

## **Small Choices, Big Changes: How Zest Builds Lifelong Healthy Habits and Supports Sustainable Weight Management**

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### **Introduction**

There is no shortage of options when it comes to conventional weight-loss methods. However, while these methods are abundant, the solutions they offer typically result in achieving only short-term weight loss. According to research, those who lost weight through traditional dieting often regained more than half of the weight they lost within two years (Hall, 2021).

Sustainable and healthy weight management takes time and thoughtful recalibration of one's lifestyle and eating habits. Zest's approach breaks the cycle of weight loss and weight regain by focusing on education, shifting mindset, and establishing lasting behavior change.

With over 73% of US adults categorized as overweight, of which nearly 42% are categorized as obese (Stierman, 2021), Americans' dietary practices and weight are a well-recognized public health concern. Studies have shown that weight gain can reduce one's quality of life, and is correlated with diseases like cancer, cardiovascular disease, and diabetes (König, 2021). Additionally, weight gain poses an economic expense. It was found that obese individuals have medical costs approximately 30% greater than their normal-weight peers (Withrow, 2011).

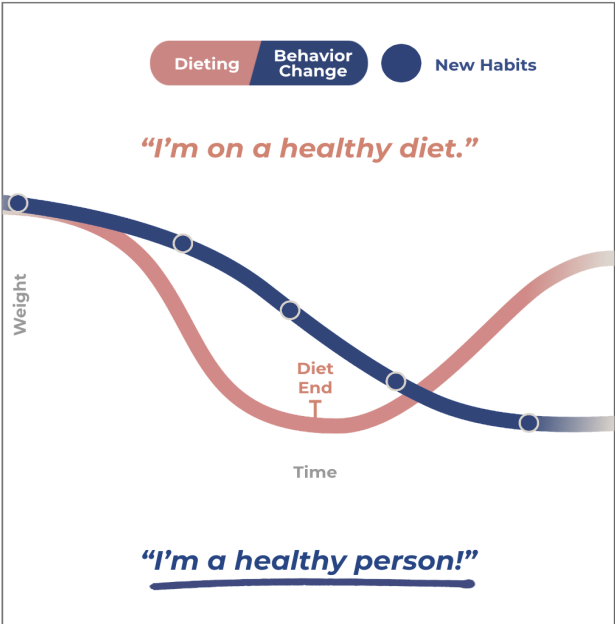
Many Americans are taking a greater interest in understanding and improving the quality of their food intake (Funk & Kennedy, 2016). This has been accompanied by a rise in the popularity of mobile health (mHealth) apps that are intended to help consumers through food tracking and automated dietary guidance.

However, many of these apps simply categorize certain foods as "good" and "bad," and provide generalized limits for daily caloric intake. While this approach may support short-term weight loss, it can create psychological feelings of guilt and worry around food. This can lead to unhealthy eating behaviors, and in some cases, even serious eating disorders (Kujer, 2015). Furthermore, the underlying eating behaviors that caused the weight gain were not addressed (Dounavi, 2019) and thus, weight regain can occur. This commonly leads to a practice of weight cycling, which has been shown to result in potentially serious physiological and psychological issues (Rhee, 2017; Quinn, 2020).

# Background

Behaviors around eating are formed starting from a person's upbringing, cultural influences, socioeconomic factors, and more (Gahagan, 2012). A multitude of external and internal cues can also influence eating behaviors including the marketing of processed foods, convenience, social cues, and stress (Bilman, 2017). Due to this layered relationship with food, an intuitive, healthy mindset becomes difficult to attain without the cognitive tools to facilitate habit and behavior change.

According to research (Cleo, 2018; Teixeira, 2018), habit change can result in both weight loss as well as long-term healthy weight maintenance. However, many of the popularized mHealth apps marketed for weight loss do not incorporate the psychological strategies required for the formation of new healthy habits, nor do they offer substantial guidance on identifying and adjusting away from unhealthy habits.



## Dieting vs. Behavior Change

It has been shown that behavior change can help users reach and maintain their weight goals. Because of this correlation, there is an opportunity for mHealth apps to provide a more sustainable approach toward building healthier habits. One such method is taking a cognitive approach, guiding users through changing their mindset, recognizing unhealthy behaviors, and developing new healthier routines and habits that address sustained weight management.

# The Science

Zest helps users attain a mindset where foods are separated from morality and guilt, and are instead seen as a source of nourishment and enjoyment. This is achieved by providing users progressive guidance on how to become more mindful of the foods they consume, how to prepare and enjoy nutrient-dense foods, and how to recognize the way they physically and psychologically feel when eating certain foods.

Users are also educated on growth and fixed mindsets, a concept developed by Stanford University psychology professor Carol Dweck. The growth mindset is the belief that basic

qualities can be grown and nurtured through strategy and outside help. With a growth mindset, abilities are seen as dynamic, and failure is a stepping stone to success. A fixed mindset is the belief that one's qualities are set at a specific limit and can only grow so much. In regard to weight loss, having a greater understanding of these mindsets can help users learn from weight-loss setbacks. Utilization of the growth mindset can also have a direct, positive effect on beliefs about health, nutrition, and physical activity (Dweck, 2006).

Learning about behavior change comes with understanding the psychology behind it. For this reason, Zest's content contains a variety of techniques from different psychological therapies. Cognitive Behavioral Therapy (CBT) is a therapy that is typically used to disrupt unhelpful patterns of behavior, while Dialectical Behavioral Therapy (DBT) can be used to help those who struggle with binge eating disorders and guide them to a healthier mindset with skills such as mindfulness, emotion regulation, and distress intolerance. Acceptance and Commitment Therapy (ACT) serves to help users learn more about themselves and how they can adjust their behaviors to serve them in their weight-loss journey. This therapy is also guided by core values and guides people on becoming the best version of themselves.

Zest's approach uses these techniques within the content to help users establish new healthy habits and change pre-existing habits and behaviors.

This is implemented through four main methods: First, by micro engagements that educate users on nutrition and broader health principals; second by cognitive training that shapes and changes behaviors; third by progressive habit building to create the foundation for living healthier automatically and without the need for willpower; and fourth by utilizing optional meal logging to inform users of their food choices and build an awareness of current eating patterns.

## Micro Engagement Learning:

The first step to building this foundation is an educational curriculum designed to shift the user's mindset on behaviors that make up a healthy lifestyle. Each lesson provides two to three minutes of content that addresses nutrition myths and contradictions. Also discussed are topics like the pervasive marketing of ultra-processed food, mindful eating, and incorporating physical activity into one's routine. At the end of a set of lessons, users take a short quiz which reinforces what they learned.

Because every user is at a different point in their journey, applied Artificial Intelligence (AI) techniques are used to deliver the most relevant and useful lessons up front. These techniques have been trained from a number of data sources, which includes the onboarding profile, written responses through journaling, and user efficiency and engagement. These qualifiers ensure that the user receives the right content at the right time.

## Cognitive Training:

The common mindset around food is shown to be a crucial component in maintaining healthy eating habits (Veit, 2020). Zest's research partnership with the Stanford Mind & Body Lab<sup>1</sup> found that changing a user's mindset from one of food restriction to one of food pleasure increased enjoyment in food and culinary associations with food. Additionally, users reported an increase in intrinsic motivation to eat healthier, and a greater decrease in distracted eating. It was also found that users worried less about their diet while still eating healthier.

One pivotal outcome of these findings was the development of four cognitive training techniques. Called "Skills" in the app, these training techniques use tools from psychology to increase mindfulness and help users discover new ways of thinking about their food and fitness. Skills work in conjunction with lessons, as they show users how to take their acquired knowledge and apply it to their daily routines.

As users progress through lessons, four unique types of cognitive development skills will be recommended, many of which incorporate the latest CBT and ACT methods:



### Guided Meditations

Each meditation helps users build mental awareness to increase their mindfulness around their eating habits, cravings, and more.



### Cognitive Exercises

Mental exercises guide users on shifting their mindset so that they can make healthier choices, and continue making those choices without needing the willpower associated with a restrictive diet.



### Personal Challenges

Users can commit to challenges and try out new methods to help them eat healthier in a planned, guided way and receive acknowledgment for achieving new goals.



### Prompted Journaling

Through thought-provoking, psychological questions, users can build a greater sense of self-awareness and discover more about themselves and their thought processes around food.

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<sup>1</sup> The Stanford Mind & Body Lab focuses on how mindset change can alter objective reality and affect important outcomes both within and beyond the realm of medicine in domains such as exercise, diet, and stress.

By practicing these skills, users can solidify what they've learned from their lessons and naturally incorporate an overall healthier mindset on food and fitness into their daily routines. Users' engagement and responses help adjust the guidance provided so that they receive a more personalized and relevant experience.

## Progressive Habit Building:

Lastly, Zest teaches users how to build healthy habits that stick and create routines befitting of a healthy lifestyle.

Habits are a pivotal part of maintaining healthy behaviors because they are done automatically with minimal conscious effort. When behaviors are repeated in similar contexts, they shift from being triggered by intention to being triggered by cues that are situational or contextual, meaning that habits will typically override intention. Thus, the behaviors are more likely to be maintained (Cleo, 2018).

Generally, it can take anywhere from four weeks to six months for a behavior to become a habit, depending on the behavior trait and varying from person to person (Lally, 2009). Because behaviors need to be repeated before they become habitual, Zest has created a novel experience for users which provides further incentive to return to the app and continue building habits.

Zest encourages behavior change by rewarding users when they make progress toward breaking bad habits, as well as when they build new, healthy habits. Users can discover what parts of their lives may be blocking new habits from forming, and adjust their existing healthy habits so that they can continue performing them.

Because habit change requires structure, users are provided with a habit-building program that is personalized based on their profile and goals. The program guides users on how to incorporate habits into their daily routines and commit to them on a weekly basis until they become automatic. It also suggests adjustments to routines when the user faces difficulty or has successfully practiced the new behavior for a sustained period of time. At the end of a lesson set, habits are recommended to reinforce what the user has learned. Users can also independently choose from a wide variety of habits and incorporate them into their daily routine as desired.

Through this habit building, users on average were more likely to incorporate nearly three times as much healthier foods, such as fruits and vegetables, in their regular diet. This had the benefit of as much as 2% natural weight loss in under a month.

## Meal Logging

Most modern weight management apps use meal logging and calorie counting as the primary tool to help users lose weight. While meal logging and calorie counting have been shown to drive positive results in weight loss (Ingels, 2017), such results can be short-lived if logging is not carefully paired with mindset and lifestyle change.

Zest utilizes the optional meal logging as an informative tool to help users build an awareness of their eating patterns and help them shift their mindset toward building a healthier diet.

When users are able to see the types of food they typically consume, as well as the portion sizes, they are better able to identify patterns in their eating habits. With this knowledge, they can adjust their intake as necessary and respond appropriately to signals of physical hunger versus cravings that may be due to other cues such as stress.

Because overall wellness encompasses several key areas of one's lifestyle, Zest users have the option to log their meals and snacks, as well as weight, water, exercise and sleep. The requirements of when and what to track will be left to users' discretion and can also optionally be shared with a health or wellness provider.

## Conclusion

Long-term wellness encompasses both mental and physical health, as the benefits of habit change around nutrition and physical activity reach beyond weight alone. It can also impact mental wellness, energy levels, better sleep quality, and overall health. Each feature on Zest is integrated so that users receive an extensive educational experience that will allow them to hone healthy habits, shift their thinking about food and fitness, and learn more about how to reach their overall wellness goals.

Our research has shown that in order for healthy behaviors to become long-term habits, a shift in thinking must accompany changes made to diet and exercise. Zest guides users in making these changes, educating them on the difference between dieting and maintaining a lifestyle where eating healthy is second nature. Through taking this cognitive, behavior-change approach, Zest users discover support for managing a healthy weight and adopt new ways of looking at food and fitness – for good.

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