

Behavioral Economic Factors Related to Pediatric Obesity



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KEYWORDS

- Obesity • Pediatric • Behavioral economics • Incentives • Food reinforcement
- Demand • Energy intake • Physical activity

KEY POINTS

- Behavioral economics (BE) offers pathways for interventions to increase physical activity and healthier food intake and decrease sedentary behavior and unhealthy food consumption.
- BE suggests that pediatric clinicians should take careful behavioral histories, focused on the child's "marketplace" of food and activity options, to "nudge" behavior change.
- Clinicians and families must agree on the specific behaviors and time frame to be targeted for change, with the recognition that smaller, sustainable steps are more likely to be completed than more ambitious goals.

INTRODUCTION

Pediatric overweight and obesity are highly prevalent: about 32% of American children and adolescents are overweight (sex- and age-specific body mass index [BMI] 85th–95th percentile) or obese (BMI \geq 95th percentile).¹ Although treatments have produced some improvements,² innovative nonmedication approaches are needed to curb this trend. Behavioral economics (BE) offers pathways for

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interventions to increase physical activity (PA) and healthier food intake and decrease sedentary behavior and unhealthy food consumption. BE suggests that food and activity choices are governed by costs, available alternatives, and reinforcement. This article reviews basic and translational research using a BE framework with overweight or obese children up to age 18. We address BE concepts and methods, and discuss developmental issues, the continuum of BE approaches, findings of studies focused on increasing the cost of unwanted behaviors (ie, energy-dense food intake and sedentary behavior) and decreasing the cost of desired behaviors (ie, healthy food intake and PA), and our team's recent work using BE approaches with adolescents.

WHAT IS A BEHAVIORAL ECONOMIC APPROACH?

BE posits that reinforcers, available alternatives, and costs govern choices.³ Holding other factors constant, individuals engage in behaviors that are highly reinforcing or have minimal suitable alternatives and lower costs (in money, time, or effort). **Box 1** includes key terms. For example, using a BE approach, interventionists may try to increase healthy eating by:

- Increasing the reinforcing properties of healthful foods (eg, touting the full flavors);
- Changing food environments to stock more healthful options than unhealthy options; and
- Lowering the cost of more healthful foods.

HOW MAY A BEHAVIORAL ECONOMIC APPROACH COMPLEMENT OTHER TREATMENT APPROACHES?

Because the BE approach focuses on changing environmental factors or reinforcers to change food- and PA-related behaviors, the BE approach is compatible with most currently available behavioral treatment approaches (eg, family-based lifestyle behavioral interventions), and could complement medication-assisted treatments once those come to fruition for pediatric obesity treatment. We emphasize that BE approaches should not be implemented in isolation but, rather, integrated with other viable strategies as part of multimodal, multilevel interventions.⁴

On the other hand, the BE approach, which relies on environmental sources of reinforcement to promote healthier outcomes (eg, weight loss), could potentially conflict with those cognitive-behavioral interventions that emphasize the importance of patients' internal motivation for behavior change (self-determination). Notably, there has been debate regarding this issue of exogenous versus endogenous locus of motivation elsewhere; namely, it has been hypothesized that external incentives could undermine a patient's internal motivation for behavior change. However, data supporting this conclusion are mixed⁵⁻⁷; rather than opposite ends of the motivation spectrum, intrinsic and extrinsic motivation seem to exist more independently than earlier thought.⁸⁻¹⁰ A recent review of treatments for cannabis dependence demonstrated that long-term follow-up results from interventions combining contingency management (ie, giving vouchers for abstinence) and cognitive-behavioral therapy were better than for those using just 1 form of treatment,¹¹ suggesting that interventions targeting both intrinsic and extrinsic forms of motivation to change can be efficacious.

Compatibility of BE-based interventions with other treatment approaches partly depends on which outcomes are being targeted. Key questions in BE studies involve

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