

Forum

Cass R. Sunstein's "nudge science"

The problem of obesity and dietary nudges

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ABSTRACT. From a psychological perspective, Cass R. Sunstein's 2016 book *The Ethics of Influence* is an insightful examination of the ethics of using social and cognitive psychological principles to influence behavior and decision-making. The United States has been experiencing what can only be described as an obesity epidemic. Scientists know that this epidemic has been brought about in part by the prevailing choice architecture, which influences what we eat, how much we eat, and how little we exercise. From a public health perspective, the policy issue centers on how a democracy can employ a combination of bans, mandates, and nudges to reshape our dietary habits to combat obesity. In this article, I will address how policymakers must nudge and change the existing psychological and physical choice architecture to combat obesity. The obesity epidemic cannot be won solely by increasing taxes, mandates, and bans on certain food items as that infringes on the personal liberty, welfare, autonomy, and dignity of citizens.

Key words: Nudge, obesity, exercise, decision-making, public policy

Scholars agree that the United States is experiencing a mounting obesity epidemic, a problem that negatively affects not only our individual health but also the institutions that make up our health care system(s), especially Medicaid, Medicare, and Social Security. Our dietary habits are, in part, conditioned by our individual life histories, biology, and larger cultural environment.

The choice architecture that underlies our eating habits is shaped by our individual life histories, culture, biology, the environment, and economics. Many of these habits took root when we were children, influenced by what our families and friends ate and what we ate at school. Our individual diets are also influenced by cultural forces, including race, ethnicity, nationality, and gender. Much of what we eat also fulfills biological needs, which have been relatively stable since the Pleistocene Era. However, what we eat is also subject to economic forces, including global marketing and the kinds of foods that are sold and/or charitably provided in various geographic locations.

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Finally, the questions of which kinds of foods we ought to eat, how much of the various food groups we ought to eat, and how often we ought to eat those foods are all subject to conflicting scientific debate.

Obesity is a complicated problem in which many interweaving factors likely contribute to different cultures producing people with varying health risks. Besides genetic and biological differences among cultures, dietary nudges can be implemented to produce both short- and long-term changes to our eating habits. Changing the prevailing choice architecture can produce short-term nudges to promote healthy food selection without removing individual choice. However, selection is only one piece of the puzzle. For foods to be eaten, one must first know *how* to cook and, second, *have* the motivation and time to do so.

Dietary nudges

Habits can be defined as repeating a chosen behavior in the same context until it becomes automatic and effortless.¹ Thaler and Sunstein² proposed "nudges" to gently push people toward more favorable choices. However, much of the literature on nudges focuses on one-time decisions such as changing the choice

architecture at a grocery store to nudge healthy food selection. Yet dietary nudges are only truly impactful when they become sustained habits. The psychology of habit formation suggests that habit formation appeals to our automatic System 1 decisions.

Although most obese Americans would prefer to avoid the dire health consequences of their dysfunctional dietary habits, they are often unwilling or unable to change those habits. This raises the political question of whether the U.S. government ought to paternalistically intervene on their behalf, utilizing a combination of legal bans, mandates, and/or nudges. It is important to note that in a democratic society, many public policy options are simply off the table. Democracies, obviously, cannot mandate that obese citizens be force-fed healthy food, and they cannot mandate that private entrepreneurs or corporations purchase urban property and build a grocery store that sells only reasonably priced healthy foods. However, nudges have a significant advantage over bans and mandates because nudges still allows for autonomy and dignity and, at the same time, do not make for universal paternalistic policy decisions over individual food choices.

Most Americans truly want to enjoy the benefits of a healthy diet, but they are either unwilling or unable to change their dietary habits. Others want to change their diets but simply do not know which foods to eat and/or how much to eat. Psychologically, the effectiveness of all nudges is shaped by brain structure: *System 1 nudges* manipulate feelings and are largely automatic; *System 2 nudges* manipulate thought and are largely slow and deliberate. Until recently, most dietary nudges were based on System 2, as experts provided patients with factual information and logical arguments about why and how to change dietary habits. The problem is that most people do not know how to translate their thoughts and motivation about losing weight into a sustained habit.

Theories of human behavior have long shown that immediate experience often outweighs future rewards. This means that it is difficult for individuals to do something now that is uncomfortable even if that behavior will benefit them later. Dieting is uncomfortable, yet we know it will benefit us in the long term. From the behavioral economics literature, this failure is called a *time-inconsistent preference*.³ People tend to prefer more immediate gratification, even at the expense of longer-run well-being. Many workplaces offer financial incentives to reduce problematic health behaviors. Most workplace incentives are effective in the short run but

do not create long-term dietary habits.⁴ The problem with economic incentives is that they likely appeal to System 2 thinking. An appeal to our System 1 nudges may be a better strategy.

One way people can break out of time-inconsistent preferences and make long-lasting health decisions is to make a commitment contract.^{5,6} A commitment contract is analogous to an incentive; the present-self offers enticements to the future-self to behave a certain way in a public setting. Yale economics professor Dean Karlan developed a goal-setting website⁷ where people sign contracts obliging them to achieve their personal goals. Individual users are asked to have someone act as a referee, and users put their own money on the line as a motivation tool to help them reach their goal. If a user's goal is not met, the website will keep his or her money. A key difference between workplace incentives and a commitment contract is the social nature of a commitment contract. Research on effective motivation for diets has shown that social support even by phone or email from friends or from a personal trainer can greatly motivate individuals to regularly engage in a diet program and form a long-lasting habit.⁸ This increased social accountability of a commitment contract, as well as the possible embarrassment if the contract is not met, appeals as a System 1 nudge.

However, not all System 1 nudges are equal in terms of effective diet promotion. Using friends, family, and/or coworkers as social support for diet is only effective if they encourage and do not undermine the individual's goals.⁹ Furthermore, psychological literature describes two separate motivation-based subcategories that comprise System 1 motivation: approach (i.e., pleasure-based; positive stimuli) and avoidance (i.e., fear-based; negative stimuli) motivation.¹⁰ It has been found that young college women are more motivated to diet if they consider themselves similar to a feared overweight body size than young women who hope for a thin body size. Yet using fear as a motivator for weight loss may be related to maladaptive eating behaviors such as anorexia and bulimia nervosa.¹¹ Powerful fear-based nudges to motivate dieting although effective can have, in return, negative consequences.

At an individual level, dietary nudges that appeal to both System 1 and 2 are effective in creating healthy eating habits. But is it possible for a democracy to nudge our diets on a national scale without violating our choice and dignity? Although changing cultural identity with food is likely difficult, the U.S. government has successfully used principles like nudges in the past to

change the American diet without the use of taxes, bans, or mandates.¹² At the beginning of World War II, before food rationing, America had a dietary problem. At home, Americans were consuming meat that was needed by our troops overseas. Former President Herbert Hoover was making this his main prerogative — to try to get American citizens to eat more offal. The common tactic was to use patriotic messages suggesting that eating offal makes one a patriotic citizen. But offal was culturally considered a product eaten only by people who could not afford steaks and pork. Additionally, many homemakers simply did not know how to cook offal. The National Research Council realized there were mental and cultural barriers that were discouraging citizens from eating offal. In response, the National Research Council recruited anthropologist Margaret Mead and the “father of social psychology” Kurt Lewin to handle this problem of changing the American diet.

Mead and Lewin did not just tell homemakers to stop eating steak and start cooking offal; they worked on eliminating the two main mental barriers, identity and knowledge. Brochures with offal recipes were sent to families to empower them to know *how* to cook hearts, livers, kidneys, tongues, and sweetbreads at home. Additionally, the propaganda shifted away from patriotic messages to nudging families to simply *try* these meats as a part of their daily meal planning, “bring variety and health to every American home.”¹³ The effort worked; in a short period, Mead and Lewin changed the American diet (at least until the war was over) without the use of mandates and/or bans. This example demonstrates that it is possible for democratic governments to culturally nudge the American diet from the top down without infringing on welfare, autonomy, dignity, and self-government.

A key lesson from Mead and Lewin’s research is that health public policy should focus on the cultural and mental barriers that discourage individuals from dieting in the first place rather than offering nutritional education or economic incentives. For diet, and eating specifically, such mental barriers include the perception of taste, palatability, texture, and flavor. Mead and Lewin learned that if nutritional food is cooked and presented in culturally familiar ways, individuals are more likely to try and enjoy the foods.¹⁴

The American diet has also been indirectly influenced by previous political decisions, especially tax policy. The sugar and corn industries have benefited tremendously from tax benefits and farm subsidies, not to mention

tariffs on foreign competitors. The current U.S. Sugar Program was introduced in 1934 with the goal of lowering sugar production and raising sugar prices. Unfortunately for American consumers, the system worked too well. Paternalistic governments could promote healthy diets by simply eliminating many of those counterproductive advantages.

Food deserts and soda taxes

According to the U.S. Department of Agriculture, food deserts are geographic areas, usually located in urban areas, where a substantial number of residents have limited access to affordable and nutritious food options.¹⁵ There are many reasons why food deserts appear primarily in urban areas. Investment in urban grocery stores that sell healthy food is hindered by the initial cost of purchasing urban property, the cost of tearing down or remodeling existing buildings, and the operational costs associated with the food industry, such as fluctuating food costs and the cost of labor. In the absence of alternatives, the choice architecture nudges many urban poor to eat fast food and purchase groceries at local convenience stores, which rarely provide healthy food choices because of the operational costs associated with purchase and storage of fruits and vegetables. Federal health officials see a lack of access to healthy foods contributing to higher levels of obesity and maladies such as diabetes and heart disease. Policymakers realize that a poor diet contributes to overall lower quality of health for its citizens and increased costs in health care. Some policymakers gravitate toward incentives to motivate (or nudge) grocery stores operators to build new stores in lower-income neighborhoods.¹⁶ These nudges might include providing subsidies and other benefits to influence entrepreneurs and corporations to invest in urban grocery stores.

Even if the policymakers are successful in nudging grocery store corporations to invest in urban areas, increasing the number of grocery stores that sell healthy foods may not inspire obese urban residents to purchase and consume healthy foods. Internal cultural and psychological barriers to trying new foods also determine that foods we prefer. Knowledge of how to cook, our life history of food and taste preferences, and the time required to cook healthy meals all influence our choice architecture. Food deserts are a prime example of the complex choice architecture underlying obesity and why governments must nudge not only obese Americans

toward better dietary choices but also the corporations and government programs that provide dietary options.

Democracies support nudges over legal bans and mandates because nudges are freedom preserving.¹⁷ Currently some states have introduced a soda tax to attempt to discourage soda consumption.¹⁸ Taxes are not nudges because they are a one-size-fits-all solution to obesity.¹⁷ Such taxes on soda companies can cause unintended consequences such as political backlash from the beverage industry, disgruntled convenience store owners who depend on soda sales, and anger from low-income consumers who choose but now cannot afford to purchase soda.¹⁹ In order to balance the needs of all parties involved, policymakers can modify the choice architecture of grocery and convenience stores in order to promote alternative sugar-free beverages compared with increased taxes or bans.

Food pantries

Public and private institutions committed to the dietary welfare of the urban poor often employ a combination of bans, mandates, and nudges to address both hunger and obesity. Food pantries, which serve those individuals who are most at risk for hunger, have experimented with nudges to select more nutrient-dense foods. Wilson *et al.*²⁰ nudged healthy food selection without removing choices. Specifically, the researchers placed protein bars in the dessert aisle, which increased selection by 46%, and when the bars were placed with the client individually out of the original box, selection increased to 59%. Consequently, food pantry organizers can help nudge clients select those foods that are healthier.

Additional research has found other ways to nudge food pantry clients. For example, the addition of signs on grocery carts informing clients of the average quantity of fruits and vegetables consumed per meal by the average family increased the selection of those products by more than 10% in pantries.²¹ Floor arrows that highlight healthier choices, such as fruits and vegetables, were found to increase sales of these items by 9%.²²

Based on this research, bans, mandates, and/or nudges can help reshape individual as well as cultural dietary habits. However, bans and mandates remove individual choice and would conflict with Sunstein's four ethical values: welfare, autonomy, dignity and self-government. Moreover, placing mandates or bans for certain items purchased for welfare recipients will change which items are purchased, but at the expense

of autonomy, dignity, and self-government. Even if policymakers make nutritional food a mandate for citizens on food assistance and eliminate food deserts, without educational tools and experience cooking with fresh vegetables, there likely will not be significant changes in the American diet. Public policy should promote educational interventions to teach citizens about healthy meal preparation to remove both psychological and physical barriers that inhibit further changing an individual's choice architecture. However, not all nudges are justifiable. Justified nudges require balancing four values: welfare, autonomy, dignity, and self-government.

Conclusion

Given the prevailing choice architecture, which continues to misshape our dietary habits, many public policy analysts argue that paternalistic intervention by the government is justified. Strict reliance on bans, taxes, or mandates on sugary drinks and unhealthy food is not required. Nudges preserve choice and paternalism involves nudging the urban poor away from long-standing self-destructive dietary habits with healthy habits, which are more likely to advance their long-term individual welfare. However, in any democratic political regime, the pursuit of the welfare of others must be advanced without undermining other values such as autonomy, dignity, or democracy. This will involve a judicious combination of nudges and mandates.

For many years, dietary reformers relied primarily on System 2 nudges, which consisted of providing dietary information while prescribing healthier dietary choices. However, information alone proved to be a less-than-sufficient form of intervention. System 1 nudges, which manipulate feelings and/or emotional factors, have proven to be more effective in changing dietary habits. Moreover, governments could offer incentives to grocery corporations and food pantries to offer demonstrations on how to cook healthy foods in a way that tastes and is culturally familiar to the individual. Such demonstrations may help remove some of the psychological barriers from trying different foods and vegetables. Additionally, if grocery stores are given tax incentives to move into a food desert, they could also have a mandate to incorporate known nudge science to promote healthy food selection and eating without violating autonomy and dignity.

Democracies might justifiably supplement System 1 and System 2 nudges with combinations of legal bans

and mandates if necessary. Most Americans would vigorously object to an outright ban on high-sugar-content foods. However, most of us might support a ban on possible cancer-causing preservatives or dyes in our foods. Additionally, many citizens would likely support a ban on high-calorie, low-nutrition foods offered in public schools and federal entitlement food programs. Most of us do not object to government mandates that require food producers/retailers to clearly inform consumers of the sugar content of the foods they sell, via easily understood packaging labels and/or menus. Public officials might also offer tax incentives to companies that build new stores in food deserts and offer healthy food choices in food deserts. Others might support a mandate that requires grocery stores to display healthy foods in the most visible locations and unhealthy foods in less visible locations. Worldwide, most democracies mandate that public schools teach children not only what to eat but also how to prepare healthy, appetizing food. Overall, the health of the American people must be nudged at both the individual and the national level to promote healthy food selection and combat obesity. Habits must be created by eliminating psychological barriers to trying new foods along with social support to sustain healthy behaviors. Public officials do not need to increase taxes, bans, and mandates, which reduce choice, freedom, and dignity.

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