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ASK THE EXPERT
with Dr. Kim

FEATURED EXPERT

An Interview with Ashley Gearhardt, PhD

Professor of Psychology,
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Q: Tell me about your work on food addiction. When did it start, and which papers and insights do you consider your most pivotal?

A: I actually started during my first year of my doctoral training at Yale University. I initially started doing work on alcohol addiction with Dr. William Corbin (who is now at Arizona State University), but quickly saw the parallels with substance addiction and the research that was coming out in the obesity and eating disorder world. I was fortunate that Dr. Kelly Brownell (who is now at Duke) was also there doing research into how the changing food environment was contributing to obesity. Will and Kelly were so very supportive of me pursuing the area of food addiction, which bridged across their labs. Part of what inspired me to do this work was animal model research by Drs. Nicole Avena and Bart Hoebel exhibiting how sugar altered the brains of rodents in an addictive manner, research by Drs. Gene-Jack Wang and Nora Volkow on how neural circuitry implicated in addiction was also associated with obesity, and work by Dr. Mark Gold exhibiting cross-addiction behavior between substance use disorders and eating behavior. These really set the stage to further research the parallels between excessive food intake and addictive disorders.

Q: You probably are best known for the Yale Food Addiction Scale. What is the most current version? What are its limits in populations with eating disorders?

A: The most recent version is the *YFAS 2.0 (Gearhardt, Corbin, & Brownell, 2016)* and the *YFAS 2.0 for children (Horsager et al., 2023)*. In eating disorder samples, the biggest challenge is restrictive eating disorders where we see a surprising level of endorsement in Anorexia Nervosa. It is still much lower than Bulimia Nervosa and Binge Eating Disorder, but still higher than we expected.

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Bulimia Nervosa and Binge Eating Disorder, but still higher than we expected. Some further probing suggests that subjective feelings of loss of control associated with extreme restriction in Anorexia can lead to endorsement of food addiction symptoms on the YFAS. A clinical interview is currently being developed by my colleague, Dr. Erica LaFata, and I think that will be helpful for reducing false positives in eating disorder samples.

Q: Can you describe how certain food substances are similar to alcohol/drugs and how it is different?

A: Addictive substances are man-made creations where we have processed natural substances (like a leaf or a fruit) into something that delivers a high dose of a rewarding substance rapidly into the brain (like a cigarette or wine). Just as not all drugs are addictive, it also appears that not all foods are likely to trigger addictive patterns of intake. But ultra-processed foods with high levels of refined carbohydrates and added fats deliver unnaturally high levels of rewarding substances (e.g., sugar, fat) rapidly into the brain and these are the foods that people appear prone to eat addictively. So, it really should be ultra-processed or highly processed food addiction because it does not appear to be all food. A key difference, of course, is that we all have to eat food to live and we don't need to take addictive drugs to survive. However, this makes it more concerning to me that 60-70% of the American food supply is ultra-processed foods that are unnaturally rewarding and do not effectively nourish and sustain us, but may be addictive.

Q: Which studies demonstrate that highly processed foods can produce signs of addiction and lead to behavioral and brain changes that can contribute to out of control eating in certain people?

A: Oh wow! There are a lot. I'm going to point you to some reviews that summarize a bunch of literature:

LaFata, E. M., & Gearhardt, A. N. (2022). Ultra-processed food addiction: an epidemic?. Psychotherapy and Psychosomatics, 91(6), 363-372.

Gearhardt, A. N., Bueno, N. B., DiFeliceantonio, A. G., Roberto, C. A., Jiménez-Murcia, S., & Fernandez-Aranda, F. (2023). Social, clinical, and policy implications of ultra-processed food addiction. bmj, 383.

Gearhardt, A. N., & Schulte, E. M. (2021). Is food addictive? A review of the science. Annual Review of Nutrition, 41, 387-410.

Q: Why is your work so controversial? Why hasn't food addiction been legitimized in DSM or ICD?

A: I think we are only starting to really fully conceptualize how different ultra-processed foods are for our brains and bodies relative to minimally processed foods like fruit, vegetables, and legumes. The food industry is on record saying they design these ultra-processed foods to hit bliss points and maximize craveability.I just don't think our brains have evolved to manage a food environment saturated with these products. I think that conceptualizing ultra-processed foods in this way conflicts with the traditional approach that all foods fit and everything is fine to consume in moderation.

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I think many people are able to consume these types of food in moderation, but for people who are experiencing biological and psychological addictive responses to these highly rewarding ultra-processed foods, this may not be helpful advice. I suspect that the rapidly growing scientific basis for ultra-processed food addiction will lead to further consideration of this concept in the DSM and the ICD hopefully in the near future.

Q: What role does dieting, dietary restraint, or classic eating disorder psychopathology play in addiction-like eating phenotypes? Under what conditions might we see pseudo-addiction?

A: One thing that we have seen in a number of studies is that the association between dietary restraint and ultra-processed food addiction is small and often not even statistically significant in adults. We just did a longitudinal study with adolescents published by Julia Rios in 2023 where we found that dietary restraint actually did not predict future increases in ultra-processed food addiction. However, ultra-processed food addiction did predict future increases in dietary restraint. To us, this suggests that dietary restraint may be less causal for the addiction phenotype, but restriction when it occurs may be more of a reaction to try and counteract compulsive overeating. I would like to look more specifically at fasting because there is evidence that individuals with ultra-processed food addiction are more likely to exhibit
heightened reward-related neural response to food cues, particularly when in fasted states. I think we can all agree that normalizing eating behavior and reducing periods of extreme caloric deprivation makes sense as a first step of treatment regardless of whether you take an addiction perspective or a traditional eating disorder perspective.

Q: What do you say to people who believe your research is dangerous, harmful, supports diet culture, and worsens weight stigma?

A: I think we are fortunate to have science that finds that an addiction perspective does not seem to worsen weight stigma and if anything reduces it (see article by Latner et al., 2014 in Appetite). However, I think there is significant harm in failing to acknowledge that billion-dollar companies are intentionally designing their products to be hard to resist and eat in moderation. I think the hedonic power of these ultra-processed foods is one of the contributors that leads people to try and engage in more and more extreme dieting practices to try and gain some control over them.

Q: What does the research show about co-occurring eating disorders and food addiction? Is that a thing? How is it different from having either one alone?

A: Most people with ultra-processed food addiction do not meet for an existing eating disorder diagnosis. Even without a co-occurring eating disorder, individuals who meet for ultra-processed food addiction have a lower quality of life across multiple domains and we are not currently capturing them in our existing diagnostic frameworks. We do see that about half of people with binge eating disorder and more than 80% of individuals with bulimia nervosa meet the YFAS food addiction definition. And those individuals exhibit more severe psychopathology and may need longer courses of treatment.

Q: What have you learned about racial differences in prevalence of food addiction?

A: So far there hasn't been consistent racial differences detected ultra-processed regarding food addiction across studies. There is some emerging science that individuals facing food insecurity (i.e., insufficient access to food to meet basic needs) is associated with heightened risk for ultra-processed food addiction and that Black and Hispanic individuals are more likely to experience food insecurity due to structural inequities.

Q: Are there any evidence-based treatments for food addiction? What do you think might be helpful?

A: We have been focusing so much on the validity of the construct of ultra-processed food addiction that we have done less to investigate the best treatments. There is some emerging work that psychosocial treatments that target shared mechanisms with addiction (like emotion dysregulation, coping with cravings, and reducing cue exposures) may be helpful. Twelve-step treatments exist, but the scientific infrastructure has not yet tested the utility of these approaches using gold-standard methods like randomized control trials. There is also new research that GLP-1 agonist drugs may also reduce addictive behaviors more broadly and could be considered as a potential treatment approach. However, the big take home is that more research is needed on how best to clinically address ultra-processed food addiction and the need for personalized care will be important.