

FOOD *for* THOUGHT

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Does Food Addiction Really Exist?



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About The Center for Mindful Eating:

Our Mission:

The mission of The Center for Mindful Eating, also known as TCME, is to help people achieve a balanced, respectful, healthy and joyful relationship with food and eating. By providing an easily accessible source of information and opportunities to interact – via the web and in other ways – we seek to train and encourage professionals, who can then foster this capacity in others.

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About this issue:

Can You Be Addicted to Food?

This issue of *Food for Thought* addresses a fairly controversial issue in the world of eating behaviors: can people be addicted to food or not?

The question really focuses on three ingredients commonly found in foods – sugar, fat and salt. And it asks whether these ingredients cause some people to go out of control around food, seriously interfering with their well-being.

In the first article, Dr. Cecilia Clementi reviews the question from a scientific perspective. What do the studies say? Since this article was written, additional studies have been published that would be of value for anyone wanting to fully understand the subject. They include a review by Westwater and colleagues which shows little support for the concept of sugar addiction. Kahathuduwa and colleagues also published a review that looks at the impact of restrained eating on the brain, and provides an alternative explanation for differences in the reward response seen in many people who chronically overeat.

The remaining articles provide practical insight that can be helpful in working with clients who struggle with feelings of food addiction and how

mindful eating can help.

In this issue, we are also releasing our updated position statement on weight concerns, which we feel goes along very well with this topic of ‘food addiction’ (see page 6). In this statement, we explain that the intention of mindful eating is to remain in the present moment by promoting acceptance, non-judgment, and curiosity about an individual’s direct experience.

We could also apply this to food addiction. The moment foods are perceived as addictive substances, we are no longer curious, nonjudgmental or open-minded enough to listen to the wisdom of the body and nature, from which, in essence, all food comes.

For clients struggling with overeating issues, the idea of “eating addiction” instead of “food addiction” aligns more with our work as mindful eating teachers. To enhance self-care and the joy of eating, we invite our clients to bring awareness to their relationships with themselves and their bodies, and to notice and question good-bad/judgmental thinking.

Marsha Hudnall, President

Caroline Baerten, Vice President

What’s Been Happening Behind the Scenes

This summer, the TCME Board has been working hard to improve our offerings and services to our members who hail from all over the world. During our virtual annual meetings, we’ve been planning a series of webinar programs to help health professionals go deeper with their mindful eating practice. We also are continuing to strategize funding an

in-person conference and choose topics for our Food for Thought e-magazine for 2017, among many other stimulating and thoughtful conversations. We’ve had a wonderful response to our Lifetime Membership drive, and will continue to offer these through March 2017, in celebration of our 10-year anniversary.

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Food Addiction: A Controversial Concept



Cecilia Clementi

PhD, Psych.D

An ongoing debate has put into question the potentially addictive role of certain foods (highly processed, palatable and caloric) and whether overeating behaviors — such as binge-eating disorder — may represent a form of addiction.

The term “food addiction” was originally described by TG Randolph (1956) as “a specific adaptation to one or more regularly-consumed foods to which a person is highly sensitive, produces a common pattern of symptoms descriptively similar to those of other addictive processes.” Addictive-like consumption of food containing corn and wheat, coffee, milk, eggs, and potatoes was reported⁽¹⁾ as being a common indicator.

With a progressive increase in larger-bodied people and the related complexity of this phenomenon, the term “food addiction” has become more popular both in the common usage and in the scientific communities, with many

implications in terms of marketing, the food industry and treatment approaches.

A possible parallel between food addiction (FA) and the DSM-IV-TR⁽²⁾ criteria of substance-use disorders (SUDs) has been discussed in different studies,^(3,4) but the translation of SUDs criteria to FA is not straightforward.

In DSM-5,⁽⁵⁾ substance dependence represents a maladaptive pattern of substance use, leading to clinically significant impairment or distress, and it is characterized by cognitive, behavioral and physiological symptoms. Therefore, criteria for SUDs diagnosis include tolerance, withdrawal symptoms, considerable time and energy spent on finding, using and recovering from the substance abuse, unsuccessful attempts to quit using, and continued and compulsive use despite negative and destructive consequences.

The main changes in DSM-5 criteria consist of: the unification of the diagnostic criteria for substance abuse and dependence; the elimination of the legal problems criterion and the incorporation of craving/urge criterion. Moreover, symptoms are now divided into three levels of severity, and a

distinction between substance-based and non-substance-related addictive disorders has been implemented. Gambling Disorder has been included as a behavioral addiction while food addiction has not because it requires further investigation.

The craving criterion represents the major shared feature between SUDs and FA. It can be easily reported for other substances like food or non-alcoholic beverages,⁽⁶⁾ particularly those high in sugar or fat and, thus, highly palatable (e.g., chocolate and chips), which are frequently consumed in an addictive-like manner.^(7,8) Moreover, different substances, including food, share the activation patterns of neuronal structures related to craving experience.⁽⁹⁾

In addition, the loss of control and the consumption of larger amounts of substance seem to be empirically supported also for food.⁽⁸⁾ On the other hand, other fundamental criteria for SUDs, such as withdrawal symptoms and physiological tolerance, are not salient in food.⁽¹⁰⁾ Other criteria seem to be more in line with binge eating disorder (BED).

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food addiction

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FA is more common in people with obesity or BED, but it is also independent of them. Conversely, individuals with both BED and FA showed highest severity of symptoms.⁽¹¹⁾

The Yale Food Addiction Scale (YFAS)⁽¹²⁾ is a self-report questionnaire for the assessment of addiction-like eating behavior based on DSM-IV criteria. However, many weaknesses have been underlined,^(13,14) and the YFAS should also be updated according to the DSM-5.

Recent studies have focused on clarifying the etiological framework of the FA construct. Overall, studies based on animal models showed that sugar and sweet-fat diets successfully induce tolerance, escalation of intake, bingeing and withdrawal-like symptoms, but only sweet-fat bingeing is associated with weight gain, reducing the impact of FA in the development of obesity.⁽¹⁵⁾ However, these results could not be translated in a straightforward manner to humans for the higher complexity of the environmental and psychological factors implied, compared with the simplified animal laboratory conditions.

Neuro-imaging studies showed that obesity and binge eating share similar patterns with drug users in terms of the alteration of dopaminergic signals and food cues, both of which elicit a hyper-activation reward system in specific brain areas.⁽¹⁶⁾ Overall, considering the neurobiological data, the presence of food cravings, tolerance and overeating show some support for an addiction-like model in humans, but the definition of FA remains problematic.⁽¹⁵⁾

Therefore, many critical evaluations have been pointed out regarding the FA model. Some researchers have expressed reservations in creating an additional diagnosis in terms of “Overeating Disorder” or “Food Addiction” for the following reasons:

Food, unlike drugs and alcohol, is necessary for life; thus it is impossible to

abstain from food.

Physiological markers of dependence like tolerance, withdrawal, and craving for food are still not well characterized or understood.^(17,18) Moreover, results from the neuro-imaging studies have been confused, and food addiction in humans does not meet severity and impairment thresholds for substance dependency.⁽¹³⁾

The complexity of social environments in humans is a key element in FA, and comparisons with animal models do not entirely overlap. For instance, overeaters usually do not restrict their diets to specific nutrients. Instead they seem to be more vulnerable to overeating in relation to the availability of a wider range of palatable foods.⁽¹¹⁾

In addition, under specific conditions, addictive-like responses can be caused not just by the substance itself (e.g., sugar) but also by the behavior.⁽¹¹⁾ In other words, neuronal changes can occur as a result of eating behaviors, instead of neuronal patterns driving the eating behaviors initially.

Simple clinical similarities between FA and BED are not sufficient to support FA proper existence as an addictive disorder.⁽¹⁵⁾

Consequently, Hebebrand and colleagues⁽¹¹⁾ proposed the term “eating addiction” instead of “food addiction” to distinguish certain behavioral patterns rather than imply specific neurophysiologic correlates of drug addiction. An eating addiction could be caused by the combination of one or more factors (genetic, biological, psychological, social and environmental) which results in the activation of the reward system.

The development of an addictive-like-eating behavior seems to be related to the availability of various individually palatable foods, rather than specific nutrients. Indeed, the term “eating addiction” stresses the behavioral components more, which can be addressed using a psycho-educational approach. This implies that individuals can have an active role in changing their eating behavior by

learning about and practicing mindfulness to help them choose what and how much to eat and to more skillfully manage urges to overeat. Promoting nutritional education within our society is an important component in the prevention of eating addiction.

Finally, it seems more likely to consider only some forms of excessive overeating as an addiction disorder.⁽⁴⁾ Some individuals might be more vulnerable to get to an addictive-like eating pattern with more severe associated psychopathology. Some clinical risk factors might be: the presence of BED, obesity, emotional dysregulation, depression, and low self-esteem.

According to Gearhardt (2014) and Avena, et al (2011),^(8,19) the parallel between SUDs and food/eating addiction can be partly confirmed, but needs further empirical investigations in terms of biological, physiological and psychological patterns. An addiction-based model of overeating provides a compelling theory for understanding the difficulties related to food-intake control, contributing to prevention and treatment of obesity.⁽¹⁰⁾

Despite the definitions used, in terms of prevention and treatment, the mindful eating approach represents a promising and evidence-based method⁽²⁰⁾ to address all kinds of dysfunctional eating behaviors, including “eating addiction.” In the following papers, this issue will be explained more in depth.

Cecilia Clementi, PhD, Psych.D, is a board member of TCME. She is a clinical and health psychologist, psychotherapist and instructor of mindfulness-based protocols (MBSR, MBCT, MBRP, MB-EAT). She is an expert on eating disorders and obesity, both in research and the clinical field. She collaborates with the University of Bologna, Italy.

References for this article are available at www.thecenterformindfuleating.org/food-for-thought

Helping Explore Feelings of Food Addiction



Marsha Hudnall
MS, RDN, CD

“I’m addicted to sugar.” In this time of widespread eating concerns, this is a refrain that anyone who works to help people with their eating has likely heard time and again.

Addiction implies compulsiveness and feelings of being out of control, unable to stop when it comes to certain substances. Research clearly shows substances like drugs and alcohol are addictive. But it’s not so clear when it comes to food.

Looking Upstream for the Root of the Problem

The picture becomes even muddier when current attitudes about food are considered. After years of popular nutrition advice that labels foods as good or bad, many people have developed an ambivalent or restrictive attitude towards certain foods that can lead to overeating, even bingeing on them when their resolve to avoid those foods gives way.

The overeating is then often compounded by feelings of shame and guilt, or what we at Green Mountain at Fox Run call the “What the hell” effect. That is, “I already ate some so I might as well eat more.” Or the “last supper” effect kicks in as an individual thinks “I won’t eat this again, so I might as well get as much now as I can.”

Then there’s the psychological profile of people who struggle with binge or compulsive eating. They are among those most commonly affected by feelings of food addiction. That profile includes impulsivity, mood disturbances and more emotion-driven eating



compounded by judgmental thoughts about food. In this instance, feelings drive the overeating behaviors, not something in the food.

How Mindful Eating Can Help

Mindful eating is about tuning into and reconnecting with your senses to help you choose food that feels good in your body while eating and afterward. It is supported by a neutral attitude towards food so that individuals can decide for themselves what is “good” for them and what’s not.

Consider these questions to help your clients explore their feelings of food addiction.

1. Are they well-nourished?

Regularly undereating as with weight loss diets or eating low-nutrient foods to excess can throw the body out of balance and set up cravings that may indeed be physiologically induced. The cravings are about what the body truly needs and can be the way the body tells us that.

2. Do they have a healthy relationship with food?

Do they feel some foods are off-limits, yet find themselves regularly overeating those foods? Exploring the roots of attitudes about foods

can help uncover misconceptions about foods that you can address to help heal the relationship.

3. Do they eat feared foods mindfully?

That means slowing down to notice the taste, then savor it if they find they do like it. Often they may find they actually don’t. Do they notice when the pleasing flavor starts to fade? A function of sensory specific satiety, the flavor of food drops off as we become satisfied, guiding us in stopping when we have had enough. It also helps to reinforce that they can have the food again when they are hungry for it.

4. Do they ruminate about the eating experience?

Do they constantly revisit the experience, questioning whether they should have eaten the food, how many calories it contains, whether it will make them gain weight? If so, encourage them to practice the mindfulness attitude of letting go.

An important final point is about readiness. If clients firmly believe they are addicted to a certain food or ingredient and choose to avoid it, explore with them over time whether that approach is working for them. In my experience, it doesn’t work most of the time. When a client realizes that, and that there is another way to approach the issue, they are usually much more willing to experiment.

Marsha Hudnall, MS, RDN, CD is president and co-owner of Green Mountain at Fox Run, a women’s center for healthy weight and well-being in Vermont that pioneered the non-diet approach over four decades ago. She is also president of TCME. Contact her on Twitter @MarshaHudnall.

Shifting the Paradigm

TCME's Revised Position on Mindful Eating and Weight Concerns

The Center for Mindful Eating (TCME) is a member-centric organization. The board and management team seek to provide resources that meet the needs of our members, and involve them in decisions and activities whenever possible.

There is perhaps no better example of this than the revised position on mindful eating and weight concerns, which is featured in this month's Food for Thought.

After a lengthy process of developing and publishing a position statement, seeking feedback from members and then forming a member-led committee to revise the statement, we're pleased to present what we think well represents the paradigm shift that is taking place today in regard to issues of body weight.

That paradigm shift recognizes the complexity of those issues, and we hope this statement reflects that dealing with eating and weight concerns needs understanding, compassion, acceptance

and the elimination of weight stigma. What better way to promote that than through mindful eating?

Thank you to members Camerin Ross, Fiona Sutherland, Andrea Lieberstein, Jane Joseph and Cuca Azinovic for their valuable and thoughtful input on the revised statement.

Our revised (July 2016) position statement on Weight Management:

TCME Position on Mindful Eating & Weight Concerns

It is the position of The Center for Mindful Eating (TCME) that mindful eating supports health and well-being. The practice of mindful eating develops awareness of and honors the internal wisdom that can guide food choices and support eating for well-being. Mindful eating cultivates connection with physical, psychological and environmental cues that can affect food

decisions.

TCME does not endorse any philosophy or program that includes or promotes weight loss measures or procedures, because evidence does not support that it deepens or improves an individual's mindful eating practice.

The intention of mindful eating is to remain in the present moment by promoting acceptance, nonjudgment, and curiosity about an individual's direct experience. It is not outcome-based and does not promote any specific body shape or size. Based on scientific research, TCME expresses caution and concern about engaging in mindful eating exercises for weight loss.

A weight focus and related stigmatization may exacerbate psychological issues such as guilt and shame and may keep individuals caught in an unbalanced eating cycle.

For more information about our position statements, see: <http://thecenterformindfuleating.org/Position-Statements>

behind the scenes

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As a reminder, we are funded by donations and our members — your support helps us develop and offer more resources and programs for mindful eating practitioners and professionals. Stay tuned for details on what is now our Annual Auction, again in November, in association with #GivingTuesday. We hope that we continue to offer you inspiring resources and significant guidance to deepen your mindful eating practice, both professionally and personally.

During our annual meeting, there were significant changes within the board, including the election of new officers.

We'd like to welcome Marsha Hudnall into her new role as president. Marsha brings substantial leadership qualities to the board, which have been demonstrated in her career of over four decades. With this, we rejoice in the many years of leadership offered by co-founder and former president, Megrette Fletcher. Megrette has beautifully envisioned The Center for Mindful Eating from a conversation around her own dinner table with friends to the dynamic, in-depth resource and vibrant online community that it is today.

We'd also like to introduce and acknowledge our two new vice-presidents who have stepped up to support the president and executive team: Caroline Baerten and Cinzia Pezolesi. Both are

living and working in Europe and have dedicated their energy and efforts to the spread of mindful eating all over the world. Our new treasurer, Sharon Theroux, is a gem. Her enthusiasm in keeping our finances sound is deeply appreciated and indispensable for our future.

Finally, we are happy to welcome our three newest board members: Judson Brewer, Sandra Aamodt and Alice Rosen. Each will be bringing a unique perspective to our table, as it were, with strong skill sets and an abundance of experience to contribute to the mission of The Center for Mindful Eating. We believe that their presence on the Board will benefit many beings. Welcome!

Understanding Our Cravings to Eat



Caroline Baerten

MA, RD

“I can’t stop thinking about the box of cookies. I think I’m addicted to sugar.”

“I won’t buy potato chips because I’ll eat them all in one sitting.”

“I’m full, but I really want that last slice of pizza.”

Do these thoughts sound familiar for you?

You are not alone. Many books have been written about “food addiction,” but is craving the same as addictive behavior?

Food wanting, food liking, and the brain regions they turn on

According to the influential theory of Dr. Kent C. Berridge of the University of Michigan Psychology Department, food craving comprises two components: Food “liking” and food “wanting”

“Liking” refers to the sensory pleasure derived from eating a given food.

“Wanting” — or desire — refers to appetitive motivation to eat.

What is interesting about the studies of Berridge is that the dopamine “wanting” system in the brain is powerful. Human beings are hardwired for insatiable longing. And this has nothing to do with the substances in foods.

If we aren’t aware of our internal satiety signals, we are capable of continuing to eat, even if the pleasure of eating has subsided. If we switch to another food — dessert, cheese — the pleasure can be prolonged until we’re stuffed, often with regret and guilty feelings afterward.

Feelings of ambivalence around certain foods

It is also possible that if we don’t get something we want, we will “desire” it even more. This often occurs when there is ambivalence about foods. Chocolate, for example, is perceived as highly palatable and emotionally soothing, accompanied by the thoughts that it should be eaten with restraint because it is high in sugar and fat. Attempts to restrict intake, however, cause the desire for chocolate to become more explicit, and then labeled as “a craving.” This, together with a need to provide a reason for why resisting eating chocolate is so difficult, can in turn lead to an explanation in terms of “food addiction” (e.g., “chocoholism”).

The cause is not the substance itself (sugar, fat) nor is it merely brain activation. Rather, it is when the two are combined in a dopamine-reactive brain that manifests the impulsive, mindless desire.

How does the destructive cycle work?

There is a craving for chocolate.

- Experiencing a pleasure of anticipation (“That chocolate looks so good”).
- Having an contradictory thought (“Chocolate is delicious, but it’s not healthy”).
- Engaging in restrictive thinking (“No, I shouldn’t do this”).
- Having an increased desire/want for chocolate (“I really want that chocolate”).
- Feeling a sense of urgency to act (“I need to eat that chocolate right now”).

- Eating the chocolate mindlessly and rapidly.
- Feeling a pleasure reward and a moment of relaxation (“That chocolate really hit the spot”).
- Encountering feelings of shame and guilt until the next craving arises (“I can’t believe I ate all that chocolate. I’m never going to do that again”).

How to break this cycle?

Mindfulness meditation doesn’t make the “wanting” go away; craving is part of our human brain. However, this mindfulness practice can help you alleviate those intense feelings:

- 1. Identify the desire**
- 2. Evaluate the desire**
- 3. Observe the feeling of urgency** (often expressed as physical sensations in the body) without immediately engaging in it.
- 4. Recognize the feeling** of stomach hunger.

It is the process of slowing down, accepting that there is a craving and then meditating on the urge, which is most important to break the chains of the wanting-liking cycle. This way we can find more inner freedom and pleasure in eating from moment to moment.

Caroline Baerten (Belgium) is a mindfulness-based nutritionist/RD, qualified chef and integrative psychotherapist, specializing in work with disturbed eating behavior and nutrition ecology. She is a Mindfulness-Based Stress Reduction (CFM, UMass) and Mindful Self-Compassion teacher. She serves on the TCME Board.

She welcomes comments on this article. She can be reached at info@me-nu.org and found online at www.me-nu.org

COMMUNITY WISDOM: We asked our members to share their experience, both personally and professionally, about feelings of food addiction.

Is there a food that you often crave or feel “addicted” to?

“Salt! I love swimming in it and I love eating salty foods. If I’m eating a balanced diet and the salt content is low, I feel like there’s a piece to a puzzle missing. Just a tiny bit of something salty, like a glass of Perrier, is enough to satisfy me.”

~ Linda Richman, RD, CDE Dietitian, Montreal, Canada

“Coffee is my addiction. When I smell it I begin to feel very excited, and a little agitated until I get some.”

~ Victoria Gehlberg, Mindfulness Educator, Melbourne, Australia

“Green tea latte, hot! Gives rise to slight contentment and warmth, and is enough to fill my hunger. ~ Malaysia

“Sweets like macaroons, chocolates, and so on. Stressful emotion is usually associated with this craving, or when I’m tired due to not having enough time to sleep.”

~ Sora Gweon (graduate school student), Seoul, South Korea

“I crave either salted almonds or cinnamon granola, depending on if I want salty or sweet. The craving is associated with the feelings, more than feelings associated with cravings. I am definitely an emotional eater... when I have negative feelings, such as anger or sadness, I go for these foods. If I were more mindful to the situation, I might be able to tell if one or the other was associated with certain emotions.”

~ Marisa L. Creatura, RD, CD-N, Wethersfield, CT

What challenges do you experience in your work with clients who feel addicted to certain foods?

“I notice that when clients are craving certain foods, it is usually due to the need for love, or [an unfulfilled] desire to follow one’s passions.” ~ Shae Clark, USA

“They feel that they cannot have any of the food at all and the more they try to avoid it, the stronger the craving becomes.”

~ Theresa Munkvold RDN, LD, Ames, IA

“The opportunity, rather than challenge, is to explore what the cravings are trying to accomplish. My clients discover intentions of soothing, numbing or distractions from thoughts and emotions that they think will overwhelm them. The challenge is to help clients to validate and stay present with the feelings.” ~ Alice J. Rosen, MSED, LMHC Concord, MA

“The particular food is often a substitute for something more fundamental that they feel they are lacking.”

~ Terhi Summa, Helsinki, Finland

“My findings are that it is much easier to make wise choices for ourselves and from a place of care, rather than fear, once you’ve seen for yourself what the underlying driver is. The cravings can be powerful messengers, if we are open to seeing them as such.” ~ Linn Thorstensson, Cork, Ireland

“A particular client of mine feels addicted to baked goods. Often, she associates the thoughts and feelings around her cravings with a fond childhood memory or tradition. If an opportunity to eat this particular memory-filled baked good comes along, she will, because she doesn’t know when she will be able to have the opportunity again. The trigger for her is not only a fond memory, but time-sensitivity and a sense of urgency. With the above mentioned client, I feel it is very challenging to relay the idea of choosing what you want without thinking that their “addiction” will become worse by choosing to eat these addiction foods more often. Her addiction foods are her “feel good” foods. How do you help someone to realize that healthy foods can be “feel good” foods too?”

~ Marcia Schveibinz, B.S. Nutrition, Columbia, MD

“My biggest challenge is convincing them that they have the power to enjoy the “addictive” food and not eat it excessively. Clients get in the mindset that the addictive food is bad and they can never have it in their house or near them because they will binge it. Breaking them away from this thought is definitely most difficult.”

~ Marisa L. Creatura, RD, CD-N, Wethersfield, CT



Be the first to know about our teleconferences, mindful eating trainings, and other events!

Visit our website at: thecenterformindfuleating.org/upcoming

Learn more about becoming a member of The Center for Mindful Eating at: thecenterformindfuleating.org/join-us

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Westwater, M.I., Fletcher, P.C., Ziauddeen, H. (2016) Sugar addiction: the state of the science. *European Journal of Nutrition*. Published online July 2, 2016.

Kahathuduwa, CN, et al. (2016) "Brain regions involved in ingestive behavior and related psychological constructs in people undergoing calorie restriction", *Appetite*, in press, available online.

Page 3-4, Food Addiction: A Controversial Concept, by Cecilia Clementi, PhD, PsychD

(1) Randolph TG. (1956). The descriptive features of food addiction; addictive eating and drinking. *Q. J. Stud. Alcohol* 17, 198–224.

(2) American Psychiatric Association, (2000). *Diagnostic and Statistical Manual of Mental Disorders*, fourth ed. (text rev.). American Psychiatric Association, Washington, D.C.

(3) Corsica JA, Pelchat ML. (2010). Food addiction: true or false? *Curr Opin Gastroenterol*, 26, 2, 165-169

(4) Davis C, Carter JC. (2009). Compulsive overeating as an addiction disorder. A review of theory and evidence. *Appetite*. 53:1–8

(5) American Psychiatric Association, (2013). *Diagnostic and Statistical Manual of Mental Disorders*, fifth ed. American Psychiatric Association, Washington, D.C.

(6) Hormes JM, Rozin P. (2010). Does "craving" carve nature at the joints? Absence of a synonym for craving in many languages. *Addict. Behav.* 35:459–463

(7) Rodríguez-Martín BC, Meule A. (2015). Food craving: new contributions on its assessment, moderators, and consequences. *Front Psychol.* 22, 6, 21.

(8) Meule A, Gearhardt AN. (2014). Food addiction in the light of DSM-5. *Nutrients*, 6:3653–3671

(9) Tang OW, Fellows LK, Small DM, & Dagher, A (2012). Food and drug cues activate similar brain regions: a metaanalysis of functional MRI studies. *Physiol Behav.* 106, 3, 317-24

(10) Barry D, Clarke M, Petry NM. (2009). Obesity and its

relationship to addictions: is overeating a form of addictive behavior? *Am J Addict*, 18, 439-451

(11) Hebebrand J, Albayrak O, Adan R, Antel J, Dieguez C, de Jong J. et al. (2014), "Eating addiction", rather than "food addiction", better captures addictive-like eating behavior. *Neurosci Biobehav Rev.* 47, 295–306

(12) Gearhardt AN, Corbin WR, Brownell KD. (2009). Preliminary validation of the Yale Food Addiction Scale. *Appetite*, 52, 430–436.

(13) Ziauddeen H. & Fletcher PC. (2013). "Is food addiction a valid and useful concept?" *Obesity Rev.* 14, 1, 19-28.

(14) Pressman P, Clemens RA, Rodriguez HA. (2015). Food Addiction: Clinical Reality or mythology, *Am J Med* doi: 10.1016/j.amjmed.2015.05.046

(15) Hone-Blanchet A, Fecteau S. (2014). Overlap of food addiction and substance use disorders definitions: analysis of animal and human studies. *Neuropharmacology*.85:81-90..

(16) Schienle A, Schäfer A, Hermann A, Vaitl D. (2009). Binge-eating disorder: reward sensitivity and brain activation to images of food. *Biol Psychiatry*, 15, 65, 8, 654-61.

(17) Ziauddeen H, Farooqi IS, Fletcher PC. (2012). Obesity and the brain: How convincing is the addiction model? *Nat. Rev. Neurosci.* 13, 279–286.

(18) Wilson GT. (2010). Eating disorders, obesity and addiction. *Eur. Eat. Disord. Rev.* 18, 341–351.

(19) Avena NM, Gold JA, Kroll C, Gold MS. (2011). Further developments in the neurobiology of food and addiction: update on the state of the science. *Nutrition*, 28, 341–343

(20) O'Reilly GA, Cook L, Spruijt-Metz D, Black DS. (2014). Mindfulness-based interventions for obesity-related eating behaviours: A literature review. *Obesity Review*, 15, 453–461

Page 5, Understanding Our Cravings to Eat, Caroline Baerten, MA, RD

Berridge, Kent C. (2009) 'Wanting and Liking: Observations from the Neuroscience and Psychology Laboratory', *Inquiry*, 52:4,378 — 398

J.Hebebrand, et al, "Eating addiction", rather than "food addiction", better captures addictive-like eating behavior, *Neuroscience and Biobehavioral Reviews* 47 (2014) 295–306