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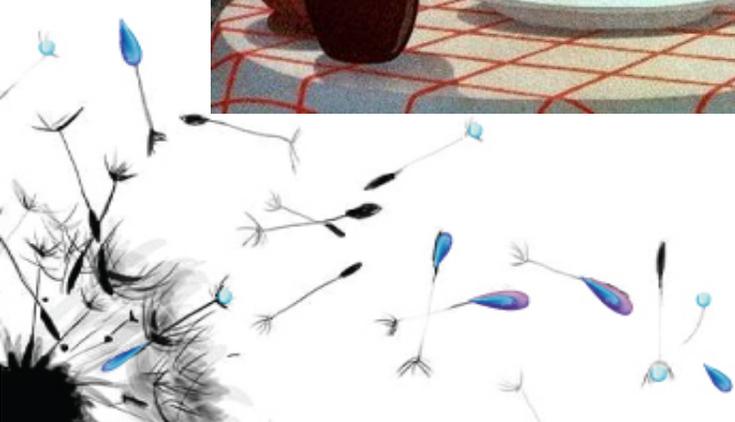


Feeding the spirit

How we eat
matters more than
What we eat

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Food for Thought

What is your personal relationship with food?



How we eat vs. What we eat

Complementary Therapies in Clinical Practice 17 (2011) 157–161



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CAM: Naturopathic dietary interventions for patients with Type 2 diabetes

Erica B. Oberg^{a,*}, Ryan D. Bradley^a, Jason Allen^a, Megan A. McCrory^b

^a Bastyr University Research Institute, 14500 Juanita Dr., Kenmore WA 98128, United States

^b Department of Foods and Nutrition, Department of Psychological Sciences, and the Ingestive Behavior Research Center, Purdue University, West Lafayette, IN, United States

ABSTRACT

Keywords:
Diabetes mellitus, type 2
Naturopathy
Complementary therapies
Self-efficacy
Self-care
Diet therapy

Objective: To test feasibility, acceptability, and preliminary effectiveness of a naturopathic dietary intervention in patients with Type 2 diabetes.

Methods: Prospective observational pilot study evaluating the change in clinical and patient-centered outcome measures following a 12-week individualized and group dietary education program delivered in naturopathic primary care.

Results: HbA1c improved in all participants ($n = 12$); mean $-0.4\% \pm 0.49\%$ SD, ($p = 0.02$). Adherence to healthful eating increased from 3.5 d/wk to 5.3 d/wk ($p = 0.05$). Specific nutritional behavior modification included: days/week consuming ≥ 5 servings of fruit/vegetables ($p = 0.01$), attention to fat intake ($p = 0.05$), and -11.3% carbohydrate reduction. Measures of physical activity, self-efficacy and self-management also improved significantly.

Conclusion: A naturopathic dietary approach to diabetes appears to be feasible to implement among Type 2 diabetes patients. The intervention may also improve self-management, glycemic control, and have influences in other domains of self-care behaviors. Clinical trials evaluating naturopathic approaches to Type 2 diabetes are warranted.

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1. Background

Clinical risk factor control is poor in patients with Type 2 diabetes (T2DM) in the United States. According to 1000–2004

of visits for diabetes, with the duration of counseling averaging just 55 seconds (<20 s to >6 min).⁵ Data from the 2000 National Ambulatory Medical Care Survey revealed that among patients with diabetes, diet counseling was provided in 37% and physical

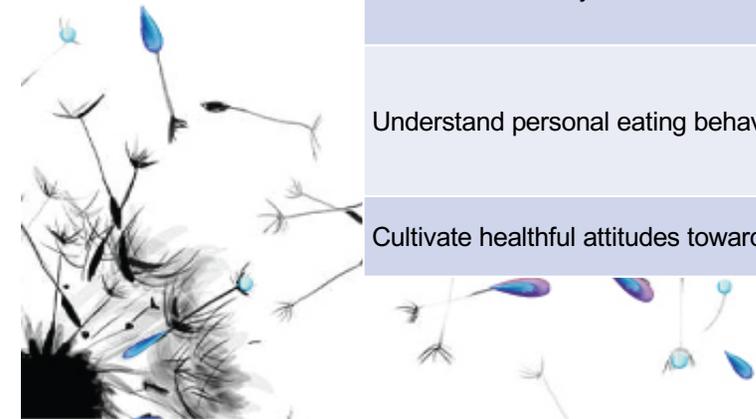


Recipe for naturopathic nutrition

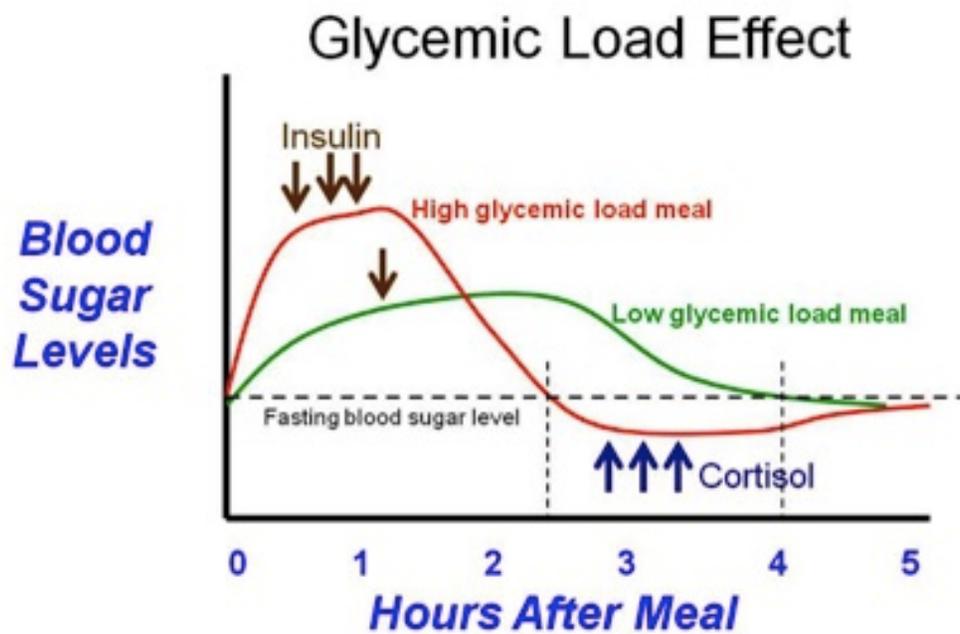
Dietary Principle	Specific Recommendation	Rationale
Macronutrient balance	20-40% CHO, 25-45% protein, 15-35% fat	This is a lower carbohydrate diet that is still diverse, well-balanced, and practically achievable
Low Glycemic Index	Select low GI carbohydrates by paying attention to fiber and whole foods	Low GI foods have a reduced post-prandial glycemic spike and subsequently keep insulin lower
Micro-nutrient Density	Select foods that provide maximal micro-nutrient intake per calorie	Because diabetic diets are often low calorie, it is important to maximize nutrition, especially dietary antioxidant intake
Functional Foods	Based on individual needs, select foods that have function beyond calorie or nutrients	For example, including oats in the diet will lower cholesterol and allow emphasis on food rather than medication
Understand Quality of Foods	Learn to select healthy fats. Make conscious choices about organic, wild, local foods	Some fats, like omega 3 fatty acids, have beneficial effects on glycemic control, whereas trans fatty acids and saturated fat increase CV risk
Understand personal eating behavior	Understand emotional and situational eating habits to avoid overeating	Several eating patterns have been linked to overeating; empowerment over negative habits creates change and lead to self-efficacy across diabetes self-care skills.
Cultivate healthful attitudes toward food	Understand food nourishes more than the physical body	For example, children who eat meals with family at the table have lower rates of obesity.

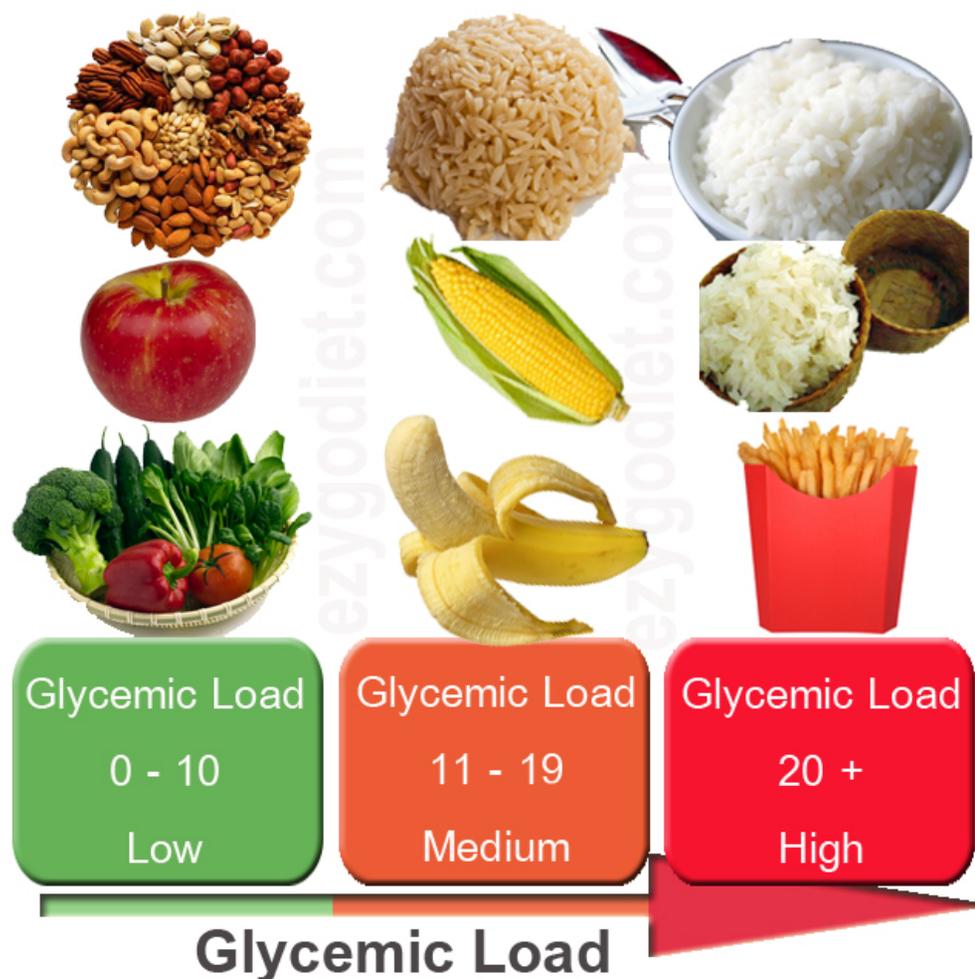
Oberg, E. Comp Ther Clin Pract 2011

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Glycemic Load

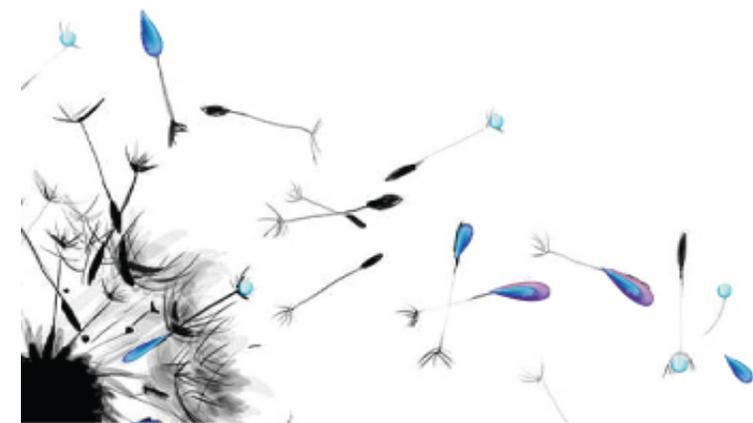


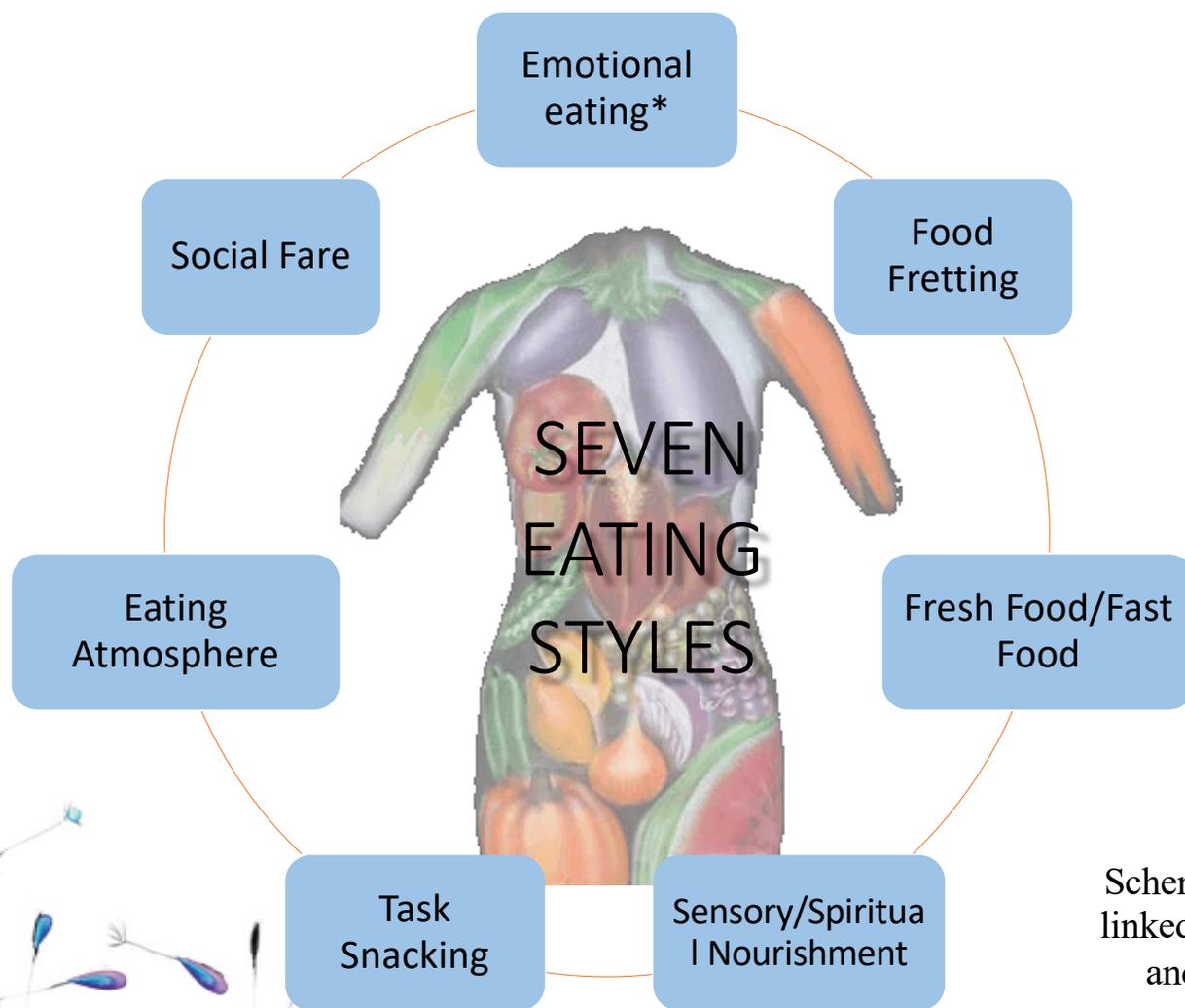


*ดูค่า GL เทียบปริมาณน้ำหนักรักษาอาหาร จำนวน 1 เสิร์ฟ จาก glycemicindex.com

ezygodiet.com

www.drericaoberg.com



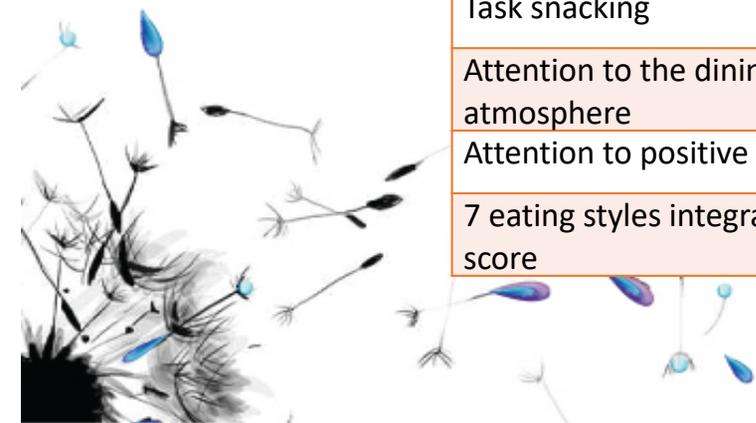


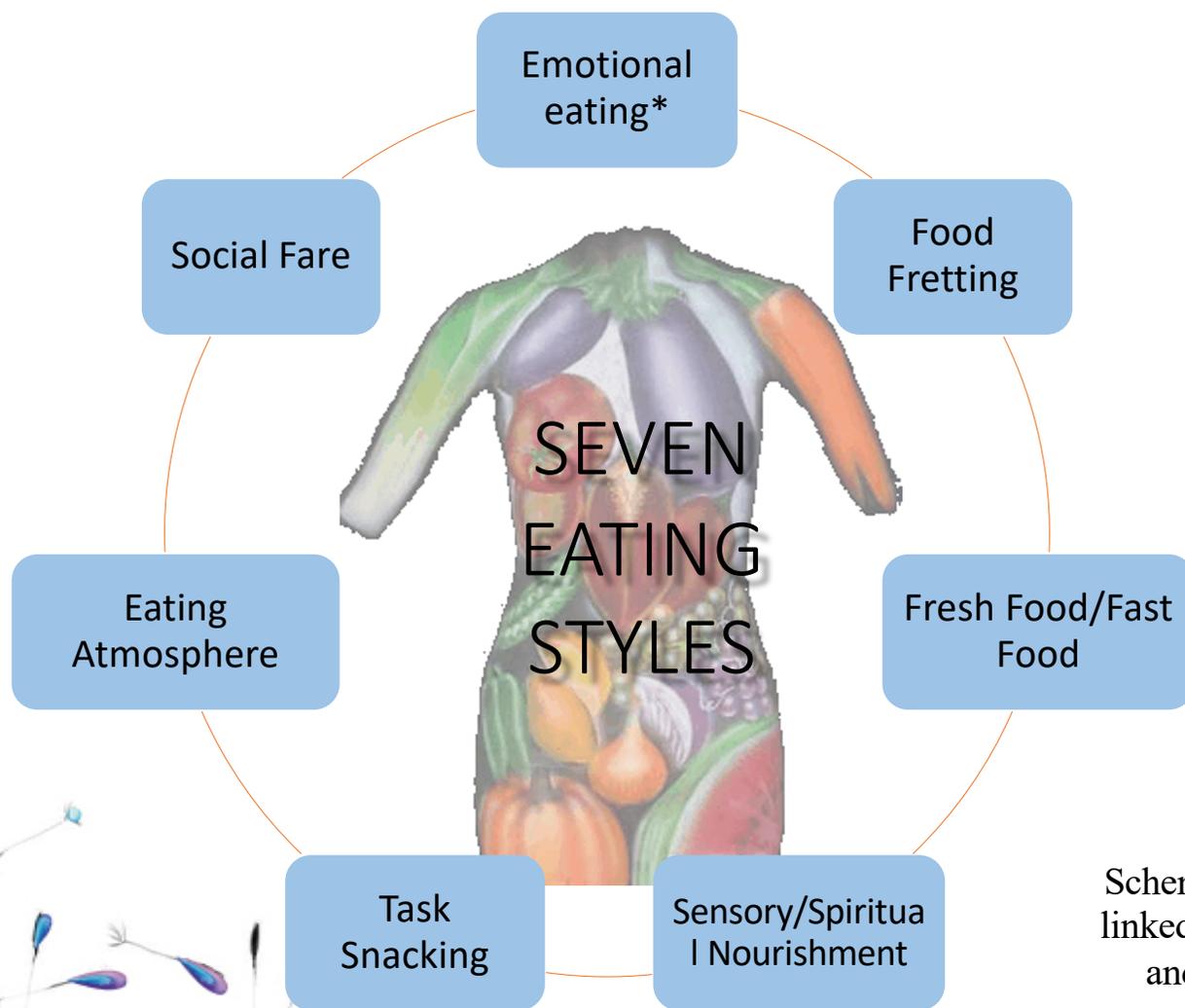
Scherwitz L. Seven eating styles linked to overeating, overweight, and obesity. *Explore (NY)*. 2005;1(5):342-59.



Eating style, diabetes, and weight

Behavior	Baseline (\pm SD)	Week 12 (\pm SD)	Significance
Seven Eating Styles**			
Emotional eating	2.7 \pm 0.5	2.0 \pm 0.8	p=0.02
Food fretting	3.0 \pm 0.8	2.8 \pm 0.6	p=0.59
Selecting fresh vs. fast food	2.3 \pm 0.7	1.5 \pm 0.8	p=0.05
Attention to sensory/spiritual dimensions of food	3.3 \pm 1.0	2.1 \pm 0.6	p<0.01
Task snacking	2.4 \pm 0.5	2.4 \pm 0.5	p=1.0
Attention to the dining atmosphere	2.8 \pm 0.8	2.2 \pm 0.7	p=0.01
Attention to positive social settings	2.4 \pm 0.6	2.3 \pm 0.5	p=0.68
7 eating styles integrated eating score	19.0 \pm 2.8	15.3 \pm 2.5	P=0.03





Scherwitz L. Seven eating styles linked to overeating, overweight, and obesity. *Explore (NY)*. 2005;1(5):342-59.



Emotional Eating

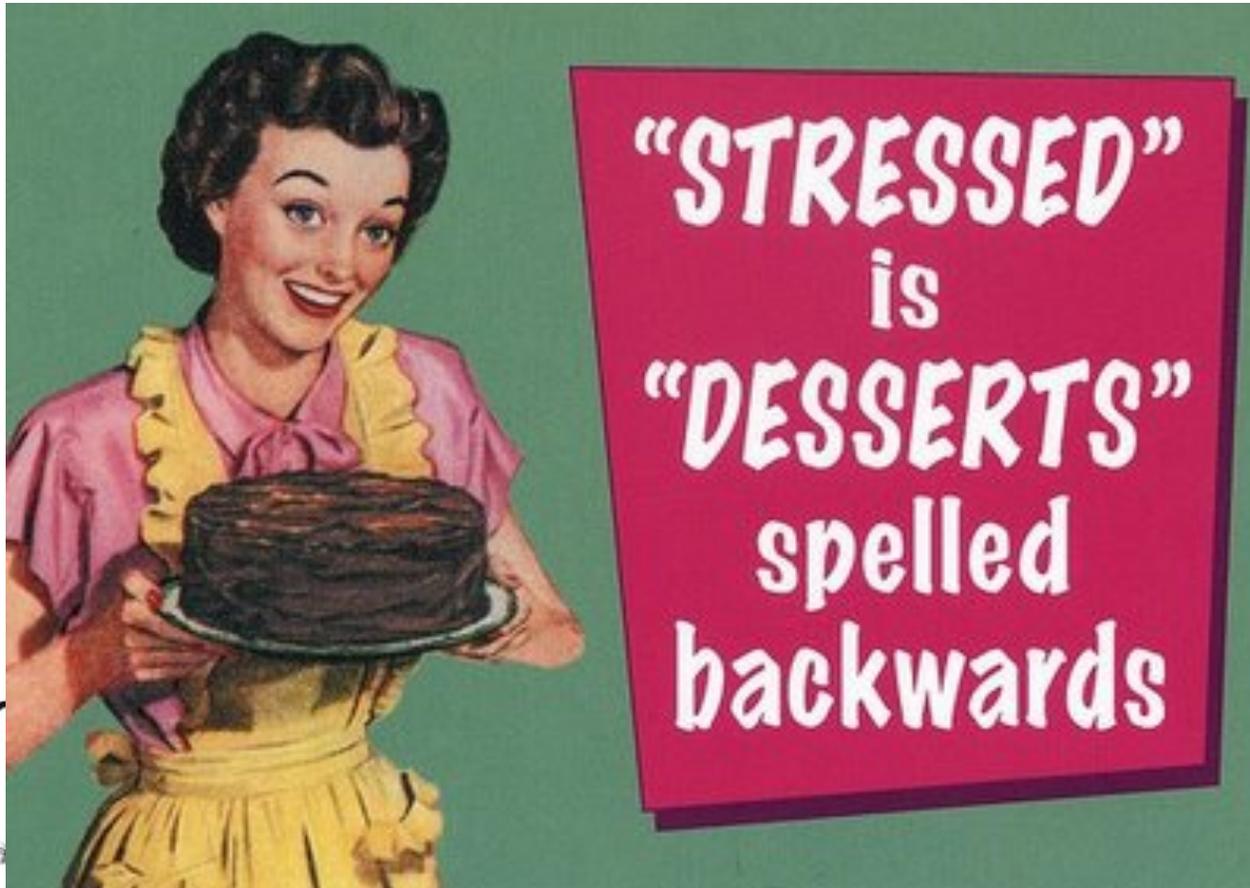


Emotional Eating

Definition	Proposed Effect of Metabolism
Eating in response to emotional cues as opposed to hunger	Anxiety, depression, loneliness may increase risk for disordered eating habits, resulting in glucose dysregulation.



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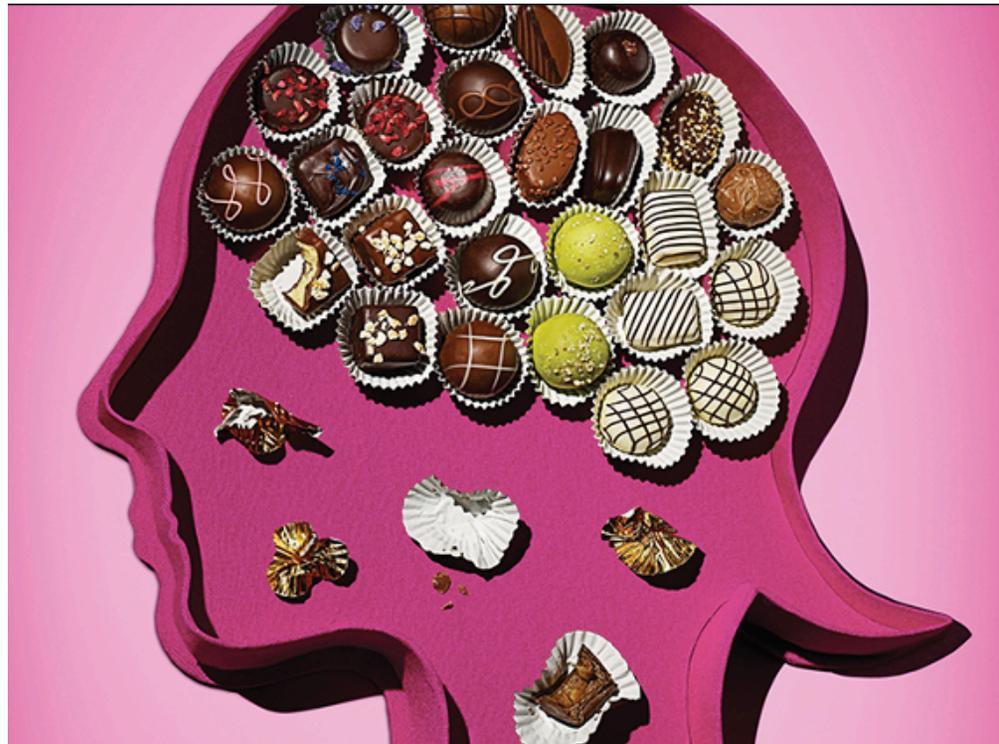


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Cravings



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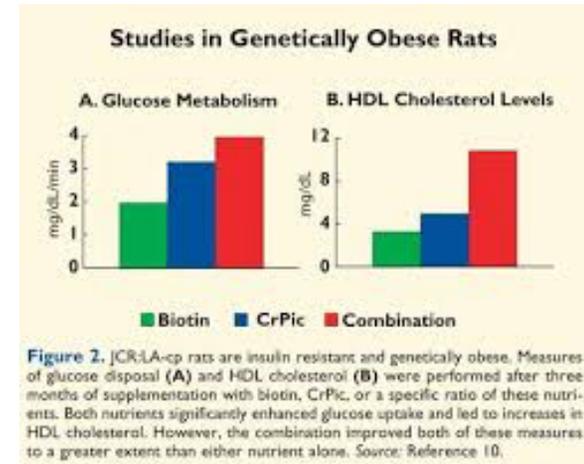


Natural strategies to reduce cravings

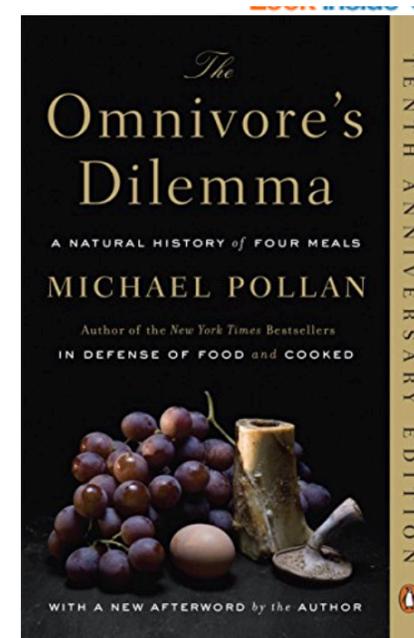
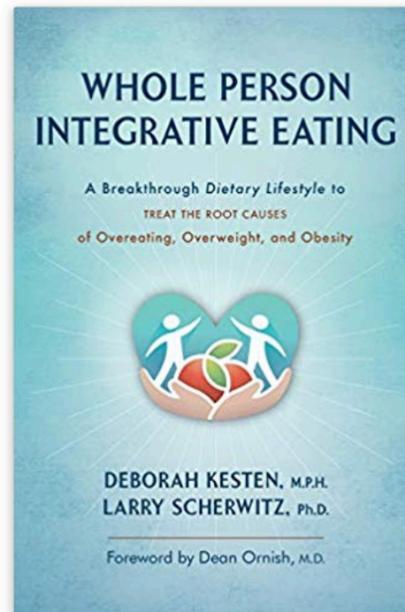
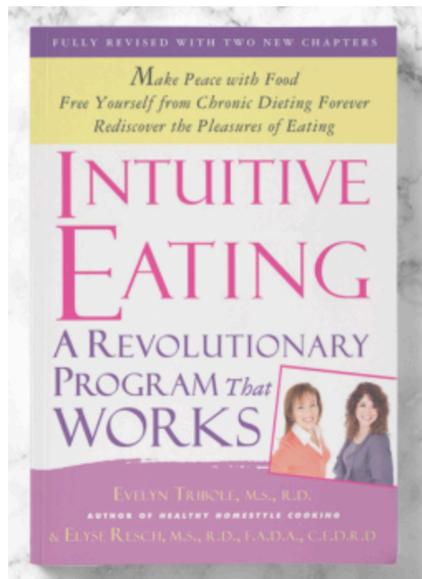


Mucuna puriens: natural dopamine

Chromium & biotin:
Reset hunger
homeostasis

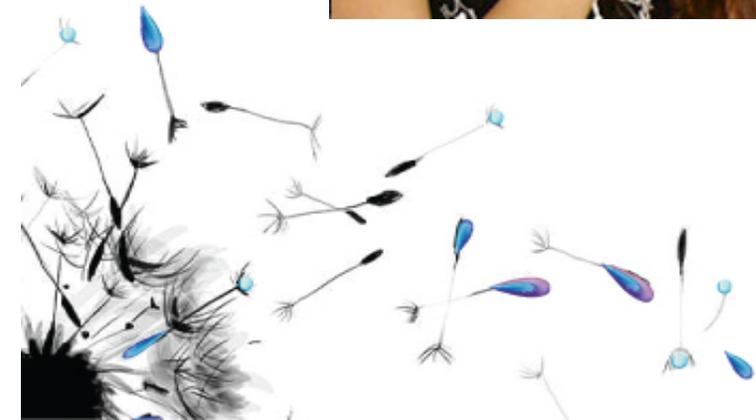


Reading recommendations



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Food Fretting



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Food fretting

Definition	Proposed Effect of Metabolism
Judgmental thoughts and over-concern about food: worry, compulsive thoughts about food, diet, and its relation to one's diabetes diagnosis.	Dietary deprivation may result from recommended diets, which can lead to psychological deprivation and potentially bingeing, food obsession, and body image disturbance.



Comparison of the Atkins, Ornish, Weight Watchers, and Zone Diets for Weight Loss and Heart Disease Risk Reduction

A Randomized Trial

Michael L. Dansinger, MD

Joi Augustin Gleason, MS, RD

John L. Griffith, PhD

Harry P. Selker, MD, MSPH

Ernst J. Schaefer, MD

POPULAR DIETS HAVE BECOME increasingly prevalent and controversial.¹ More than 1000 diet books are now available,² with many popular ones departing substantially from mainstream medical advice.³ Cover stories for major news magazines, televised debates, and cautionary statements by prominent medical authorities^{4,5} have fueled public interest and concern regarding the effectiveness and safety of such diets.^{6,8}

Although some popular diets are based on long-standing medical advice and recommend restriction of portion sizes and calories (eg, Weight Watchers),⁹ a broad spectrum of alternatives has evolved. Some plans minimize carbohydrate intake without fat restriction (eg, Atkins diet),¹⁰ many modulate macronutrient balance and glycemic load (eg, Zone diet),¹¹ and others restrict fat (eg, Ornish diet).¹² Given the growing obesity epidemic,¹³ many patients and clinicians are interested in using popular diets as individualized eating strategies for disease prevention.¹⁴ Unfortunately, data regarding the relative benefits, risks, effectiveness, and

Context The se-
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Objective To
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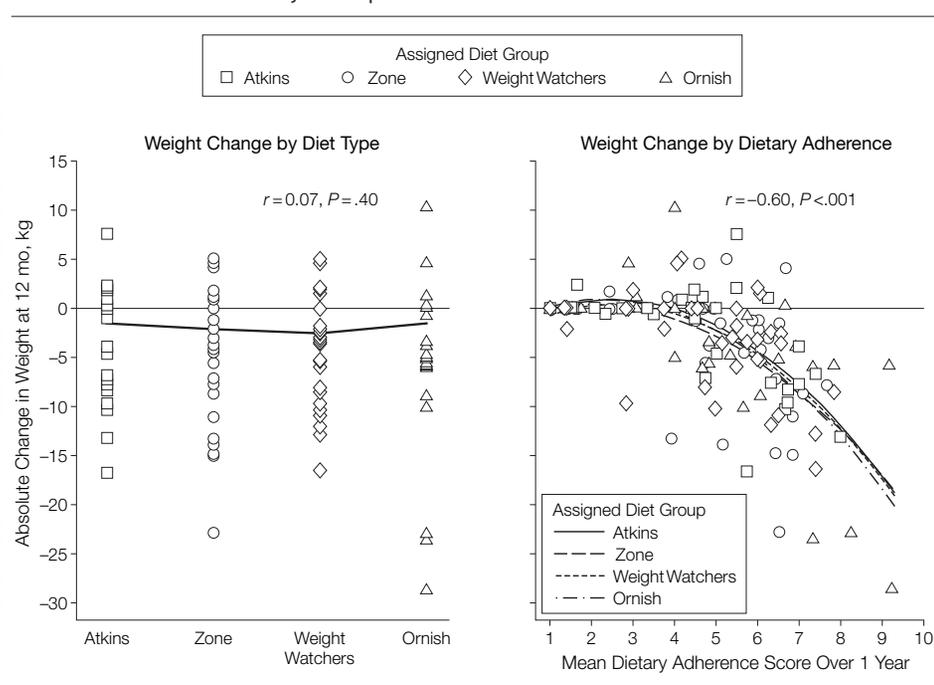
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For editorial comment see p 96.

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Figure 3. One-Year Changes in Body Weight as a Function of Diet Group and Dietary Adherence Level for All Study Participants



Baseline values were carried forward in cases of missing data. The curve in the weight change by diet type plot indicates the Lowess regression function, a locally weighted, least-squares method using 3 iterations to fit the data. The curves in the weight change by dietary adherence plot indicate the quadratic regression functions for each diet group.

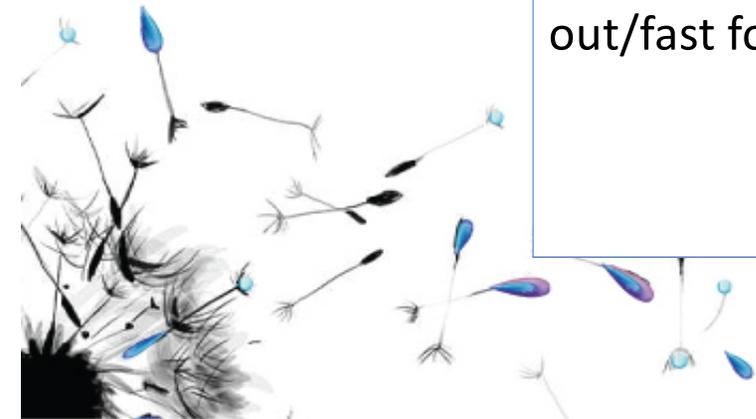


Fresh Food vs. Fast Food



Fresh Food vs. Fast Food

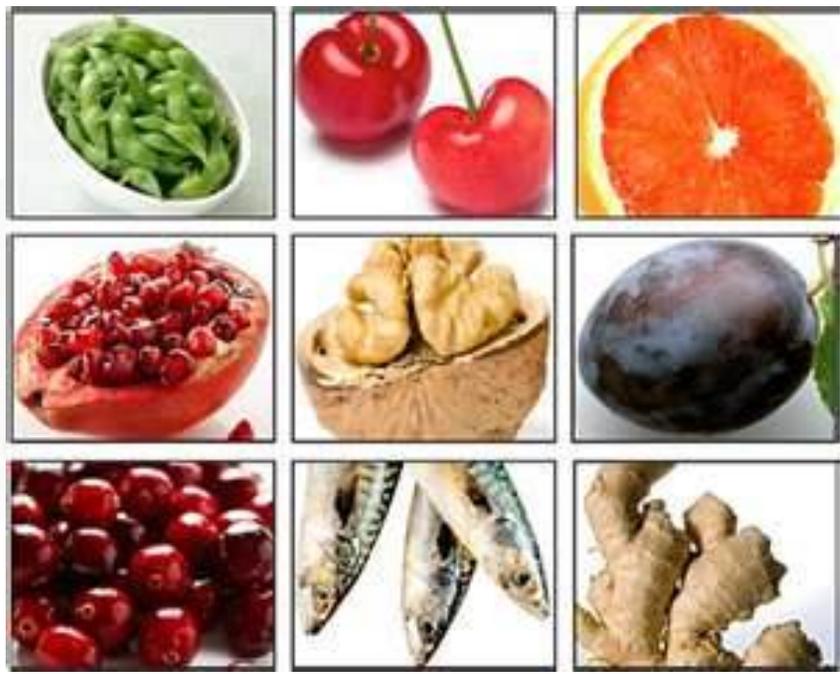
Definition	Proposed Effect of Metabolism
<p>Choosing fresh, whole foods over processed convenience foods. Cooking meals at home (meal planning, food preparation) vs. dining out/fast food.</p>	<p>Preferences for energy-dense foods over nutrient-dense foods connected to poorer metabolic control, risk of obesity and diabetes. Meal preparation may increase self-efficacy, control over ingredients and portion size.</p>



Meeting Fruit &
Vegetable Goals
for One Day



Functional Foods



Many benefits of cocoa

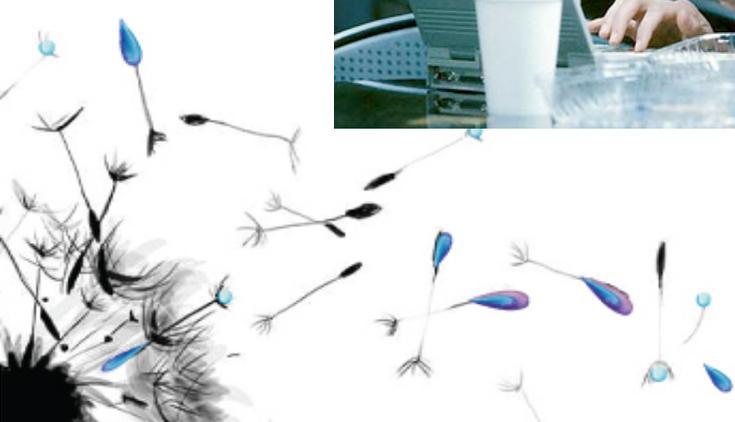


- Coronary vasodilation, improved coronary vascular function, and decreased platelet adhesion
- Antihypertensive
- Reduction in serum oxidative stress
- Cerebral blood flow and overall increased blood flow to gray matter for up to 3 hr
- Improves flow-mediated vasodilation and improves plasma antioxidant status
- Decrease insulin resistance by ameliorating NO bioavailability

Circulation. 2009;119:1433-144
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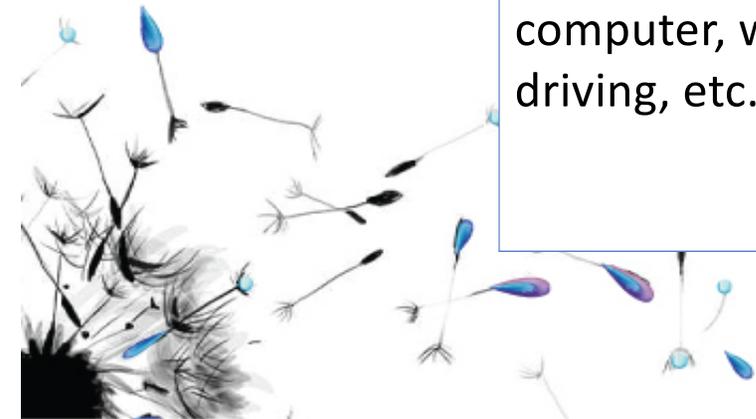


Task Snacking



Task snacking

Definition	Proposed Effect of Metabolism
Not being “present,” while eating: eating on the run, while on the computer, watching TV, driving, etc.	May result in untimely/inappropriate meal times, excessive caloric intake, failure to recognize satiety. “Mindful eating” may improve outcomes.



Snacking drives overeating

- The average American eats 4.9 snacks and meals daily -- a 29% increase since the 1970s
- The average portion size has increased, too, but only by about 12%
- Why are we snacking all the time and munching all the time? (Food) is there, it's available all the time, it's tasty. It's not very healthy, but it's tasty. It's sweet, it's salty, it's fatty -- it's all the things we love."

<http://www.cnn.com/2011/HEALTH/06/28/snacking.drives.overeating/>

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Okinawa Japan – a blue zone



- Okinawan BMI: 18-22
- Low levels of lipid peroxides
- Low metabolic rate
- Low inflammation
- Caloric restriction

“Hara Hachi Bu”

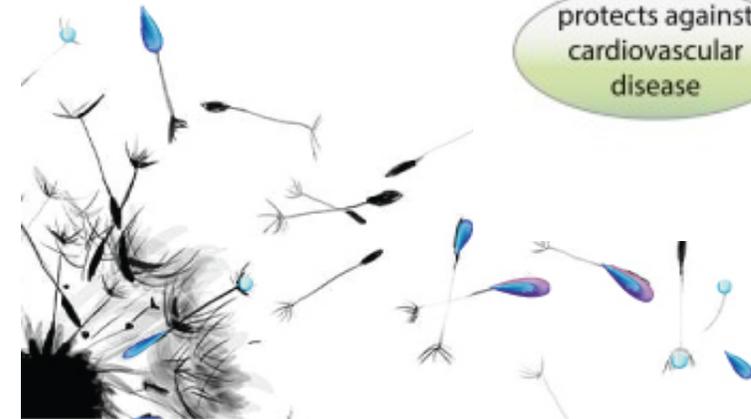
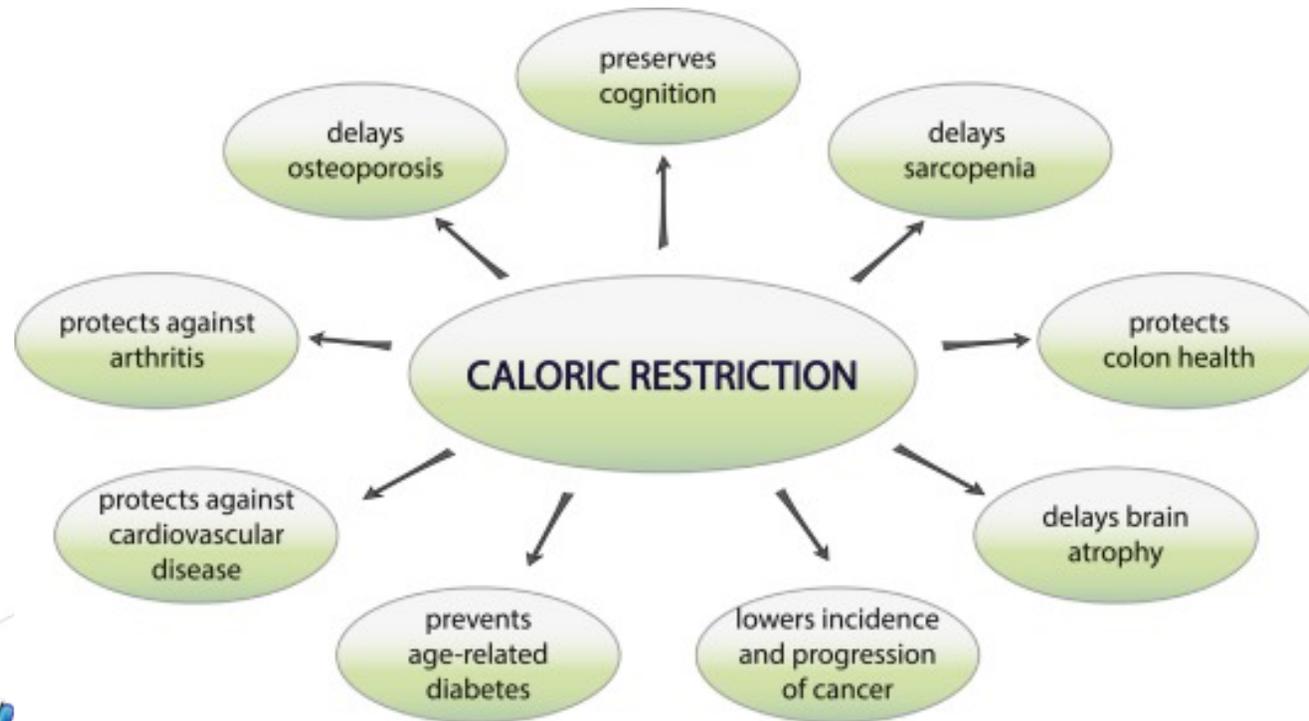


Sohal RS, et al. Science 1996;273:59-63;
Heilbronn LK, et al. Am J Clin Nutr 2003;78:361-9
Fries JF. New England Journal of Medicine 1980;303:131-5

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Physiology of caloric restriction



Many patterns, similar outcomes

- 24 hours every other day or twice weekly (5:2) extends lifespan by 30%, decreased weight, fat mass, lipids, inflammation, oxidative stress, HTN, diabetes, markers of neurodegeneration and cancer (Harvie 2011)
- Calories stacked early in the day reverses PCOS biomarkers (Jakubowicz 2013)
- 75% reduction (humans, 12 weeks) decreased weight, fat mass, CV risk factors (Kroeger 2014)
- 20% caloric restriction improved verbal memory and markers of age-related dementia in overweight people (Witte 2009)
- Ketogenic diet – same benefits (Kawisaya 2013)



Eating Atmosphere

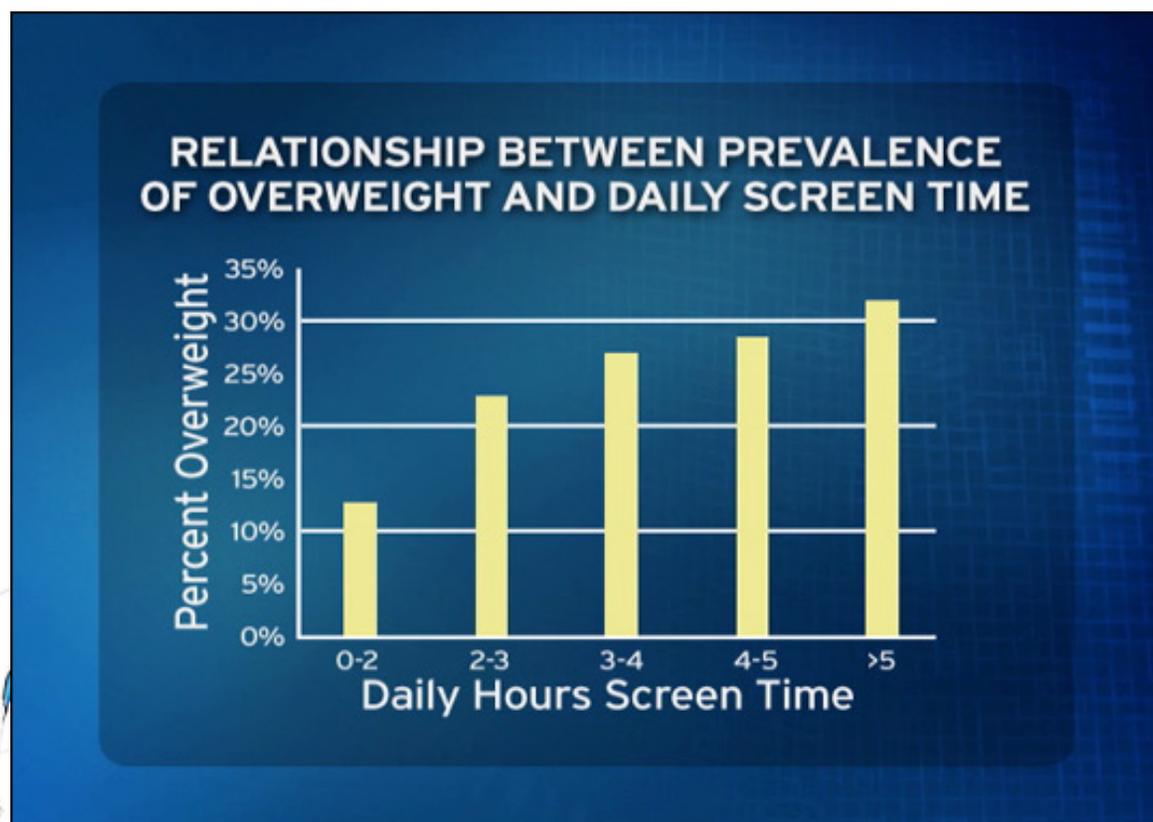


Eating Atmosphere

Definition	Proposed Effect of Metabolism
Aesthetics and peacefulness or stressfulness of one's eating environment may impact blood glucose control.	Mindfulness of sensory/Stressful eating environments may shift patients towards a high-fat diet, or indirectly raise insulin through HPA axis.



Screen time & obesity



<http://www.discoverv.com/childhoodobesity/charts>

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Social Fare

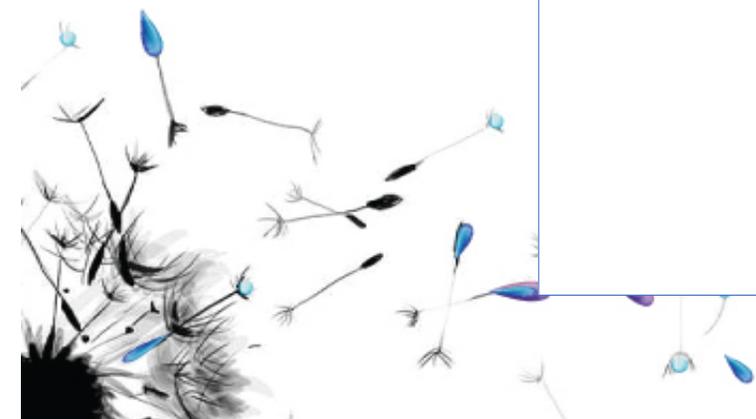


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Social Faire

Definition	Proposed Effect of Metabolism
Eating alone vs. eating with others	Social support may be a critical part of improving eating styles in type 2 diabetics and improving metabolic outcomes. Eating alone may present more barriers to food preparation, healthy eating and socializing.



Sharing food



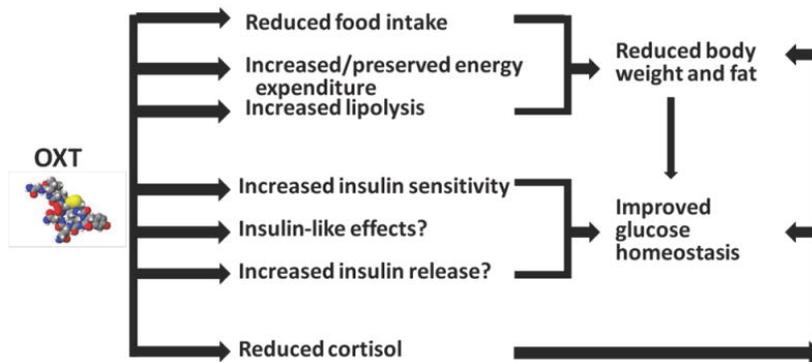
- Our food vs my food
- Altruism
- Trends from childhood to adulthood
- Microbiota?
- Oxytocin

De Backer. Appetite 2015; 81:1

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Cooking and eating and oxytocin



Sensory, Spiritual Nourishment

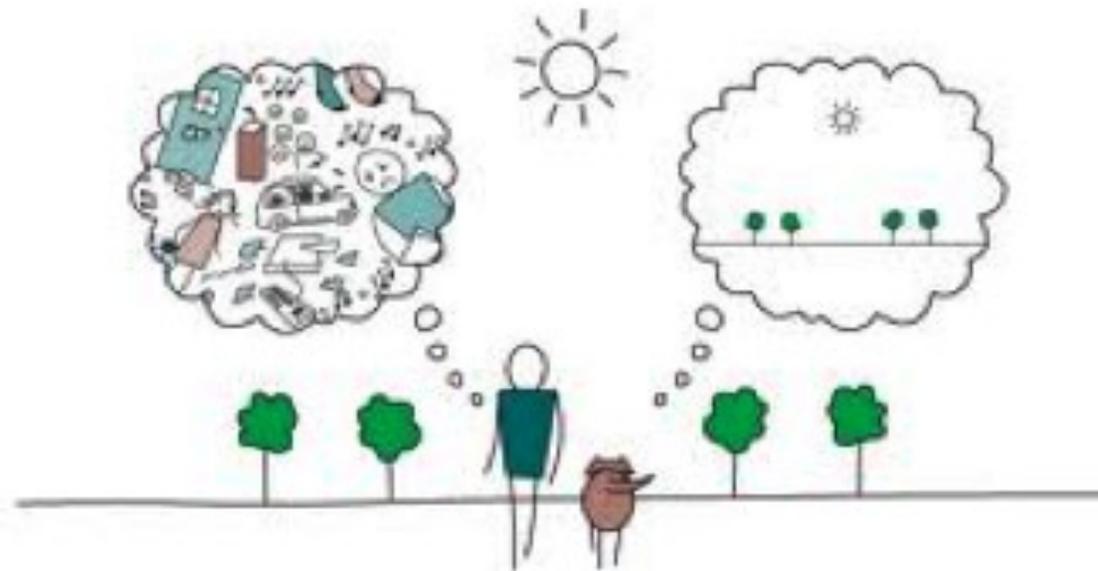


Sensory, Spiritual Nourishment

Definition	Proposed Effect of Metabolism
Savoring the sensory aspects of food (aroma, texture, and color); preparing and eating food with meditative mindfulness and appreciation.	Mindfulness of sensory/spiritual aspects of eating may increase satiety and delay hunger.



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Mind Full, or Mindful?

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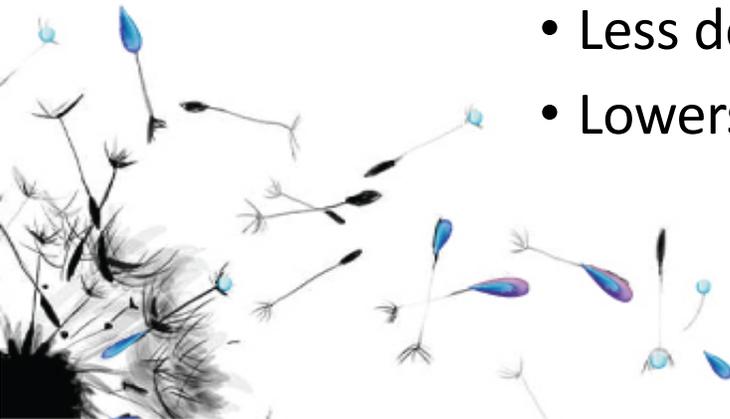


Mindfulness-based stress reduction

- Three techniques
 1. Mindfulness meditation
 2. Body scanning
 3. Simple yoga postures
- Makes it easier to stick with any meal plan
- Less depression, anxiety, psych distress
- Lowers blood sugar and blood pressure

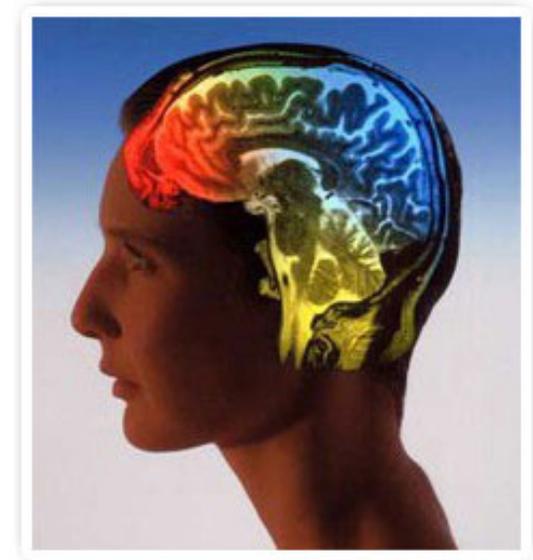
[Diabetes Care](#). 2012 May;35(5):945-7
[Altern Ther Health Med](#). 2007 Sep-Oct;13(5):36-8.

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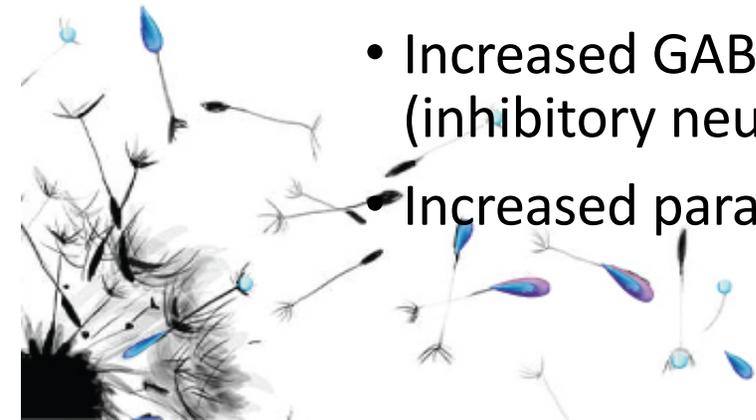


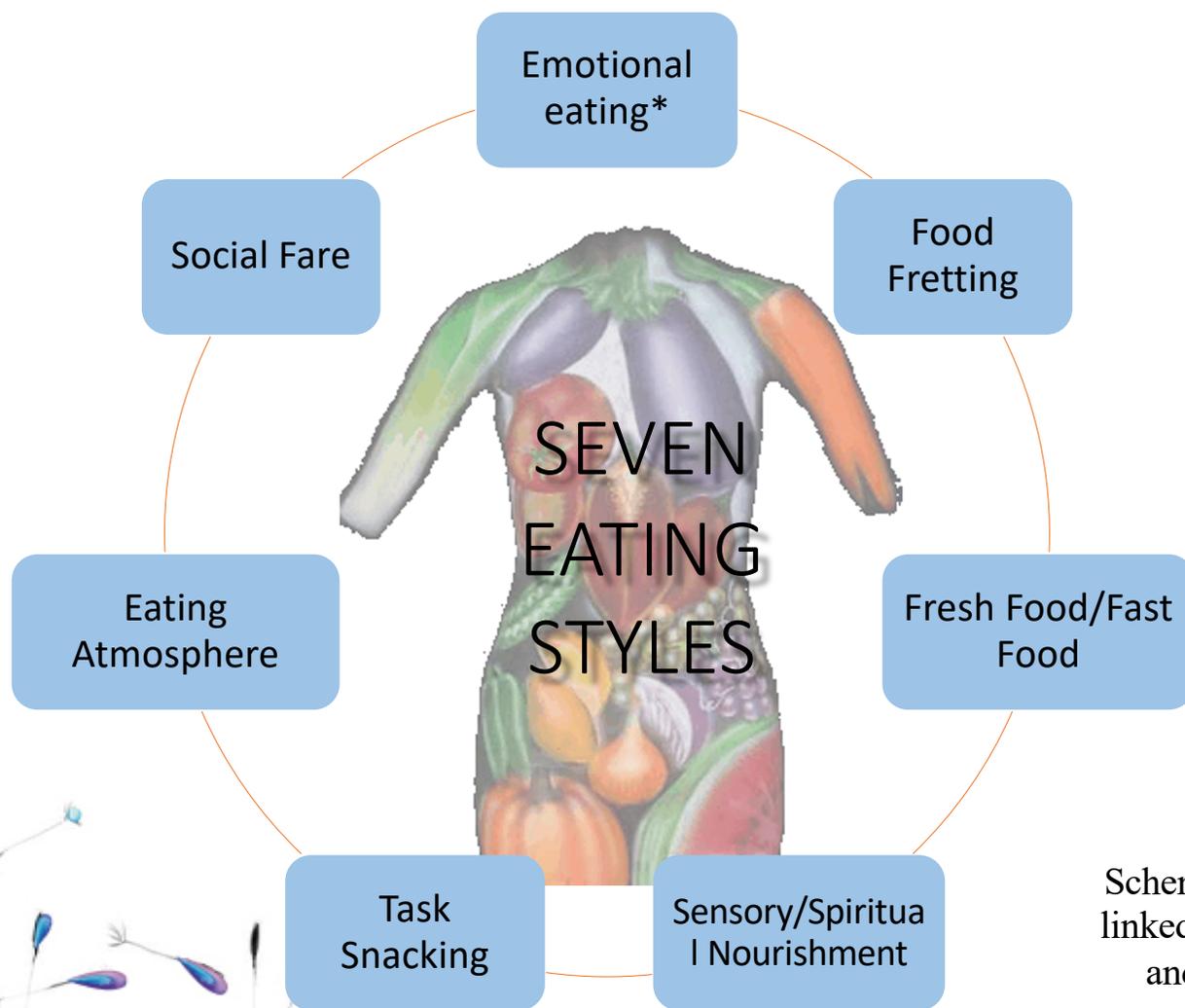
Effects of Mindfulness

- Decreased cortisol secretion
- Increased prefrontal cortex
- Decreased amygdala activity (reflects decreased emotionality & response to emotion-inducing stimuli)
- Increased GABA secretion (inhibitory neurotransmitter)
- Increased parasympathetic activity



Grossman PJ. Mindfulness-based stress reduction and health benefits. A meta-analysis. *Psychosom Res* 2004;57(1):35-43





Scherwitz L. Seven eating styles linked to overeating, overweight, and obesity. *Explore (NY)*. 2005;1(5):342-59.



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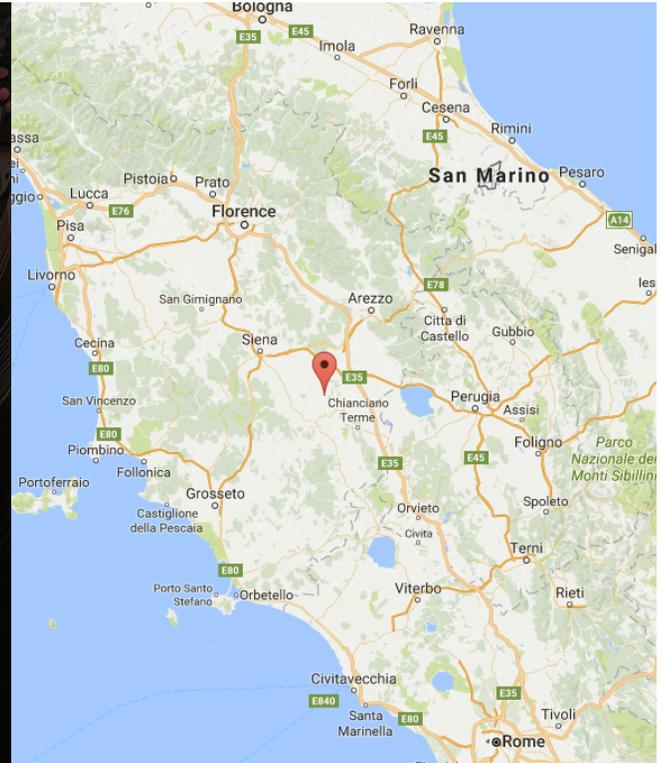
End the food fights



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Mediterranean Eating & Lifestyle



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Mediterranean Diet, Lifestyle Factors, and 10-Year Mortality in Elderly European Men and Women

The HALE Project

Kim T. B. Knoops, MSc

Lisette C. P. G. M. de Groot, PhD

Daan Kromhout, PhD

Anne-Elisabeth Perrin, MD, MSc

Olga Moreiras-Varela, PhD

Alessandro Menotti, MD, PhD

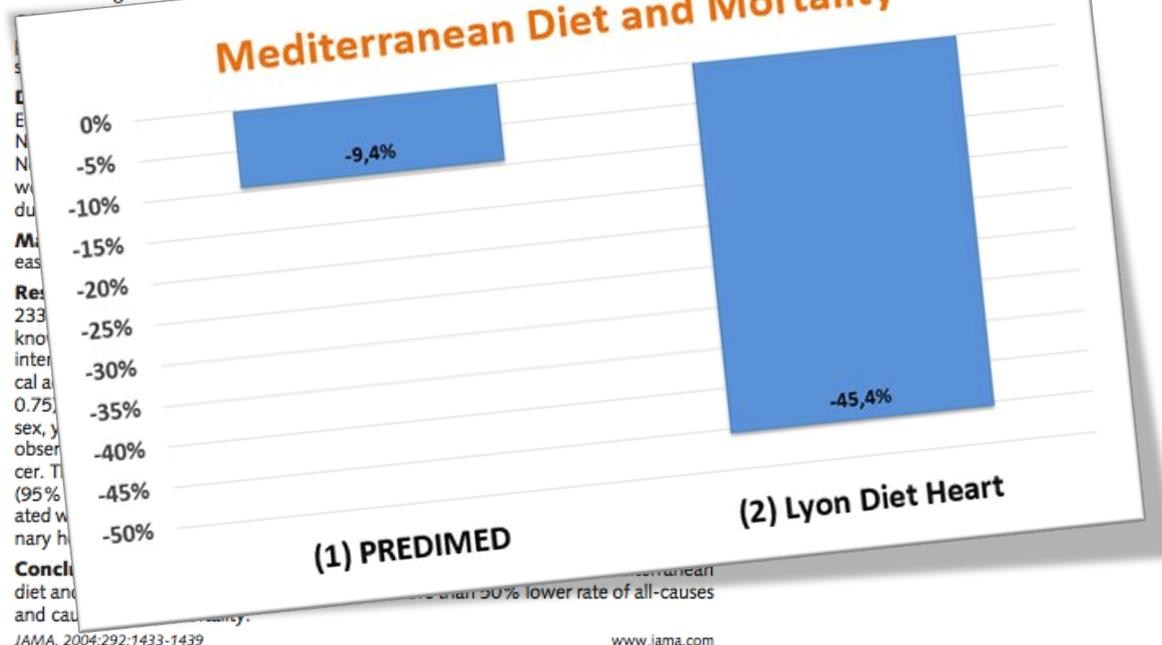
Wija A. van Staveren, PhD

THE NUMBER OF OLDER PEOPLE IS growing rapidly worldwide. More than 580 million people are older than 60 years, and the number is projected to rise to 1000 million by 2020.¹ With the increase in life expectancy, the leading causes of death have shifted dramatically from infectious diseases to noncommunicable diseases and from younger to older individuals. In industrialized countries, about 75% of deaths in persons older than the age of 65 are now from cardiovascular diseases and cancer.²

Regardless of predisposing factors, diet and lifestyle influence morbidity and mortality during the course of life.² Because of the cumulative effect of adverse factors throughout life, it is particularly important for older persons to adopt diet and lifestyle practices that minimize their risk of death from morbidity and maximize their prospects for healthful aging.²

Dietary patterns and other modifiable lifestyle factors are associated with mortality from all causes, coronary

Context Dietary patterns and lifestyle factors are associated with mortality from all causes, coronary heart disease, cardiovascular diseases, and cancer. We have investigated these factors



Conclusion Mediterranean diet and lifestyle factors are associated with a 45% lower rate of all-causes mortality.

JAMA. 2004;292:1433-1439

www.jama.com

heart disease (CHD), cardiovascular diseases (CVD), and cancer.³⁻⁸ As yet, few studies have investigated the combined effect of diet and other lifestyle factors.^{7,9}

In the current study, we investi-

Author Affiliations: Division of Human Nutrition, Wageningen University, the Netherlands (Drs de Groot, Kromhout, and van Staveren, and Ms Knoops); National Institute for Public Health and the Environment, Bilthoven, the Netherlands (Dr Kromhout); Université Louis Pasteur, France (Dr Perrin); Universidad Complutense de Madrid, Spain (Dr Moreiras-Varela); Associazione per la Ricerca Cardiologica, Roma, Italy (Dr Menotti).



Mediterranean diet & weight

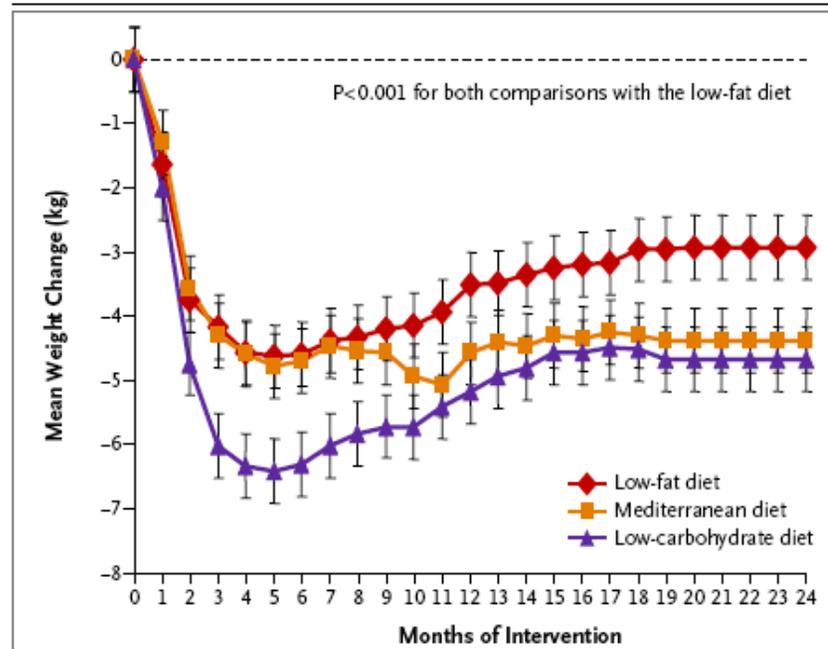


Figure 2. Weight Changes during 2 Years According to Diet Group.

Vertical bars indicate standard errors. To statistically evaluate the changes in weight measurements over time, generalized estimating equations were used, with the low-fat group as the reference group. The explanatory variables were age, sex, time point, and diet group.

NEJM 2008 359:3

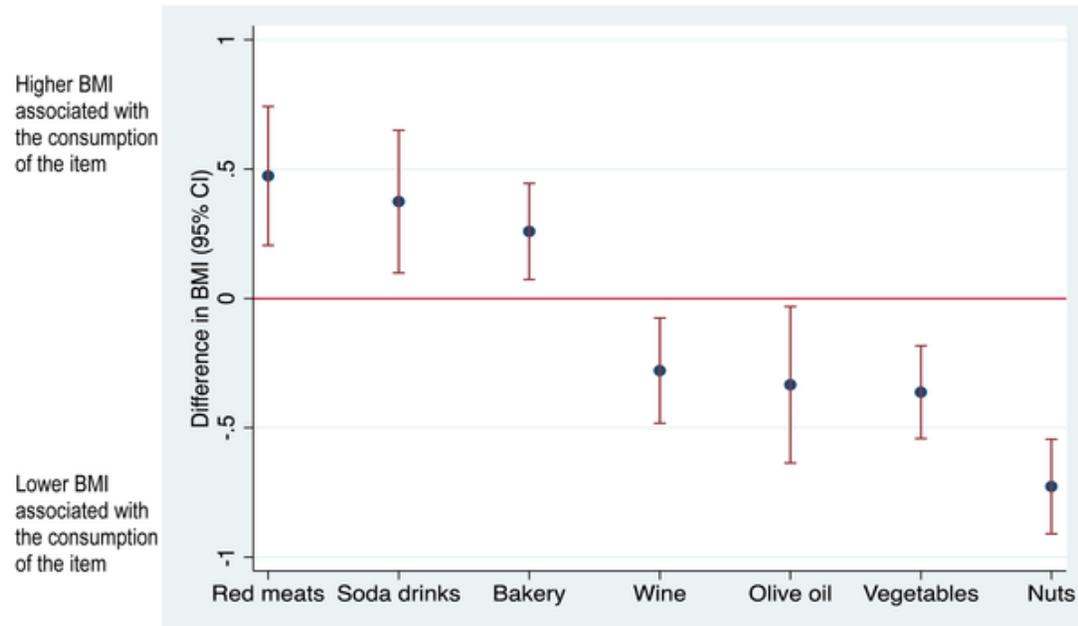


Common Characteristics



- High fruit, veg, grain intake (higher carb)
- Generous olive oil intake (higher fat)
- Limited dairy, fish, and poultry, very limited meat (mostly vegetarian)
- Moderate intake of wine
- Rare sweets

Figure 2. Adjusted differences in BMI for 7 selected items in the 14-point score of adherence to the Mediterranean diet independently associated with BMI.



Olive oil: Use of olive oil as the main culinary lipid (first item of the score).

Adjusted for sex, age, smoking, centre and for all the 14 items.

For 1) red/processed meats,
2) sugared soda drinks
3) commercial bakery, sweets and cakes
the inverse of the item was used (i.e. a higher consumption was associated with a higher BMI).

Martínez-González MA, García-Arellano A, Toledo E, Salas-Salvadó J, Buil-Cosiales P, et al. (2012) A 14-Item Mediterranean Diet Assessment Tool and Obesity Indexes among High-Risk Subjects: The PREDIMED Trial. PLOS ONE 7(8): e43134. <https://doi.org/10.1371/journal.pone.0043134>
<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0043134>

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Fall 2021?



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- Labs including hormones and food sensitivities
- 45 minute follow up with personalized program & recommendations
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