vegetables increase with age.** Older adults are more motivated by both long- and short-term lifestyle benefits of eating healthfully (e.g., feeling good about their health and physical appearance, living longer, etc.) and are more likely to report consuming fruit and vegetables due to intrinsic motivators compared to younger adults who are more likely to report consuming them because they were told to, they were prepared for them, etc.

Ninety-five percent of adults aged 50+ agree that fruit and vegetables have many health benefits. Eighty-nine percent say they enjoy eating fruit and vegetables.

**Consumption days trend up linearly and significantly with age.** Those aged 65+ years consume fruit and vegetables significantly more days per week than those aged 18-29.<sup>1</sup>



**Reported frequency of fruit and vegetable intake among those aged 50+ is greater than the general population.** Adults aged 50+ report an average of 5-6 days per week of fruit (5.2 days) and vegetable (5.7 days) intake. Forty nine percent and 42% of those aged 50+ are consuming vegetables and fruit, respectively, 7 days per week. Frequency of fruit intake is significantly greater among adults aged 50+ compared to the general population, as is the percentage who consume fruit daily.



**Fifty-four percent and 59% of adults aged 50+ report under-consuming the recommended cups per day of fruit and vegetables, respectively.** This is consistent with the general population.

**Adults aged 50+ have a slightly more accurate assessment of the amount of vegetables they should be consuming per day, compared to the general population.** Older adults' perceived gap, defined as perception of recommendations minus reported intake, is .5 cups of fruit and .6 cups of vegetables compared to the general population with .55 cups fruit and .74 cups vegetables.

**Those aged 50+ under-consuming demonstrate an actual gap of .9 cups of fruit and 1.1 cups of vegetables per day.** The actual gap is defined as recommendations minus reported intake. The gap is consistent with the general population.

# - Attitudinal Segmentation: The Aged 50+ Population -

An opportunity within the *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption* research, because of our oversampling of those aged 50 and older, was to identify clusters in order to segment our audience, define who they are, their commonalities, and ultimately, how we may target them with messages and strategies. These segments are described below.

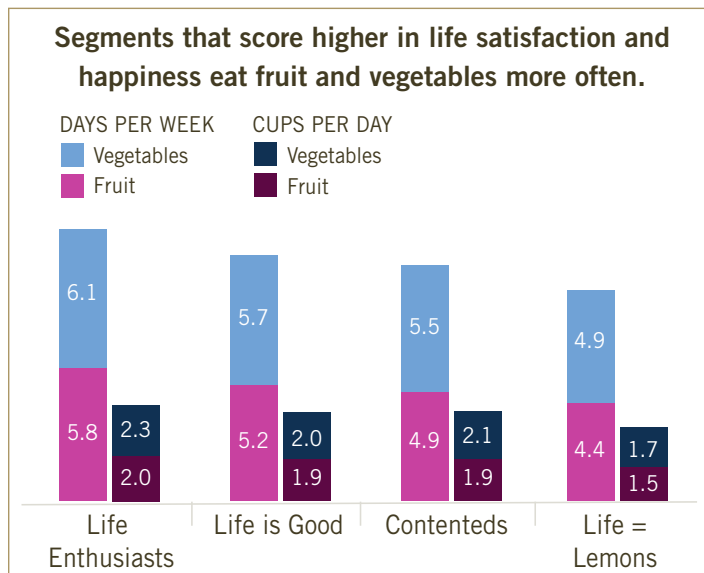
**Targeting the *Life Enthusiasts* segment.** The *Life Enthusiast* segment accounts for 38.5% of the older adult population. They are predictably positive, with the highest ratings of life satisfaction (92%) and happiness (83%). *Life Enthusiasts* answer very affirmatively to positive statements and rate negatively worded statements low. They have the highest fruit and vegetable consumption with an average of 5.8 and 6.1 days per week, respectively. They also consume the greatest amount of fresh fruit (70%) and vegetables (61%). *Life Enthusiasts* are intrinsically motivated to consume fruit and vegetables based on a desire to stay healthy and feel good about themselves. They note the physical benefits of fruit and vegetable consumption, such as weight control, nutrient adequacy, bowel regularity, and avoiding medication. Demographically speaking, the *Life Enthusiasts* segment is comprised of 43% men and 57% women; skews toward a higher age, compared with other segments, with 43% over 65 years old and 29% 50-59 years of age; and has a significant representation of those who still work full time (42%) as well as those who are retired (42%).

This group sets their bar high. Discuss the many benefits of eating fruit and vegetables every day of the week. Tap into the specific benefits (weight management, feeling energetic, confidence and pride in taking charge of their health, etc.), as these are consistent with this segments' beliefs. Accentuate the emerging connection between fruit and vegetable intake and levels of happiness and life satisfaction. Balance quick and healthy options for those still working and crunched for time and more elaborate options for retirees that have more time for meal preparation.

Finally, acknowledge what they are already doing for the health of their body; encourage them to “keep up the

good work;” and present the opportunity to become a fruit and veggie “ambassador.”

**Targeting the *Life is Good* segment.** The *Life is Good* segment accounts for 23.6% of the population. They have a positive outlook, but less so than others their age. The *Life is Good* group consumes fruit and vegetables an average of 5.2 and 5.7 days per week, respectively.



Two-thirds of this group see the long-term benefits of their current lifestyle helping them with longevity, health, and independence. They are more likely than *Contenteds* and *Life=Lemons* to see the physical benefits of weight management and bowel regularity. Demographically speaking, the *Life is Good* segment is comprised of 45% men and 55% women (significantly higher in men and lower in women than other segments); is significantly higher in those ages 50-59 (36%) while being lower than most segments in those 65+ (33%); is significantly higher in those who work full-time (53%) and lowest in those who are retired (30%); and skews significantly higher in income level.

Focus simultaneously on the physical and potential emotional benefits of fruit and vegetable consumption. Make sure that solutions include quick fixes for those with little time for preparation. Show them how a living a healthy lifestyle now pays dividends later.

**Targeting the *Contenteds* segment.** The *Contented* segment accounts for 23.5% of the older adult population. They largely have a positive outlook on life and feel they are doing the best they can. This segment responded in a balanced, middle-of-the-road way to most statements. They do not seem to be as in touch with the personal physical benefits of fruit and vegetable intake compared to *Enthusiasts* and *Life is Good* segments, but two-thirds acknowledge that maintaining their health makes them feel good. Only 42% agree or strongly agree that lifestyle today impacts their longevity, health and independence. *Contenteds* consume fruit and vegetables an average of 4.9 and 5.5 days per week, respectively. They are significantly less likely to report enjoyment in eating fruit and vegetables than *Life Enthusiasts*. Demographically speaking, they are 40% male and 60% female and skew to the higher end of the age range with 49% aged 65 and older and 24% aged 50-59 years.

Remind *Contenteds* of the variety of health benefits conferred by fruit and vegetables and connect them to how maintaining their health makes them feel good and gives them better quality of life over the long-term. This group is about moderation, so consider supporting them in gradually increasing their intake by showing them realistic ways to consume more fruit and vegetables. Since *Contenteds* are already consuming an average of 5 days per week, help them add one more each day.

**Targeting the *Life=Lemons* segment.** The *Life=Lemons* segment accounts for 14.4% of the population. They are predictably “sour”, with the lowest ratings for life satisfaction (28%) and happiness (22%). *Life=Lemons* agree at a high rate with negative statements and disagree at a high rate with positive ones. They have the lowest fruit and vegetable consumption with an average of 4.4 and 4.9 days per week, respectively. They are most likely to agree with the statement that they do not consume fruit and vegetables, but their intake suggests otherwise. They are significantly less likely, and the lowest of all segments, to report enjoyment in eating fruit and vegetables and are significantly less likely to say that they do so because they want to stay healthy. They are also

most likely to feel that fruit and vegetable intake is contraindicated for them due to physical limitations or medications, as well as being significantly less likely to think that fruit and vegetables make them feel energetic. Demographically speaking, *Life=Lemons* contain significantly less men (34%) and significantly more women (66%) than other segments; have significantly more individuals 50-59 years of age (42%) and significantly less 65 years and older (33%); are comprised of 9% who are unemployed and 21% who are working full-time — a significantly higher unemployment rate and lower full-time employment rate compared to other segments; and are among the lowest income of the segments.



Focus on the potential life satisfaction and happiness benefits of fruit and vegetable consumption. Express empathy for the challenges they face and suggest ways to help make it easier to cope with life. Work toward building intake habits and demonstrate low-cost options for consuming fruit and vegetables. Provide simple, affordable recipes to prepare fruit and vegetables in different ways. Finally, give this segment permission to enjoy fruit and vegetables in all forms.

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# Implications and Opportunities

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When targeting any population for behavioral changes, it is critical to understand their intricacies including current behaviors, motivators for change, barriers to sustained behavior change, etc. With older Americans, it will be important to keep in mind that, collectively, they are a diverse group with some working, some retired, some unemployed, and some acting as caregivers to grandchildren. They also have varying income levels and attitudes toward short- and long-term health, as well as produce intake.

That said, many findings in this study are applicable to communicating with adults aged 50+ as a whole to increase fruit and vegetable intake. Communications can focus on both the short- and long-term health and lifestyle benefits. Specifically, it may be beneficial to harness the positive associations with consumption including physical health benefits, enjoyment, and emotional well-being. Given the association between availability and preparation of all forms of fruit and vegetables, it is strongly recommended to give permission to consume fruit and vegetables as fresh, frozen, canned, dried and 100% juice for increased compatibility with



lifestyle and intake patterns. It will be important to concentrate on building habits through incremental improvement, such as consuming fruit and vegetables “one more day” per week and/or “one more” time per day. Further targeting within attitudinal and segments can help make messages on fruit and vegetables most relevant and actionable.

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## References

1. Produce for Better Health Foundation. *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017: An Executive Summary*. Available at: <https://pbhfoundation.org/sites/default/files/pdf/Novel%20Approaches%20Executive%20Summary.pdf>.
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3. Mujcic R and Oswald AJ. *Evolution of Well-Being and Happiness After Increases in Consumption of Fruit and Vegetables*. *Am J Pub Health*. 2016; 106: 1504-1510.
4. U.S. Department of Health and Human Services and U.S. Department of Agriculture. *2015–2020 Dietary Guidelines for Americans*. 8th Edition. December 2015. Available at: <http://health.gov/dietaryguidelines/2015/guidelines/>.
5. Produce for Better Health Foundation. *Primary Shoppers' Attitudes and Beliefs Related to Fruit & Vegetable Consumption, 2012-2016*. Available at: [https://pbhfoundation.org/about/res/pbh\\_res/#2016](https://pbhfoundation.org/about/res/pbh_res/#2016).



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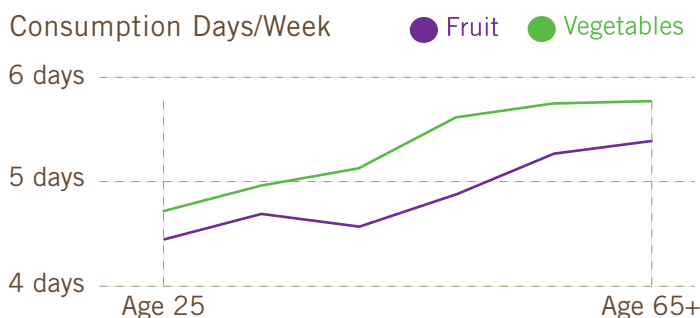
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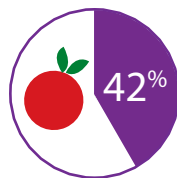
# Better with Age

A Fruit and Vegetable Story

Older Americans are historically the highest consumers of fruit and vegetables,<sup>1</sup> AND, fruit and vegetable consumption trends up significantly with age.<sup>2</sup>

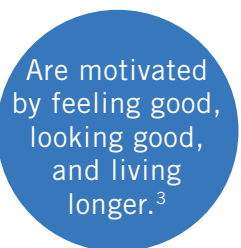
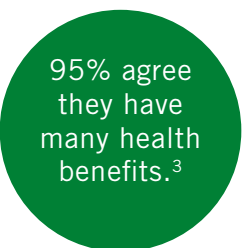


Compared to the general population, 7% more adults aged 50+ eat fruit daily and 2% more eat vegetables daily.<sup>3</sup>



Attitudes toward fruit and vegetables also become more positive with age.<sup>2</sup>

Americans aged 50+:



YET, older Americans have recently shown double digit decreases in overall consumption and at various eating occasions.<sup>1</sup>

This decrease is due largely to:

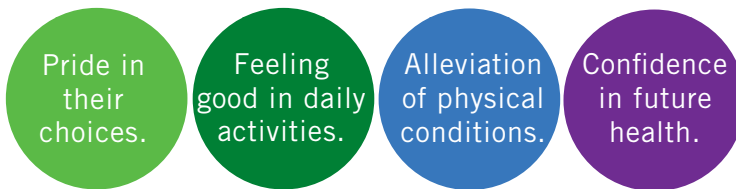
Fewer vegetable side dishes at dinner | Less fruit “as is”

Less fruit for dessert | Less 100% juice at breakfast



Positive associations can help older Americans (and all of us) eat more fruit and vegetables.

Americans who eat the most fruit and vegetables report these benefits:<sup>2</sup>



All forms of fruit and vegetables — fresh, frozen, canned, dried, and 100% juice — can also help. Those who eat the most fruit and vegetables have more forms available in their homes<sup>4</sup> and prepare them more often.<sup>2</sup>

Sources:

1. Produce for Better Health Foundation. *State of the Plate: 2015 Study on America's Consumption of Fruits and Vegetables.*

2. Produce for Better Health Foundation. *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017: An Executive Summary.*

3. Produce for Better Health Foundation. *Novel Approaches to Measuring and Promoting Fruit and Vegetable Consumption, 2017: A Focus on Adults Aged 50+.*

4. Produce for Better Health Foundation. *Primary Shoppers' Attitudes and Beliefs Related to Fruit & Vegetable Consumption, 2012-2016.*