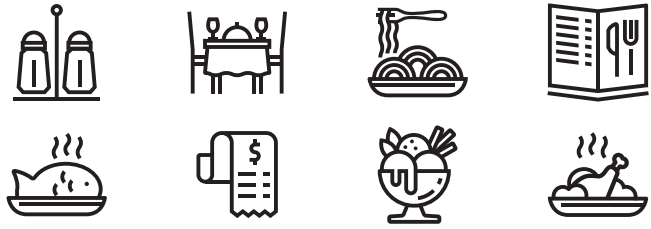
‘An essential read for anyone seeking to unravel the deeper dimensions of food’
Heston Blumenthal OBE HonFRSC

CULINARY PSYCHOLOGY

FOOD CHOICES AND THE MIND–BODY CONNECTION



STELIOS KIOSSES
BETH FRATES
NEIL RIPPINGTON

CULINARY PSYCHOLOGY

Food Choices and the Mind–Body Connection

Stelios Kiosses, Beth Frates, and Neil Rippington

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About the authors and contributors

Beth Frates, MD is a trained psychiatrist (a medical doctor specializing in physical medicine and rehabilitation) and a health and wellness coach, with expertise in lifestyle medicine. She has received several teaching accolades from Harvard Extension School and Harvard Medical School, where she is an associate professor, part time. Dr. Frates is one of the first fellows of the American College of Lifestyle Medicine and a pioneer in lifestyle medicine. In 2008, Dr. Frates created the first Lifestyle Medicine Interest Group at Harvard Medical School. In 2014, she developed and taught a college lifestyle medicine curriculum at Harvard Extension School, and it is still one of the most well-received courses offered at the school. In 2017, Dr. Frates was selected to be one of four item writers for the American Board of Lifestyle Medicine's inaugural exam for certification in this specialty. She was voted president of the American College of Lifestyle Medicine in August 2020. Dr. Frates served as president until November 2024, and now serves two years as an immediate past president. Dedicated to mentoring, she won the Women in Medicine I Stand With Her annual mentoring award for women mentoring women in 2024.

Dr. Frates coauthored *The Lifestyle Medicine Handbook: An Introduction to the Power of Healthy Habits*, which was ranked in the top 20 by BookAuthority for medical books released in 2018. To accompany the

syllabus and handbook, she also cocreated Lifestyle Medicine 101, a full college curriculum with twelve weeks of PowerPoints and a teacher's manual, which is free and accessible through the ACLM website. In addition, Dr. Frates coauthored *The Teen Lifestyle Medicine Handbook* (2020) which, when paired with the Teen Curriculum consisting of a teacher's manual and twelve PowerPoint decks, can be used to teach and empower middle school and high school students to adopt and sustain healthy habits. In 2023, Dr. Frates coauthored *The Lifestyle Medicine Pocket Guide* and coedited *Empowering Behavior Change in Patients*. Most recently, in June 2024, she coedited the book *Essentials of Clinical Nutrition in Healthcare*.

Dr. Frates has created and implemented a twelve-step wellness program, PAVING the Path to Wellness™ for patients and providers. Most recently, she coauthored the book *PAVING the Path to Wellness Workbook: A Guide to Thriving with a Healthy Body, Peaceful Mind, and Joyful Heart*. In addition, Dr. Frates has her own lifestyle medicine consulting/coaching practice where she sees patients one to one and in groups.

Stelios Kiosses is a psychotherapist, course director, and tutor at the University of Oxford, and a pioneering voice in the emerging field of culinary psychology. An Oxford graduate with specialized training in psychodynamic therapy and clinical supervision, he brings more than three decades of clinical experience to his work, focusing on the intersections between food, emotional resilience, and psychological well-being.

His academic career has included roles as visiting lecturer at Goldsmiths, University of London, and honorary senior lecturer in the Department of Psychiatry at the University of Birmingham, where he taught on the MSc in psychiatry (family and mental health). He developed and cotaught the innovative culinary psychology course at Harvard University Extension School, and is currently a featured guest speaker at Harvard Medical School, contributing to its Executive Education program in Nutrition and Wellness.

Beyond academia, Stelios is widely recognized for his media work as presenter of Channel 4's *The Hoarder Next Door*, narrated by BAFTA- and Oscar-winning actress Olivia Colman. He is also the author of

The Power of Talking: Stories from the Therapy Room, a book that explores the transformative potential of psychotherapy. In his public role, he has previously served as patron of The Prince's [now The King's] Foundation School of Traditional Arts, one of the core charities founded by H.M. King Charles III.

Through his clinical practice, teaching, writing, and public engagement, Stelios continues to champion the therapeutic possibilities of food and psychology, inspiring a deeper understanding of how what we eat is inseparably connected to how we think, feel, and live.

Neil Rippington trained as a chef at the Bournemouth and Poole College, before going on to work in Michelin-starred restaurants in France, London, and the New Forest, and other roles in the culinary industry in the U.S.A., Canada, and the Caribbean. In 1999, Neil returned to work in education, and in 2003, he joined Colchester Institute as head of the Centre for Hospitality and Food Studies. In 2010, Neil took up the position as dean of the College of Food at University College Birmingham, where he worked for more than ten years.

Neil's writing career started in 2007 with the publication of *Professional Chef*, produced as a resource for students following the newly developed City & Guilds diplomas in professional cookery (now in its second edition and translated into many languages). He has since written and cowritten several other practical books for students, has developed many educational programs, and teaches subjects across the culinary arts and gastronomy. His research led to the development of degree programs offered at the Edge Hotel School, University of Essex, and he codeveloped a program in culinary psychology at Harvard University, U.S.A.

Neil is a senior fellow of Advance HE. He is also an examiner for City & Guilds of London Institute, an academician of the Royal Academy of Culinary Arts, and chair of its Education Committee. Neil sits on various other committees and steering groups, is a subject expert for hospitality and catering for the Office of Qualifications and Examinations Regulation (Ofqual), and has acted as an external university advisor/examiner in the U.K. and internationally.

In recognition of his work, Neil has received many accolades, including Disciple of Escoffier, honorary member of City & Guilds,

and is lead judge for the development of skills at the Salon Culinaire, U.K. Neil is currently the program director for the college community program for the Royal Academy of Culinary Arts, U.K., and the international director for global education with the International Institute of Hotel Management, India.

Professor Charles Spence is a world-famous experimental psychologist with a specialization in neuroscience-inspired multisensory design. He has worked with many of the world's largest companies across the globe since establishing the Crossmodal Research Laboratory (CRL) at the Department of Experimental Psychology, Oxford University in 1997. Prof. Spence has published more than 1,200 academic articles and edited or authored sixteen books, including, in 2014, the Prose prize-winning "The perfect meal," and the international bestseller *Gastrophysics: The New Science of Eating* (2017, Penguin Viking)—winner of the 2019 Le Grand Prix de la Culture Gastronomique from Académie Internationale de la Gastronomie. His latest book *Sensehacking* was published in 2021.

Much of Prof. Spence's work focuses on the design of enhanced multisensory food and drink experiences, through collaborations with world-leading chefs, baristas, mixologists, chocolatiers, perfumiers, and the food and beverage and flavor and fragrance industries. Prof. Spence has worked extensively on the question of how technology will transform our dining/drinking experiences in the future, and has been profiled in *The New Yorker* (http://newyorker.com/magazine/2015/11/02/accounting-for-taste).

Kimberley Wilson is a chartered psychologist with a master's degree in nutrition and the author of influential books linking diet to mental health. In her private practice in London, she integrates nutrition with psychological therapy, advocating a holistic approach to mental health. Her experience includes working in Europe's largest women's prison and serving as a governor for the Tavistock & Portman NHS Mental Health Trust. Kimberley actively engages the public through various media platforms, including podcasts, television, and articles for *BBC Science Focus* and *Psychologies* magazines, to promote a comprehensive understanding of mental health that unites the mind and body.

Foreword

They say food is love, and for me that has always been true. From my family kitchen in Crete to the MasterChef kitchen, I've seen how food gathers people, keeps memories alive, offers comfort, and brings joy. What surprised me when I read this book was how naturally psychology, lifestyle medicine, and food can sit together.

Culinary Psychology is warm, clear, and easy to read. It speaks to something I've always felt but never quite had the words for: the way cooking can soothe us, and how eating connects us with care, memory, and meaning.

Stelios and his coauthors Beth and Neil have managed something quite rare in this book. They've combined knowledge from psychotherapy, lifestyle medicine, and the kitchen in a way that feels grounded but also full of heart. The book offers insight and reflection, but always in a gentle and human way.

As someone who has always cooked from the heart, I felt a real connection to the stories and lessons in these pages. Whether you're a therapist, a cook, or simply someone who has turned to food in times of happiness or struggle, you'll find something here that speaks to you.

It's a joy and privilege to open this book and welcome you to the table—to the ideas, the conversations, and a new way of looking at nourishment.

Irini Tzortzoglou
MasterChef UK winner 2019
Author, chef, sommelier, and retreat host

Preface

It is both an honor and a privilege to write the Preface for *Culinary Psychology: Food Choices and the Mind–Body Connection,* edited by Stelios Kiosses, Professor Beth Frates, and Chef Neil Rippington. This groundbreaking work delves deeply into the complexities of human psychology through the unique lens of culinary experiences. This book holds a special place in my heart, not only because of its subject matter, but also because I have been involved in the development of this concept from its very inception.

The idea of culinary psychology—the intersection of food, culture, and psychological behavior—was one that Stelios and I discussed in the early stages of its development. What began as a simple conversation about the emotional connections we form with food has grown into this remarkable exploration of how our culinary experiences influence our thoughts, feelings, and behaviors.

Stelios Kiosses is truly of a unique mindset. He has the remarkable ability to think outside the box, constantly challenging conventional ideas. What makes him exceptional is not just his ability to think differently—he takes those innovative thoughts and transforms them into something actionable and tangible. Culinary psychology is the

perfect reflection of that, offering fresh perspectives on the human psyche in ways that many have never considered.

It was with great enthusiasm that this concept evolved further with the involvement of his wonderful colleagues, Professor Beth Frates and Chef Neil Rippington, at Harvard Extension School. Together, they have played a crucial role in bringing this vision to life. Professor Frates' expertise in lifestyle medicine and Chef Rippington's culinary mastery have added a depth and richness to this work that is truly remarkable.

On a personal note, this book was born out of my own experiences. After receiving the all clear from my battle with cancer, it got me thinking more deeply about the connection between health, medicine, and food. Stelios and I began discussing how medicine and cooking should work far more closely together for the well-being of humans. These conversations became the foundation of *Culinary Psychology*, and it has been a deeply meaningful journey for me to watch this idea evolve into the book you hold in your hands.

Culinary Psychology addresses a critical aspect of human behavior that often goes unnoticed: how the food we prepare, consume, and share reflects deeper psychological patterns. In a world where food culture plays such a central role in our lives, this book offers an enlightening perspective on how our relationship with food is intertwined with our emotions, memories, and even our identities.

This book is undoubtedly a must-read for all inquisitive minds in the hospitality industry, particularly chefs, who play such an essential role in shaping our culinary experiences. It should also have a wider appeal to the medical community, which I hope will work in conjunction with the culinary world to resolve some of the pressing health issues we face globally. By fostering a stronger relationship between food and medicine, I believe we can achieve a healthier, more holistic approach to well-being.

Stelios, Beth, and Neil bring not only their academic expertise but also a genuine passion for this topic, making this book both intellectually engaging and personally meaningful. Their unique perspectives—shaped by years of research and practice—give readers a rare opportunity to explore the human mind in a way that is both profound and relatable.

What makes *Culinary Psychology* particularly special is its ability to make complex psychological theories accessible to a wide audience.

Whether you are a student of psychology, a professional in the culinary arts, or simply someone who has always been curious about the deeper meanings behind our culinary habits, this book offers invaluable insights.

As you read through these pages, you'll discover not just a wealth of knowledge, but also a new way of thinking about something as universal and everyday as food. I wholeheartedly recommend this book to anyone ready to embark on this journey of culinary psychology. Stelios Kiosses, Beth Frates, and Neil Rippington have given us a gift in *Culinary Psychology*, and I am confident that it will inspire and enlighten readers for years to come.

Chef Andreas Antona
Author
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Introduction to culinary psychology

Stelios Kiosses, Beth Frates, and Neil Rippington

Defining culinary psychology

Stelios Kiosses

Food as a subject is difficult to describe. It is not even clear what it is. It belongs simultaneously to the worlds of economics, ecology, and culture. It involves vegetables, chemists, wholesalers, livestock, refrigerators, cooks, fertilizer, fish, grocers, and more. How much does food shape human nature? Are our culinary practices a fundamental force in defining what it means to be human? Culinary psychology seeks to answer these questions through the understanding and interpretation of food (metaphysics), and experiential (epistemology) as well as sensory perceptions (aesthetics).

The metaphysics of food

Metaphysics in the context of culinary psychology involves questioning the nature and essence of food: What is the role of food in human culture and individual identity? How do we define the meaning and significance of food beyond its material properties? Metaphysics examines food's role beyond physical sustenance and considers how it connects with

our consciousness, emotions, and cultural identity. This approach views food not just as a dietary necessity, but as an integral part of human experience and existential understanding.

When considering the metaphysics of food, we must ask ourselves: What is food? Not simply as an object, but as a concept. We can think of food as the following:

- Nutrition, or what is required for sustaining life. Food in this model has objective properties that are not open to interpretation, like carbohydrates, fats, protein, vitamins, and minerals.
- Food as desire, or what fulfills cravings and hunger. A "food craving" is a desire to eat a specific food generated by something other than hunger, such as a memory, psychological motivation, or pregnancy.
- Food as spirituality. Food is central to religious traditions throughout the world. Religions typically prescribe which foods should be eaten and which should be avoided; they assign significance to food production, preparation, and consumption; and they connect dietary regimentation with moral conduct and spiritual salvation.
- Food as culture. In this model, food has symbolic meaning and significance.

As we conclude our exploration of the metaphysical aspects of food, it's pertinent to recognize the broader implications of our dietary choices. Kimberley Wilson sheds light on an often-overlooked aspect, noting, "We often fail to consider how our diet affects our brain. However, the brain is an organ just like any other and needs specific nutrients to function optimally" (Wilson, 2020).

The epistemology of food

Epistemology, or theory of knowledge, is the branch of philosophy that studies the nature, methods, limitations, and validity of knowledge and belief. It asks questions such as: "What is knowledge?" and "How do we know something?" In culinary psychology, the questions are, "How do we know what we like or dislike about food?" and "What experiences shape our culinary preferences and aversions?" Exploring food through experiential learning—such as cooking, tasting, and dining—helps us understand how personal and collective experiences influence our knowledge and beliefs about food.

Different conceptions of food are connected to our different beliefs about it. Obviously, what one thinks food is depends upon how one perceives and judges it. For instance, some cultures view insects such as crickets as food, whereas others consider crickets the things that chirp at night.

The aesthetics of food

Aesthetics is a branch of philosophy that deals with the nature of beauty and taste as well as the philosophy of art. It examines subjective and sensoriemotional values, sometimes called judgments of sentiment and taste. Aesthetics in culinary psychology is not just about the beauty of food presentation but also involves how our senses interact to create a holistic sensory experience. How do these perceptions contribute to our enjoyment and appreciation of food? By examining the aesthetics of food, we delve into the sensory experiences that make dining pleasurable and memorable, influencing our emotional and psychological responses.

The universal meaning of the phrase, "The eye eats before the mouth," is that human beings prefer to eat what is attractively presented. Food has two aesthetic components: First, as the object of aesthetic experience that has a taste and appeals to the senses (e.g., tasty, satisfying, or disgusting). The second is food as art. We describe food in terms of its visual presentation and sensual composition. We attribute aesthetic properties, such as "elegant," "hearty," or "simple." Food in this model is primarily the subject of aesthetic judgment.

A deeper cultural and biological meaning of food aesthetics is that people tend to prepare for eating with their senses. Digestion begins in the mouth; however, the production of saliva is stimulated as we visualize appetizing food, smell food, or remember a meal. Thus, eating is sensory and directly involves our sight, taste, smell, and brain.

The possibility of aesthetic appreciation—whether of food or wine—requires both metaphysics (thinking) and epistemics (beliefs). It's metaphysical because the object must have properties in virtue of which we judge it beautiful or ugly. It's epistemic because we require standards by which we can say that an aesthetic judgment is correct, good, or justified. All of this begs the question, "How do we choose the food

we eat?" The question is complicated, especially when you consider the abundance of food choices available.

How we choose foods

There are interesting parallels between the evolution of crayon colors and the variety of food choices we have today. Back in 1903, Crayola offered just eight basic crayon colors: black, brown, yellow, red, orange, indigo, violet, and green. By 1949, the palette expanded significantly to forty-eight colors, with a wider range of blues, yellows, and purples. Fast forward to 2010, and Crayola's collection had grown to 120 colors, including vibrant shades like "neon carrot" and "razzle dazzle rose." A similar expansion has occurred in the world of food: today, we are confronted with an overwhelming array of options. However, this abundance of choice doesn't necessarily lead to better decisions—it can sometimes result in decision paralysis. This paradox underscores a critical aspect of our modern relationship with food: having more options doesn't always equate to making better or healthier choices for our bodies and minds.

In today's supermarkets, the variety is staggering, with anywhere from 15,000 to 60,000 products on the shelves, and this number increases even more when shopping online. This overwhelming selection has contributed to widespread confusion about what to eat, and trust in formerly reliable sources of information has eroded. According to the International Food Information Council's (IFIC) 2024 survey, trust in food information from government agencies has significantly decreased among millennials, high-income households, men, and married individuals. For example, millennials' trust dropped from 56% in 2022 to 42% in 2024. Despite this, 51% of Americans express interest in using artificial intelligence (AI) to help them make safe and nutritious food choices, with younger generations, higher-income households, men, and Hispanic Americans showing the most interest.

Sometimes, the pursuit of healthy eating can become an excessive obsession known as orthorexia nervosa. This condition involves persistent, preoccupying thoughts about consuming only "healthy" foods, adhering strictly to what an individual or group perceives as the "right" diet. Orthorexia is harmful because it transforms healthy eating

into a source of anxiety and fear concerning health, food quality, and eating habits (Bratman, 1997; Koven & Abry, 2015).

To identify signs of orthorexia, consider the following checklist, adapted from clinical frameworks (ibid. both):

- Do you spend more than three hours per day thinking about healthy food?
- Are you preplanning tomorrow's meals today?
- Does the virtue of eating healthily outweigh the pleasure you derive from your meals?
- Has the quality of your life diminished as the strictness of your diet has increased?
- Have you become stricter with yourself regarding your diet?
- Does your self-esteem improve from eating healthily, and do you judge others who do not follow your dietary standards?
- Do you avoid foods you once enjoyed to maintain a strict diet?
- Does your diet restrict your ability to eat out, thus isolating you from social interactions?
- Do you feel guilty or experience self-loathing when you deviate from your diet?
- When adhering to your diet, do you feel a sense of total control?

Orthorexia is recognized as an eating disorder, similar to anorexia nervosa or bulimia, but it is treatable (Bratman, 1997). Effective treatment involves the patient learning to relinquish rigid dietary rules, and understanding, with the support of a healthcare team, that flexibility in diet is both safe and beneficial (Koven & Abry, 2015).

While some individuals choose foods based purely on health benefits, others aim to mimic the dietary patterns of our ancestors, believing this approach aligns with human evolution. However, there is substantial confusion and debate regarding the historical accuracy of ancestral diets, which we will explore further.

The evolution of diet

Even though the paleo diet has become popularized as our ancestors' diet, it's difficult to determine what, exactly, our ancestors ate because doing so requires a transdisciplinary approach encompassing prehistory

(archaeology), anthropology (bioarchaeology), chemistry, biochemistry, geology, and evolutionary medicine (Alt, Al-Ahmad, & Woelber, 2022). The source material for learning our ancestors' diet is plant, animal, and human remains from archaeological excavations and extrapolation based on archaeobotany and archaeozoology, which study the environmental, economic, and nutritional history, the human impact on the environment, and the economic importance of domestic animals and cultivated plants. From there, by reconstructing the environment, noting the technical achievements, and the traces in the landscape, the diet in various periods can be determined.

It's also worth noting the prehistoric diet was determined by the seasons, the availability of resources, climatic conditions, and the biotope the humans lived in. In other words, humans ate different things in different parts of the world. Regardless though, for survival, stockpiling food was paramount, and "gathering" played more of a role than "hunting," despite what many people believe. According to Alt and colleagues (ibid.), food available to our ancestors consisted primarily of plants (80%) such as leafy greens, sweet grasses, nuts, seeds, tubers, berries, roots, fruits, and pulses, as well as animal proteins from wild animals and fish (20%). Consuming a broad range of different plant foods remained true for all groups of Neanderthals and *Homo sapiens*, based on plant microremains extracted from dental calculus, according to Alt et al. However, it's also important to note that *Homo sapiens* adapted to their ecosystem. The Inuit subsisted mainly on animal proteins, but people in the Andes lived primarily on a plant-based diet.

The hunter-gatherer diet and lifestyle prevented "civilization diseases" or chronic noncommunicable diseases such as diabetes and hypertension. Infectious diseases, on the other hand, were probably the most common cause of death for hunter-gatherers, Alt et al. reported.

After the end of the last Ice Age, the human diet transformed. Around 12,000 BC, the first permanent settlements were established in the Levant, and our ancestors transitioned from hunting and gathering to crop cultivation and animal husbandry. They started to experiment based on wild forms of grasses and legumes such as natural lentils, from which emmer wheat, einkorn wheat, and other varieties were developed. Goats and sheep were the species first domesticated, and land began to be cleared for use as pastures.

Over the centuries, this started to take firmer hold, with more varieties of grains and other cultivated plants such as carrots, radishes, lettuce plants, and herbs taking root. Urban centers started to spring up and that, too, changed diet and lifestyle. The general variety of plants declined in favor of a few varieties that could be stockpiled. During the Neolithic period, cereal porridge and flatbreads were replaced by breads and pastries. Legumes such as lentils and peas were primarily used as dry goods, except during the harvest season; flax and poppy seeds provided fat-rich food and were suitable alternatives to animal-based food, according to Alt and colleagues. Wild plants such as hazelnuts, acorns, beech nuts, apples, pears, elderberries, sloes, wild rose hips, raspberries, and wayfaring tree fruits were used to supplement cultivated crops—especially when those crops failed. At this time, infectious diseases became more frequent, as did degenerative diseases such as osteoarthritis, as certain joints were strained more than others.

Cattle, sheep, goats, and pigs were already domesticated, but animal husbandry techniques varied from one region to the next. This close contact with animals led to numerous infectious diseases that were transmitted from animals to humans and between humans via bacteria, viruses, or parasites. Some of those diseases included tuberculosis, hepatitis B, smallpox, measles, malaria, and typhus.

At the end of the Neolithic period and over the course of the Early Bronze Age, early elites began to emerge, and their status was reflected in the consumption of high-value proteins. The upper classes had access to all kinds of luxuries, whereas poor, rural populations often contended with an unbalanced low-protein diet based on cereals and vegetables. This led to malnutrition and scurvy for some.

In the Middle Ages, the population was made up of serfs and free peasants, a lower and higher nobility, and an urban bourgeoisie, which consisted mainly of tradesmen and merchants. They all had access to different foods and thus were affected by different diseases—some infectious, some not, such as diabetes.

This way of life continued until the Industrial Revolution. The agricultural sector continued to be productive, and there was an increased supply of staple foods such as the potato. Also, high crop yields, new food processing techniques such as canning, and innovations in food preservation permanently changed food production. New preservation

technologies added to stockpiling capabilities, and cheap and durable food heralded the beginning of a new age of food consumption. This is also where metabolic disorders and intolerances arose with more frequency, as did cardiovascular diseases like atherosclerosis, heart attacks, and strokes, Alt et al. found.

Social developments once again changed dietary habits, and in the second half of the twentieth century, ready-made meals (TV dinners) came onto the scene, as did fast food, convenience food, and the exposure to foreign foods. And these days, most foods sold in supermarkets are dispensable. There are biological consequences to eating these types of foods in the form of diabetes, heart disease, certain cancers, and a poor gut microbiome, which scientists are still learning about.

More and more, research shows that gut microbiota play an essential role in mood regulation because they catabolize amino acids, whose products can influence the balance of neurotransmitter production, which is critical for proper brain functioning (González Olmo, Butler, & Barrientos, 2021). For instance, bacteria species of the genera *Lactobacillus* and *Bifidobacterium* metabolize glutamate, a free amino acid and excitatory neurotransmitter in the brain, to produce γ-aminobutyric acid (GABA), a major inhibitory neurotransmitter. Another amino acid, tryptophan, can enter the circulation system from the gastrointestinal tract, cross the blood–brain barrier, and initiate serotonin synthesis in the brain. Tryptophan depletion has been demonstrated to affect learning and memory in both healthy and diseased individuals. This again shows the connection between healthy eating, the gut microbiome, and mental health.

Something that upsets the balance of the gut microbiota is sugar, which the modern diet contains high amounts of. Sugar is associated with impaired cognitive performance in older individuals with type 2 diabetes (ibid.). Furthermore, when comparing the gut microbiota of individuals diagnosed with major depressive disorder to those of healthy individuals, there is a reported decrease in species richness and diversity in those with depression; specifically, there are differing amounts of the bacteria *Bacteroidetes*, *Firmicutes*, *Proteobacteria*, and *Actinobacteria phyla* in patients with depression, González Olmo et al. (2021) reported. Again, research shows that a healthy gut filled with diversity usually leads to not only a healthy body but also a healthy mind.

The foods we eat can be shaped by our biology—as the gut microbiota change, so, too do the foods people crave—but there are other factors that influence our food choices as well.

The other factors influencing food choices

There are also cultural factors, or how traditions and heritage shape our diet. This could be in the form of holidays, such as eating turkey during Thanksgiving, or more regularly ("We eat pancakes for breakfast on Sundays").

There are social influences, or the role of society and peer groups in our food choices. Social media continue to play a large role. The IFIC survey found exposure to food and nutrition content on social media is up significantly from 42% in 2023 to 54% in 2024. Most people trust the content they see, though fewer trust the content a lot (21% in 2023 to 15% in 2024). There's more food content on social media and also more conversations about food. A current trend, especially among younger people, is an emphasis on eating more plant-based food, as more and more research shows the benefits of eating that way. IFIC data reports that 54% of Americans have tried a specific eating style in the past year, up from 38% in 2019. Of those who are following a vegan, vegetarian, or plant-based diet, 55% report doing so in order to be healthier, and 33% said they are doing it to improve animal welfare. More than a quarter (26%) said they eat that way to help the environment. (The IFIC allows people to select more than one answer.) The impact on the environment is particularly crucial for Gen Z, as they are the most climate-focused generation to date. Some Gen Zs choose to be vegan so they are in alignment with their values about supporting sustainability.

Family dynamics, including upbringing and cultural customs, significantly shape our food preferences from an early age. For instance, children raised in Mediterranean households might develop a preference for olive oil and seafood, staples in their family's diet. Cultural traditions, such as festive foods during holidays, can also create lasting associations and preferences that influence dietary choices throughout life.

Individual preferences are crucial in shaping dietary habits. These preferences are not only influenced by cultural exposure but also by personal tastes and physiological differences. Genetic variations, for

instance, can affect how individuals perceive tastes; some people may find certain vegetables bitter due to their genetic makeup, influencing their aversion to or preference for these foods.

Economic status directly impacts food choices, as it affects access to various types of food. Individuals in higher economic brackets may have access to a broader range of fresh, organic, or specialty foods, whereas those from lower economic backgrounds might rely more on processed and less expensive options due to budget constraints. This disparity can significantly affect dietary habits and overall health.

Psychological factors also heavily influence eating behaviors. Emotional states, cognitive biases, and mental health conditions can all alter dietary patterns. For instance, some people may turn to comfort foods that are high in sugar and fat during times of stress or depression to alleviate their feelings temporarily. Cognitive factors like the "halo effect" can lead people to overestimate the health benefits of foods labeled as organic or gluten-free.

Additionally, mental health disorders such as orthorexia highlight the complex interplay between psychological well-being and eating behaviors. Orthorexia involves an obsession with healthy eating driven by a compulsion to consume only foods deemed pure or beneficial. This disorder illustrates how psychological drivers can transform healthy habits into harmful behaviors, underscoring the need for a balanced approach to nutrition that considers both physical health and psychological well-being.

Each of these factors—cultural, genetic, economic, and psychological—plays a significant role in shaping our food choices, influencing everything from what we enjoy eating to how we think about food and health.

What does this all mean for you? Understanding culinary psychology extends far beyond academic theory—it can be actively woven into the fabric of everyday life, especially through the practice of mindful eating. Embracing mindful eating can profoundly enhance both emotional and mental well-being. Jon Kabat-Zinn, the pioneer of the Mindfulness-Based Stress Reduction program at the University of Massachusetts Medical School, defines "mindfulness" as "paying attention in a particular way, on purpose, in the present moment, and nonjudgmentally" (Kabat-Zinn, 1991). Mindful eating, therefore, involves engaging with your food

attentively and intentionally, moment by moment, without judgment. This practice fosters a deep appreciation of the present, enhancing the overall eating experience by encouraging a full presence at the meal.

Psychologist Joseph Nelson, in his article for *Diabetes Spectrum*, elaborates on mindful eating techniques (Nelson, 2017). According to Nelson, mindful eating is about immersing oneself fully in the eating experience, from the initial thoughts about food to the last bite. Before you eat, take a moment to assess your feelings. Are you reaching for food out of stress, boredom, anger, or sadness? Is it an emotional need you're trying to satisfy, or are you genuinely hungry? If the hunger isn't physical, what alternative actions could fulfill your emotional needs?

During meals, focus solely on the food. Eliminate distractions such as cell phones or computers. Contemplate the origin of your food—the effort and resources involved in its production. Consider the journey of the sun, water, and soil that nourished what you're eating. Reflect on the distances traversed for it to reach your plate.

As you eat, savor each bite, tuning in to how your body responds. Are you still hungry, or are you beginning to feel full? Let your body's signals guide your decisions about whether to continue eating.

Mindful eating doesn't just enhance your appreciation of meals; it empowers you to make autonomous food choices, relying less on external advice and more on your innate understanding of your body's needs. While nutrition apps, dietitians, and nutritionists provide valuable information, true well-being is found in aligning this knowledge with your body's natural cues. By practicing mindful eating, you may discover a path to greater happiness and health, which is the ultimate goal of culinary psychology.

In conclusion, culinary psychology transcends mere theoretical exploration and deeply influences our daily lives, particularly through practices like mindful eating. This approach empowers individuals not only to enjoy their meals more fully but also to engage with their food choices in a way that promotes better mental and emotional health.

Mindful eating encourages us to be present in the moment, paying close attention to the experience of eating, the flavors, textures, and sensations, and the effects food has on our bodies and minds. It helps us become more aware of hunger and fullness cues, reducing the likelihood of overeating and helping address issues like emotional eating.

Studies in behavioral medicine have shown that mindful eating can help reduce stress and improve dietary habits, leading to better overall health outcomes. This aligns with the principles of culinary psychology, which seeks to understand the deeper connections between our food choices, our sensory experiences, and our psychological well-being.

As we continue to explore the multifaceted relationships between food and psychology, it becomes increasingly clear that our approach to eating can have profound impacts on our lives. By choosing to eat mindfully, we not only enhance our enjoyment of food but also contribute to a healthier, more aware state of being. This holistic approach is not just about nourishing the body but also enriching the soul and mind, fostering a deeper appreciation for the nourishment we consume and its origin.

Culinary psychology, therefore, is not merely about what we eat or how we eat, but about enriching our lives through thoughtful, intentional engagement with food. Each meal becomes an opportunity to practice mindfulness, enhance our well-being, and reconnect with the essential pleasures of eating.

Introduction to lifestyle medicine

Beth Frates

Lifestyle medicine is the medical specialty that uses evidence-based lifestyle therapeutic approaches, such as a plant-predominant eating pattern, routine physical activity, restorative sleep, stress management, positive social connections, and avoidance of risky substances, to prevent, treat, and often put into remission chronic diseases like hypertension, diabetes, high cholesterol, metabolic syndrome, and obesity (ACLM, 2024a).

The foundations of lifestyle medicine come from Ancient Greece. Hippocrates (460–370 BC) stated, "If we could give every individual the right amount of nourishment and exercise, not too little and not too much, we would have found the safest way to health" (Hippocrates, n.d.). Over the years, research studies have demonstrated that there is a great deal of truth to this statement.