

## Introductory Chapter

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## PART ONE: RESEARCH ON PSYCHOLOGICAL CONTRIBUTORS TO FOOD AND ADDICTION

### 1. Assessment of Food Addiction: A DSM 5 Update

Ashley N. Gearhardt, Ph.D., & Lucy K. Loch, B.A.

University of Michigan & Eunice Kennedy Shriver National Institute of Child Health and Human Development

### 2. Food Addiction in Children and Adolescents

Tracy L. Burrows, Ph.D., Janelle A. Skinner, Ph.D., & Hiba Jebeile, Ph.D.

University of Newcastle & The University of Sydney

### 3. Food Addiction, Dietary Patterns, and Obesity

Tracy L. Burrows, Ph.D., Megan C. Whatnall, Ph.D., & Kirrilly M. Pursey, Ph.D.

University of Newcastle

### 4. Sex Differences in the Risk for Substance-Use Disorders and Compulsive Overeating

Caroline A. Davis, Ph.D., & Revi Bonder, MSc.

York University

### 5. Food Craving in Food addiction

Adrian Meule, Ph.D.

Ludwig-Maximilians-University of Munich

### 6. Impulsivity and Food Addiction

Meenu Minhas, Ph.D., Cara Murphy, Ph.D., Marie Gendy, M.D., Ph.D., & James MacKillop, Ph.D.

McMaster University & Brown University

### 7. Trauma and Food Addiction

Susan M. Mason, Ph.D., & Rebecca Emery Ph.D.

University of Minnesota

### 8. Food Addiction Comorbidity

Timothy D. Brewerton, M.D.

Medical University of South Carolina

### 9. Sleep Dysfunction, Night Eating, and Food Addiction

Laurence J. Nolan Ph.D., & Allan Geliebter, Ph.D.

Wagner College & Columbia University & Icahn School of Medicine at Mount Sinai

### 10. Stress, Sugar, and Metabolism: Relevance to Food Addiction

Candice Price, Ph.D., & Elissa S. Epel, Ph.D.

University of California, Davis & University of California, San Francisco

### 11. Bingeing, Tolerance and Withdrawal: What Have We Learned From Models of Food Addiction

Katie Bishop, M.S., RD, Nicole M. Avena, Ph.D., & Ashley N. Gearhardt, Ph.D.

Icahn School of Medicine at Mount Sinai, Princeton University, and University of Michigan

### 12. Food Addiction in Anorexia Nervosa

Iceta Sylvain, M.D., Ph.D., & Catherine Bégin, Ph.D.

Universite Laval

### 13. Dietary Restraint and Food Addiction

David Wiss, Ph.D., M.S., R.D.N., & A. Janet Tomiyama, Ph.D.

UCLA Fielding School of Public Health- Department of Community Health Sciences & University of

California, Los Angeles

14. Co-morbidity of Food Addiction and Behavioral Addictions

Ignacio Lucas, Ph.D., Giulia Testa, Ph.D., Fernando Fernández-Aranda, Ph.D., & Susana Jiménez-Murcia, Ph.D.

University Hospital Bellvitge

15. Interactions between Alcohol Consumption, Eating, and Weight

Jenna R. Cummings, Ph.D.

Eunice Kennedy Shriver National Institute of Child Health and Human Development

PART TWO: RESEARCH ON BIOLOGICAL CONTRIBUTORS TO FOOD AND ADDICTION

16. Dopamine Magnitude and Timing in Food Reward

Alexandra G. DiFeliceantonio, Ph.D.

Virginia Polytechnic Institute and State University

17. Endocannabinoid Signaling and Food Addiction

Anahita Bassir Nia, M.D., & Deepak Cyril Dsouza, MBBS, M.D.

Yale University

18. Orexins in Food and Addiction

Morgan H. James, Ph.D., & Gary Aston-Jones, Ph.D.

Brain Health Institute, Rutgers University

19. An Investigation of Brain-Gut-Microbiome Interactions in Food Addiction and Obesity

Riya Sood, Soumya Ravichandran, BSc & Arpana Gupta, Ph.D.

University of California, Los Angeles

20. Food reinforcement architecture: profiles for impulsive and compulsive overeating and food abuse

Kyle S. Burger, Ph.D. & Afroditi Papantoni, B.S.

University of North Carolina

21. Epigenetics of Addiction and Eating Disorders

Samer El Hayek, M.D., Mario Eid, M.D., Michele Cherro, M.D., Mark S. Gold, M.D., Maya Bizri, M.D., MPH & Firas H. Kobeissy, Ph.D.

University of Miami, Lebanese University, American University of Beirut, Washington University, & University of Florida

22. Hormones, Hunger, and Food and Addiction

Guang Sun, M.D., & Pardis Pedram, M.D., Ph.D.

Memorial University of Newfoundland & University of Calgary

23. Negative Emotional Side of Food Addiction: Negative Affect and Urgency

Eric P. Zorrilla, Ph.D., & George F. Koob, Ph.D.

Scripps Research Institute & National Institute on Drug Abuse

24. Biological Contributions of Stress as a Common Factor across Overeating and Substance Use Disorders

Rajita Sinha, Ph.D.

Yale University

25. Prenatal Contributions to the Development of Food Addiction

Alberto Camacho Morales, Ph.D.

Universidad Autónoma de Nuevo León

26. Pubertal Development and the Development of Dysregulated Eating

Megan E. Mikhail, M.A., Carolina Anaya, B.A., Kristen M. Culbert, Ph.D., Cheryl L. Sisk, Ph.D., Alexander

Johnson, Ph.D., & Kelly L. Klump, Ph.D.

Michigan State University & Wayne State University School of Medicine

27. The Neuroscience of Food 'Wanting' and 'Liking'

Shelley Warlow, Ph.D.

University of California, San Diego

28. Sign Tracking to Food and Drug Cues: A Potential Marker of Risk for the Development of Addiction?

Sara R. Westbrook, Ph.D., & Shelly B. Flagel, Ph.D.

University of Michigan

29. Neurobiology of Binge-Eating Disorder and Implications for Food Addiction

Elina A. Stefanovics, Ph.D., & Marc N. Potenza M.D., Ph.D.

Yale University

30. Hippocampal-dependent Memory Impairment and the Western Diet: Implications for the Regulation and Dysregulation of Food and Drug Intake

Terry L. Davidson, Ph.D., & Anthony L. Riley, Ph.D.

American University

PART III: FOOD CHARACTERISTICS AND ADDICTIVE EATING

31. What Foods May be Addictive?

Erica M. Schulte, Ph.D., Kelly C. Allison, Ph.D., & Evan M. Forman, Ph.D.

Drexel University & Perelman School of Medicine, University of Pennsylvania

32. Ultraprocessed Foods and Food Addiction

Carlos A. Monteiro, Ph.D., & Geoffrey Cannon, M.A.

University of Sao Paulo

33. Sugar Addiction in Animal Models

Julia Simkus, B.A. & Nicole M. Avena, Ph.D.

Princeton University & Icahn School of Medicine at Mount Sinai

34. Incubation of Sucrose Craving in Animal Models

Jeffrey W. Grimm, Ph.D.

Western Washington University

35. Glycemic Load and Food Addiction

Belinda Lennerz, M.D., Ph.D.

Harvard Medical School

36. Fructose, Fatty Liver, and Addiction

Robert H. Lustig, M.D., MSL

University of California, San Francisco

37. Sugar-sweetened Beverages and Caffeine: The Role of Addiction

Desiree M. Sigala, Ph.D., & Jennifer Falbe, Ph.D.

University of California, Davis

38. Savor the Flavor: Diet, Taste, and Nutrition

Monica Dus, Ph.D.

University of Michigan

39. Non-Nutritive Sweeteners and Reward Mechanisms

Kathleen Page, M.D., M.S., & Alexandra G. Yunker, B.A.

University of Southern California & Harvard T.H. Chan School of Public Health

40. Industry Practices in the Development of Potentially Addictive Foods

Michael Moss

Author

PART IV: CLINICAL APPROACHES AND IMPLICATIONS

41. Food Addiction and Treatment of Eating Disorders

Lucero Munguía, Ph.D., Lucía Camacho-Barcia Ph.D., Susana Jimenez-Murcia, Ph.D., & Fernando Fernandez Aranda, Ph.D.

University Hospital of Bellvitge

42. Psychological, Behavioral, and Pharmacological Treatments for Binge-Eating Disorder: Implications of Addiction Perspectives

Ariana M. Chao, Ph.D., CRNP, & Carlos M. Grilo, Ph.D.

University of Pennsylvania & Yale University

43. Food Addiction and Obesity Treatment Outcomes

George Paslakis, M.D., Georg Halbeisen, Ph.D., Zaida Agüera, Ph.D., Susana Jimenez-Murcia, Ph.D., and Fernando Fernandez Aranda, Ph.D.

Ruhr-University Bochum, Bellvitge Biomedical Research Institute, University of Barcelona, Instituto de Salud Carlos III, University Hospital of Bellvitge

44. Food Addiction and Bariatric Surgery

Kirstie M. Herb Neff, M.S., Kellsey N. Launius, B.S., & Karen K. Saules, Ph.D.

Eastern Michigan University

45. Psychosocial Interventions for Food Addiction

Stephanie E. Cassin, Ph.D., C.Psych, Vanessa Montemarano, M.A., & Vincent A. Santiago, M.A.

Ryerson University

46. Deep Brain Stimulation for Obesity: Targets and Mechanisms of Neuromodulation in Clinical Practice

Britanny H. Kim, B.A., Robert L. Seilheime, M.D., Ph.D., Casey H. Halpern, M.D.

University of Pennsylvania

47. Pharmacotherapy for Obesity that Target Addictive Mechanisms

Mohini Aras, M.D., Sarah R. Barenbaum, M.D., & Louis J. Aronne, M.D.

Cornell University

48. Pharmacotherapy for Addiction that Target Obesity Mechanisms

Areej Qadeer, B.A. & Christina Brezing, M.D.

Columbia University

49. Neurocircuitry Underlying the Addictive Dimension of Overeating and Obesity

Evan Dennis B.S., Allison Johnson B.S., Diana Sotelo B.S., Leah Vines B.S., Peter Manza Ph.D., Gene-Jack Wang, M.D., & Nora D. Volkow, M.D.

National Institute on Drug Abuse

50. Food And Addiction: A Personal Story

Anne Rosenberg RSW, CHF

PART V: PUBLIC HEALTH, LEGAL AND POLICY IMPLICATIONS

51. What Lessons for Food Policy Can Be Learned from Tobacco Control?

Kenneth E. Warner, Ph.D.

University of Michigan

52. Food Marketing and Neural Mechanisms Implicated in Addiction

Sonja Yokum, Ph.D.

Oregon Research Institute

53. Is Food Marketing Feeding Americans' Sugar Habit? How Sugary Drinks Hook Children and Youth  
Jennifer L. Harris, Ph.D., MBA, & Melissa Jensen, MSPH, Ph.D.

University of Connecticut

54. Implication of Food Addiction on Stigma

Rebecca M. Puhl, Ph.D.

University of Connecticut

55. Food Insecurity: An Emerging Risk Factor for Food Addiciton

Cindy W. Leung, Sc.D., MPH, & Julia A. Wolfson, Ph.D.

University of Michigan & Johns Hopkins University

56. Taxes and Warning Labels as Tools to Improve Dietary Quality

Anna H. Grummon, Ph.D., MSPH, & Christina A. Roberto, Ph.D.

Harvard University & University of Pennsylvania

57. Legal Implications of Food Addiction

Jennifer L. Pomeranz, J.D., M.P.H.

New York University

PART VI: CRITIQUES OF FOOD ADDICTION

58. Addictive-like Overeating and Undereating

Johannes Hebebrand, M.D., Ph.D., Gertraud Gradl-Dietsch, PD Dr. med, MME, & Jochen Antel, Ph.D.

University of Duisburg-Essen

59. Disordered Eating and the Brain: Can Food be Addictive?

Margaret L. Westwater, Ph.D., Hisham Ziauddeen, Ph.D., & Paul C. Fletcher, Ph.D.

University of Cambridge

PART VII: CONCLUDING COMMENTS

60. Food and Addiction: Scientific, Social, Legal, and Legislative Implications

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