



Preventing **FOOD ADDICTION** in Adolescents

Devon¹ is 12 years old and loves sweets—he trades the nutritious items in his lunch for candy, cookies, or other sugary delicacies whenever he can and spends a good portion of the money he earns doing chores to feed his unhealthy cravings. His parents make sure that he eats some vegetables and has adequate protein in his diet. They don't allow sugary drinks in the home but are unaware of the extent of his sugar intake because much of it occurs during school and after-school activities. Devon is of average weight. When he spent two weeks at his grandmother's house last summer, he had no sweets at all because she lives in a rural area and shuns "junk food." He enjoyed the time at his grandmother's house, but upon returning home, he eagerly began to indulge in his favorite treats again! Devon isn't worried about his diet or his weight; these issues aren't even on the radar screen for this pre-teen.

Fifteen-year-old Kayla, too, has a passion for sweets. Although convinced that she eats too much sugar, she doesn't seem to be able to

change her diet. She eats a healthy breakfast every day and at meals when other people are present, but Kayla frequently eats sweets in secret, embarrassed by the amount she consumes. She describes her feelings when indulging in sweets as "amazing and guilty at the same time." Although gorging herself on sweets does satisfy her craving for a while, she feels that her cravings the day after a binge are even greater than before, trapping her in a vicious cycle of craving, eating, and guilt. Although Kayla is only vaguely aware of it, this cycle is beginning to interfere with her scholastic performance, as her mind is increasingly preoccupied with food and worries about gaining weight. Kayla does weigh more than she should for her height and body type, but is not obese. At her last annual checkup, however, the doctor warned that her blood pressure was creeping higher than the ideal, and she asked Kayla about her diet (Kayla was embarrassed so she wasn't entirely truthful). In contrast to Devon, Kayla thinks about food and weight-related issues frequently and worries that her cravings may only become more difficult to control in the future.

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The Nature of Food Addiction

What is food addiction? Do Devon and Kayla qualify as “addicted”? These questions are more complicated than they appear. Data suggest that much of what we casually refer to as “food addiction” may not actually qualify as addictive behavior. Instead, these cravings may be better explained in terms of a complex set of psychological processes that combine with pleasurable characteristics of certain foods themselves and socially defined perceptions about appropriate levels and ways of consuming those foods.² However, those who identify themselves as “food addicted” do report many of the same behaviors used to diagnose sub-

stance-abuse disorders. Because similar neural-activation patterns appear in substance abuse and addictive-like eating, some researchers have argued that certain over-consumptive eating behaviors should indeed be characterized as addictions.³

The best data regarding food addiction exist for foods high in sugar and fat. Although these foods are not addictive per se, their pleasurable qualities coupled with socially defined restrictions that encourage a restraint-binge pattern of consumption foster the behavioral and neural qualities that may be defined as addiction.⁴ Inconsistencies in the empirical data indicate that it is premature to apply classical addiction mod-



els to food consumption,⁵ but the addiction-like consumptive patterns are nonetheless meaningful. Not only are these patterns linked to obesity and other physical health problems, but they also simultaneously correlate to mental-health disorders such as depression.⁶ This makes them key foci for health-improvement efforts,⁷ particularly during adolescence.

The terms “food addiction” and “obesity” are often linked in popular literature and media reports, which has led to the view that all obese people struggle with food addictions. This is not the case. Individuals with food addiction may be of normal weight or even underweight.⁸ Although obese individuals struggle with balancing calorie intake and output, it is estimated that only about one-quarter of obese people in clinical samples meet the criteria of the Yale Food Addiction Scale (YFAS) for food addiction.⁹ These individuals, because of their addiction-like cravings for some foods, may be at particular risk for chronic obesity and thus be especially difficult to treat. Children who engage in addiction-like consumption may be at particularly high risk, as their eating patterns are being established early in life, and the cumulative negative effects of poor diet will accrue throughout their lifetimes. Indeed, research on the development of obesity over the course of a lifetime indicates that its cause begins very early in development, with some research even supporting prenatal influences on obesity.¹⁰

In an effort to identify children at high risk of food addiction, researchers developed a children’s version of the YFAS.¹¹ It includes questions such as the following:

1. “If I cannot find a food I want, I will try hard to get it [e.g., ask a friend to get it for me, find a vending machine, sneak food when people aren’t looking].”
2. “I eat so much that I feel bad afterwards. I feel so bad that I do not do things I like [e.g., play, hang out with friends].”
3. “When I do not eat certain foods, I feel upset or sick.”
4. “The way I eat causes me problems [e.g., problems at school, with my parents, with my friends].”

Based on these and other indicators in the YFAS-C, Devon does not appear to be food-addicted, although some of his habits could certainly use adjustment to prevent future problems. Kayla, however, is at higher risk—she is experiencing health problems related to her eating and her emotional states are tightly linked to food, so she fears losing control of her food consumption. Markers such as these should signal to parents,

Despite the subtleties and complexities of identifying the differences among food addiction, BED, and unhealthy but non-disordered eating patterns, school administrators can nonetheless play an important role in shaping young people’s food choices and decisions. Most directly, schools can initiate more healthful school cafeteria offerings and replace the unhealthy snacks often sold in on-campus vending machines with healthier alternatives that limit or avoid sugary, high-fat, and high-carbohydrate food choices.

teachers, and school administrators that the young person’s eating patterns reflect deeper-rooted psychological or emotional disturbances that need to be addressed, and mere lectures about altering his or her food intake will not resolve the problem.

Prevention and School-wide Action

Effective prevention and treatment strategies for eating pathologies depend on accurate definitions that are consistent with clinical criteria. “Food addiction” does not appear in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-5),¹² though the concept has been used in clinical settings (e.g., the YFAS-C). However, in the most recent edition of the DSM-5, Binge Eating Disorder (BED) was added as a diagnostic category, defined as an eating pathology marked by ongoing episodes of overeating followed by a sense of lack of control.¹³ Based on this definition, Kayla may meet the criteria for BED, though it is less clear whether she is also food addicted.

Food-addiction research on animals and human adults has burgeoned in recent years, but less work has been conducted on food addiction per se (as opposed to BED) among children and adolescents.¹⁴ Whereas some individuals with BED may en-

gage in addictive-like behaviors (e.g., an inability to control oneself despite knowledge of deleterious effects of the behavior, withdrawal-like symptoms including moodiness and anxiety), other binge eaters do not meet criteria for addiction.¹⁵ Thus, although Kayla displays signs of BED, determining the frequency of her bingeing episodes is important to identifying whether she has the disorder. According to the DSM-5, a diagnosis of BED requires that bingeing occur, on average, once per week for more than three months. It is not identical to overeating, which is less severe, less frequent, and not linked with physical and psychological problems.¹⁶

Despite the subtleties and complexities of identifying the differences among food addiction, BED, and unhealthy but non-disordered eating patterns, school administrators can nonetheless play an important role in shaping young people’s food choices and decisions. Most directly, schools can initiate more healthful school cafeteria offerings and replace the unhealthy snacks often sold in on-campus vending machines with healthier alternatives that limit or avoid sugary, high-fat, and high-carbohydrate food choices. A recent review of the literature shows that implementing policies regarding selling healthier foods and beverages (outside of the school meal program) increases consumption of these items.¹⁷

Research also suggests that there is a considerable degree of continuity in obesity from childhood to adulthood; thus, school-based programs promoting healthy lifestyle choices should begin in elementary school and continue throughout high school and college. Excellent online resources are available to help school administrators implement healthful changes. Particularly good are the Cornell University Center for Behavioral Economics in Child Nutrition Program's Smarter Lunchrooms Movement (<http://smarterlunchrooms.org>); the Alliance for a Healthier Generation's Healthy Schools Program (<https://schools.healthiergeneration.org>), and the Yale Rudd Center for Food Policy and Obesity's Rudd 'Roots Parents (<http://ruddrootsparents.org/school-food>), which is targeted at parents, making it an especially useful tool for opening conversations with families.

Positive Relationships Help Sustain Healthy Eating Habits

Relationships at school can also be important facilitators of healthy eating. The teacher-student relationship, in particular, is a powerful vehicle for change and a unique source of support for young people. By providing a positive environment both inside and outside the classroom, teachers can help facilitate positive behavior by their students. Research shows that when students feel a sense of connectedness to their schools, they are less likely to participate in a range of unhealthy and risky behaviors,¹⁸ and school achievement has also been identified as a protective factor against disordered eating behaviors.¹⁹ Thus, the influence of a teacher may be twofold—fostering a sense of belonging/connection and encouraging positive scholastic outcomes, both of which have demonstrated links to healthier eating. An excellent document on increasing school connectedness is available from the Centers for Disease Control and Prevention (<http://cdc.gov/healthyyouth/protective/pdf/connectedness.pdf>).

Furthermore, a trusted teacher can serve as the liaison between school psychologists and school nurses, who play vital roles in identifying and treating eating disorders. As part of a regular health curriculum, teachers should include information on eating disorders (and perhaps even a brief screening such as the YFAS-C previously described that could then be shared with the nurse or psychologist). Administrators might also consider holding workshops that focus on developing life skills, including problem solving, communication, and stress management (or including these as part of the formal health curriculum). Although there are likely important individual differences among adolescents with food addiction (as with other addictive behaviors), recent research suggests that impulsivity helps explain the link between addictive behaviors and unhealthy outcomes such as unhealthy body mass index (BMI).²⁰ Although preliminary, this finding suggests that early identification of symptoms linked to food addiction, like impulsivity, can be helpful.

Finally, schools should consider providing families and students with a list of community professionals whose expertise includes helping young people battling any kind of eating pathology. A helpful place to start searching for information about eating pathologies is The National Eating Disorders Association's Website,²¹ which includes a toll-free, confidential information and referral helpline.

Strategies

Mental-health professionals, both inside and outside of the school system, can employ a number of strategies to address children's and

teens' eating pathologies. Childhood and adolescent obesity have been linked to parental obesity. As such, young people benefit most when weight-related programs are directed at the whole family. School psychologists and counselors should include families in interventions when possible, and teachers and other staff can include families in general health, nutrition, and wellness programs. Although the focus of this article is food addiction, the principles regarding healthy eating apply more generally, so involving the family can be an effective approach.²²

Another strategy for treating maladaptive eating behaviors addresses underlying psychological influences, such as stress, which affect the physiological processes that regulate food intake.²³ In addition to the biological changes of puberty, adolescents experience major environmental changes both within and outside the family context that are potentially stressful and can trigger maladaptive eating behaviors. For example, peer relations, identity development, and dating interests intensify during this period, making school an ideal place for teaching effective strategies for coping with stress. Adolescents may turn to sugary, high-fat foods to cope with feelings of peer rejection or insecurity. Because such foods activate reward circuits in the brain, powerful habits can form that require conscious effort to reverse.

It has been suggested that binge eating helps young people escape negative thoughts about themselves.²⁴ Therefore, addressing teens' daily stressors, with special attention to developmental transitions, can help to promote physical health and prevent the formation of poor eating habits. Many Web-based resources for teaching stress-reduction techniques are available; educators may find the San Francisco Unified School District's resources particularly useful, since they can be adapted for any K-12 group (see <http://healthiersf.org/resources/pubs/stressRed/StressReductionActivities.pdf>). For college-age students, the University of Michigan's Campus Mind Works offers a variety of tips and strategies for students, their parents, and faculty/staff (<http://www.campusmindworks.org>).

Research demonstrates that although cognitive-behavior therapy can counter negative thoughts about food and weight and treat Binge Eating Disorder successfully, group-based psychotherapy may be just as effective for treating overweight individuals who meet clinical diagnostic criteria for binge-eating disorder.²⁵ And, although BED and food addiction represent different conditions, the overlap is substantial enough²⁶ that we believe these strategies offer reasonable approaches for addressing food addiction as well. For some individuals, self-help options may be sufficient, but for others, therapy can help reveal and target psychological and emotional factors that influence the behavior. Weight-loss strategies alone are insufficient to treat BED, as people with this disorder may or may not be overweight, and the disorder involves psychological problems that may include depression, body-image distortions, and a sense of helplessness. For food addiction, too, interventions focused specifically on weight loss are likely to be less effective than multi-pronged approaches.

Conclusion

Although many scientific studies of treatments for eating-related pathologies have identified strategies that produce short-term improvements, less work has examined long-term recovery outcomes for individuals with a history of overeating. However, in one small-scale qualitative study of women who overcame their eating disorders, researchers

observed that both personal faith and connection to community were integral to these women's stories and reflections of recovery.²⁷ This suggests that, like overcoming any addiction, recovery from eating-related pathologies may be especially successful when treatment strategies integrate faith and spirituality within a supportive community context. And such a multifaceted approach to health promotion is useful as we point students to 1 Corinthians 10:31: "So whether you eat or drink or whatever you do, do it all for the glory of God."²⁸ ✍

This article has been peer reviewed.



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