

Freedom, Choice and Public Well-Being: Some Psychological Perspectives

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Abstract Optimization of well being with minimal regulations seems like a reasonable goal. The problems (and recent progress) in measuring well being are described. The complex meanings of freedom are discussed, with a contrast between “actual” and perceived freedom. Then, the limitations of humans as decision makers in the current complex world in which decisions may have global impact, are described. For the domain of regulations related to food and public health, it is noted that our current scientific knowledge is limited, and policy is influenced by political as well as scientific factors. The risks of misguided regulations are substantial. Finally, the determinants of decisions are described, with particular emphasis on moralization: the historical conversion of a preference into a moral value, as with cigarette smoking in the United States. The consequences and causes of moralization are considered.

Keywords Moralization · Preference · Food · Liking · Regulations · Well being

Everyone is in favor of public health, or more appropriately, public well-being. Everyone is in favor of freedom. The problem arises when these two values collide. A simple but extreme view is to adopt only one of these two goals, and thus settle the conflict. If freedom is an axiom, what some psychologists call a sacred or protected value (Baron and Spranca, 1997; Fiske and Tetlock, 1997; Tetlock, 2003), and public well-being is not, the case is closed. But for most people, it is a matter of weighing the particular costs of curtailing freedom against the particular benefits of an enhancement of public

well-being, perhaps manifested by a specific regulation or law (Tetlock, 1986).

Academic psychologists try not to overtly support particular competing values, but rather to understand why some people hold some as axiomatic/sacred, and to understand how limitations and biases or predispositions in the mind of *Homo sapiens* may inform both our ideas about freedom and public welfare. Three areas of psychology are relevant: judgment and decision-making, social psychology and the new area of positive psychology. I will begin by discussing psychological aspects of the two potentially conflicting priorities: well being and freedom.

Measuring Well-Being

It is hard to dispute the idea that well-being, whatever one’s exact definition, is an important goal for individuals and public policy. The problem is deciding what it is and how to measure it. The standard economic measure, money (e.g. GDP/capita or personal wealth) and the standard health measure (longevity) are not, alone, up to the task. They are frequently used, because money and death are easy to measure, and well being is not. Under the impetus of the positive psychology movement, thought has been devoted to well-being. At one level it can be thought of as life satisfaction, for which there is a well documented 5-item scale (Diener et al. 1985). The problem is, of course, that life satisfaction ratings of individuals are framed by their view of what is possible, and that is determined largely by their local environment, and also becoming adapted to things as they are. The most demonstrative finding here is that quality of life ratings of a set of Americans who became permanently paralyzed after an accident about a year before are about the same as those of comparable individuals who had no such tragedy (Brickman et al. 1978).

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Under the leadership of Martin Seligman (2012), the founder of positive psychology, a much richer conception of well-being has emerged, and measures to evaluate it are being developed. In this conception, well-being has five components, summarized by the acronym, PERMA: positive emotions, engagement, relationships, meaning, and accomplishment.

One simple, single-item measure of life satisfaction, has been used widely, because it is so short (Cantril, 1965). The respondent is presented with a 10 rung ladder with the top rung being the best possible life. Helliwell, Layard & Sachs (2013) report the mean life satisfaction score by country for most countries of the world, using this measure. The results come from large samples collected by the Gallup organization. Perhaps somewhat sobering for a strong Libertarian, the top 6 countries in the world are: Denmark (1), Norway (2), Switzerland (3), Netherlands (4), Sweden (5), and Canada (6). From these top six, we can tentatively conclude that a moderate amount of government intrusion into “private” life and freedoms is compatible with high life satisfaction. We can more certainly conclude that mild winters, which almost everybody prefers, are not a necessary condition for high life satisfaction.

Attempts to predict national life satisfaction have been quite successful (Helliwell et al., 2013). The following six measures, each calculated for each country, account for more than half of the variation in life satisfaction between countries: GDP per capita, social support, healthy life expectancy, freedom to make life choices, generosity, and perceptions of corruption. So freedom is important for life satisfaction, but so are other things. The measurement of well-being is clearly a work in progress, but it has already come to the attention of a number of governments, in their effort to improve and assess their success, and the success of their country.

Freedom: Perceived or Actual

While it is obvious that measuring well-being is challenging, there is a tendency to assume that it is easy to measure freedom. It is not. Freedom is sometimes held to be a combination of available choices and lack of coercion. Of course, one's country and socioeconomic class strongly determines the choice set one faces. It is also true, as Barry Schwartz (2004) has documented, that more choices can deter optimum selections, as defined by the chooser. People are often paralyzed by the dazzling array of choices they get. It is one thing for clothing or foods, but it is another for a camera, or perhaps worst of all, a health insurance plan. Most mortals, even educated mortals, cannot efficiently wade through the deductibles, mental health benefits, caps, long term care provisions, home care, etc. It is sobering and surprising that the Affordable Care Website, as of early December, 2013, offers no less than 24 plans to choose from. And most of those going on to this website are not that well educated. Most countries in the

world, including the top six above, have wisely taken that decision out of the hands of their citizens. They offer an excellent single plan to everyone. Except in Canada, they have the option of paying more and going outside of the national plan. But whether it is types of yogurt (there are 145 at my local supermarket) or health plans, small sets of options seem optimal for most people.

The problem is that there are many strategies, known to advertisers, stores, websites, and others, to bias choices in a particular direction. The default (or sometimes, the first) option tends to be chosen, and matters of placement, font, color can all bias choices. Nudges have been very effective in changing patterns of choices (Thaler and Sunstein, 2008), and nudges can be utilized by governments, advertisers, and even parents. A second problem is that perceived freedom is not the same as actual freedom, because of things like nudges and a variety of other unappreciated influences on choice. So we face the question as to whether we want to optimize perceived freedom or “actual” freedom.

Psychological Factors Related to Freedom and Well-Being

I have already raised some psychological issues with respect to well-being and freedom. I shall now describe some other findings from psychology that inform but also complicate attempts to balance freedom and public well-being. Jonathan Baron's book, Thinking and Deciding (fourth edition, 2008) reviews our understanding of most of the processes I will discuss. I will then consider some documented processes which can accomplish attitude and behavior change without direct or even indirect government involvement.

Adaptation

People get used to almost everything (Frederick and Lowenstein, 1999), and this adaptation becomes the base for judgments about happiness/goodness. A lovely present given to a paraplegic produces happiness, and a toothache for a lottery winner produces distress. Momentary or very short term events produce an acute emotional response. People are sensitive to that, they experience it directly. But they are not aware how much they adapt to chronic changes. The Brickman paralysis example above is telling. People adapt to wealth, poverty, aging and chronic illness. Old people do not show a lower quality of life than young adults. People gradually get used to being old, with all its shortcomings, as it gradually comes on. Because people vastly underestimate adaptation, they often cannot make rational decisions, in accord with their own values. So for example, if a person has the option of a colostomy or continuing with chronic gastrointestinal pain, the person imagines what it is like to have to deal

with a colostomy bag. This is a very upsetting situation. But the image is of waking up with a bag, rather than how one would be some months later. Many people get used to this intrusion on their normal body function. They don't like it, but it does not interfere with their lives nearly as much as they think it will. There are many examples like this. We get used to almost everything, but not everything. For example, people do not adapt much to noises, as in living near an airport. Well defined and structured events, like concerts or meals, show less adaptation than more continuous and less distinctive events.

Humans are shaped by Adjustments to the Ancestral Human Environment

Many of the problems that contemporary (at least developed world) human beings face, arise from the fact that our mind/brain evolved for almost all of our evolutionary history, of hundreds of thousands of years, in an environment that is radically different from the human-created environment that we live in now. In our ancestral environment, we dealt primarily with a rather small number of people, whom we knew. We had relatively little leisure time (without lighting, the effective day is much shorter), our major health concerns were palpable: wounds and infections. We rarely aged enough for degenerative diseases to take their toll. We now live in an interconnected environment where ideas can spread around the world in minutes, where infections can spread around the world in weeks, where most short-term threats to our life are controlled by public water supplies, helmets, signage, antibiotics and other accomplishments of modern medicine and public health.

Our major threat is degenerative diseases, including heart disease and cancer. We still have accidents, as we did in our ancestral environment, but these are not one of the major causes of death. Our time perspective has extended to our full future life and those of our children, not just getting through the next month or year. Our space perspective may not be just our locale, but our country or the world. A high animal fat diet was great for our ancestors, and now, according to many authorities (the case is still out on this), it is not good for longevity. (But note that our six happiest countries are also among the most long-lived in the world, and eat a high animal fat diet!). With the current potential for spread of ideas and infections, and the rise of weapons of mass destruction, someone other than the individual has to make very important decisions.

Short-sightedness

We are naturally short-sighted, which suited us well in the environment we evolved in. People now much prefer immediate to delayed rewards, even if the latter are somewhat

larger. With over seven billion people on the earth, the cumulative effect of individual decisions designed to maximize short term utility can lead to an environment that those same individuals would abhor. It is one thing for a person to show poor self-control, and not save money for emergencies, or to continue smoking because the short term pleasure dominates the appreciated long term risk. One can say that people have to live with some of their short-sightedness. But not when this comes at the expense of others, let alone their own future.

As Shweder (Shweder et al., 1997) and Haidt (2012) have noted, in the Western developed world, the moral domain is pretty much limited to issues of harm to others and fairness. This is why, in American discourse on government regulation, a major feature is demonstrating that a behavior by X will harm Y; such arguments come up with seat-belt laws or second hand smoke. In both cases, it is argued that increased public medical expenses will be the casualty of failure of government or regulatory action. The uncertainty of some of these arguments will be addressed later and are addressed by other papers in this volume. So the question arises, when is the public well-being sufficiently at risk such that individual behaviors have to be curtailed or individuals have to pay taxes. To take one clear example, water purification has a major effect on health, and can only be realistically accomplished by public investment. In my opinion, the case for seat belts or smoking effects on public health is less compelling.

One thing that governments can do is assess the issue of public well-being (often translated into public health) and intervene when the benefits outweigh the limitations to freedom. There are two problems here. One is, how good is the information that the government will be acting on, addressed in the next section. The second is that the members of the government may be as short-sighted as their constituents. In the United States, with representatives elected every two years, they must look to short-term gains to stay in office.

A number of people have advocated benevolent despotisms to solve the short-sightedness problem, but no one can guarantee that the despots will remain benevolent. The closest thing to this on earth is Singapore, which is nominally democratic, but elected officials are pretty much assured of continuing on. Singapore, in many areas, leads the world in taking a long-term perspective. Their handling of the problem of recycled sewer water is an example. Recycled sewer water is as pure and safe as current tap water, and is an efficient way of conserving and providing water. But some people are offended by it; they are disgusted by the closeness, as it were, of "toilet to tap" (a slogan of some opposition groups). In our democratic system, a small minority with funds and dedication can block important progress in improving public well being, primarily by invoking litigation. No chance of that in Singapore. The government of Singapore has orchestrated a gradual shift to more reliance on recycled water (which they call NeWater), carefully orchestrated so that people will adapt to each stage.

Open-mindedness

Citizens in modern countries have to make decisions about complex issues, with often subtle and long-term effects involved. They were not equipped in their ancestral environment to deal with long term consequences, very small risks, and most critically, battles between interest groups. Just as our supermarkets are flooded with options, our life is flooded with pro and con arguments about genetically modified organisms, nuclear power, whether to intervene in a conflict thousands of miles away, health plans, gun control, global warming etc. Only experts can really master the specific assessment of risks and benefits for any of these cases. To make matters worse, our education system has not kept up with teaching us what we need to deal with such important decisions: we do not regularly teach probability, the core of understanding risks and benefits, nor do we teach how science works and what evidence is. And, we do not teach about the human shortcomings which interfere with making sensible decisions. Poorly equipped to handle important dilemmas, and flooded by arguments on both sides, we adopt certain strategies. One, of course, is to ask someone we trust who is more informed than we are. Another is to affiliate with others who share similar values (e.g. Republicans or Democrats, or the American Legion) and assume that the group's wisdom is greater than our own.

When we have an opinion, we tend to expose ourselves to information that supports it, by the friends we keep, the newspapers we read, the television channel we watch to get news. And we tend to be more critical of the veracity of information that comes our way that is counter to our view. This is called My Side Bias (Baron, 1995). Myside bias is accompanied by a strong human urge to behave consistently. Thus, when faced with the idea that a benevolent God allowed the Holocaust to take place, or that we oppose abortion but support capital punishment, we creatively construct accounts that allow us to maintain at least superficially contradictory beliefs.

By joining advocacy groups, we tend to accept that groups position on things that we previously had no position on. Baron (2009), for example, has noted that the current Republican party espouses both an emphasis on free choice and an emphasis on legislating behaviors in the moral domain (e.g., forbidding abortion). But one does not have to go back far, to Barry Goldwater, to discover a Republican party leader who espoused free choice but not morality legislation. These two positions are in at least slight logical opposition to one another, but became the standards for an important group, and are espoused by many (but not all) members of that group. We are exposed to too much information and too many choices to handle. To deal with this, we adopt heuristics (rules of thumb) which help us negotiate and simplify these situations (Tversky and Kahneman, 1974). One heuristic, is what we can call a "halo" effect. We like the idea of dividing the world into the good and the bad, so when we decide

that something is good, we attribute all good properties to it (Baron, 2009). This, of course, works in opposition to a rational cost-benefit analysis. For example, people who prefer natural foods think that they are healthier, tastier, better for the environment, and even promote free trade! (Scott et al. 2014). These dimensions should be uncorrelated, but they cohere together to make natural a totally good category.

Finally, framing (contextualizing) has major effects on decisions. The public is not aware of this. I presume most people are in favor of an estate tax but against a death tax. Most people favor the patriot act but would be against another framing of it: The curtailment of individual liberty act. Most people prefer a diet that is 95 % fat free to a diet that is 5 % fat. People are not taught, outside of outright lying, how disputants can bias the presentation of their positions. Even scientists are much more idea entrepreneurs than people realize, especially those whose research has medical implications.

What Are the Public Health Facts that Might Be Candidates for Regulation?

I think it is fair to say that most people consider regulation as a necessary evil, rather than a desideratum in itself. One question is, when is a proposed regulation actually going to improve what it is designed to improve? One can then argue about whether curtailments in liberty are commensurate with increased public well being

I am going to restrict myself to potential regulation of foods. Although I am not an expert in this area, I know more about it than I do about other areas. It is clear that there is a relation between diet and health. No food or drink leads rapidly to death, and a huge excess of food increases the chance of choking to death, and to a shorter life. Bodies are very complicated, and they interact with a complex environment. We still don't know, after 50 years of intensive research, how our body controls our food intake. The only successful therapy for obesity, so far, is to reduce stomach size (bariatric surgery). Nutritional science is evolving, and it will continue to evolve and improve. We are not at present at the final understanding of diet and health, such that people should take too seriously the current nutritional advice. Unfortunately, many scientists in this area, and other non-professionals, arrive at an idea (which often has some merit) and promote it as the secret to weight loss or longevity. We just don't know that much, though we do know that most of the important things, like longevity, are a function of many different variables.

Like all of human life, nutritional science and its entry into the public domain are subject to fads. There are weight loss diet fads, and different foci, over time, about what is really good or bad to do in the domain of eating to increase longevity and health. Over the last few decades, there was period in

which sugar (sucrose) was thought to be public enemy number one, replaced by cholesterol, which is now on the decline. The idea that dietary cholesterol is so critical should have been suspect, since the liver synthesizes most of our cholesterol. Now, there is great interest in a positive diet component, anti-oxidants, as something that will reduce cancer risk. All of these fads had some reasonable science behind them, but it was distorted and exaggerated to be the simple magic bullet that people want.

We can assess the rise and fall of these fads by using Google ngram, which amasses an enormous number of scanned books. I determined the relative frequency in the corpus for each year in the last few decades, of three critical words: sucrose, cholesterol, and anti-oxidants. As can be seen in Fig. 1, sucrose peaked in the mid 1970s, cholesterol in the mid 1980s, and antioxidants are on the rise, perhaps leveling off in most recent years. The same data source shows a peak for cod liver oil in the early 1940s, unfortunately when I was a child, and a peak for oat bran in the 1980s.

What is surprising is how confident leaders in the health fields were (or seemed to be) about each of these dietary items. The cholesterol and anti-fat campaign lasted for decades, and is the reason that I have trouble finding full fat yogurt (which used to be a health food) in my supermarket. I think it will emerge again as a health food. Similarly, natural-organic food is a current fad, which it is my guess, will fade to some degree. The point is that before we even think about regulating something, we should be sure the supposed effects of the target substance (whether we should eat more or less of it) are robust. Over the 20th century, nutrition advice has changed considerably, on average getting better, but with many backslides. The only two pieces of advice that seem to have withstood the test of time are: don't eat too much, and eat a wide variety of foods. Those are two I personally endorse, and there is no need to regulate this. Of course there is a lot of other good

advice which people know well enough that it is not necessary to inform them or regulate anything. Examples are: Don't pick and eat wild mushrooms unless you are an expert, don't drink sewer water, and chew before you swallow.

Nutrition advice as purveyed by medical doctors to their patients, in the contemporary Western world, varies substantially by country. We have found (Leeman et al. 2011) that doctors attitudes to and beliefs about the diet-health connection are closer to those of lay people in their own country than to doctors in neighboring countries. For example, French doctors' views on diet and health are closer to French lay beliefs than they are to either German or American doctors' beliefs. This relation was predicted by the journalist, Lynn Payer (1996), in her excellent book, *Medicine and Culture*.

Nutrition fads feed on themselves for at least a while, before most fade away. In contrast to this, some medical discoveries have a major and enduring role in public health. For example, the strong link between smoking and health, and this is not controversial, has led to local laws restricting smoking and high taxes on cigarettes. There is little doubt that the substantial drop in smoking in the USA over recent decades has improved public health. But even this well documented positive intervention raises some important issues. The American freedom ethos appropriately resists being told what to do. Our moral system, as mentioned previously, focuses on harm to others. Critical to the smoking debate and the justification of cigarette taxes and smoking bans, is the idea that when X smokes, Y is hurt. There are two aspects to this claim. First, there is some evidence for negative effects of second hand smoke. This is critical. A great deal of motivated effort was devoted to discovering this link, because it was so important for the anti-smoking campaign. I am not an expert in this area, but I doubt that the negative health effects of second hand smoke are of the same order of magnitude as the negative effects of driving. The second argument for

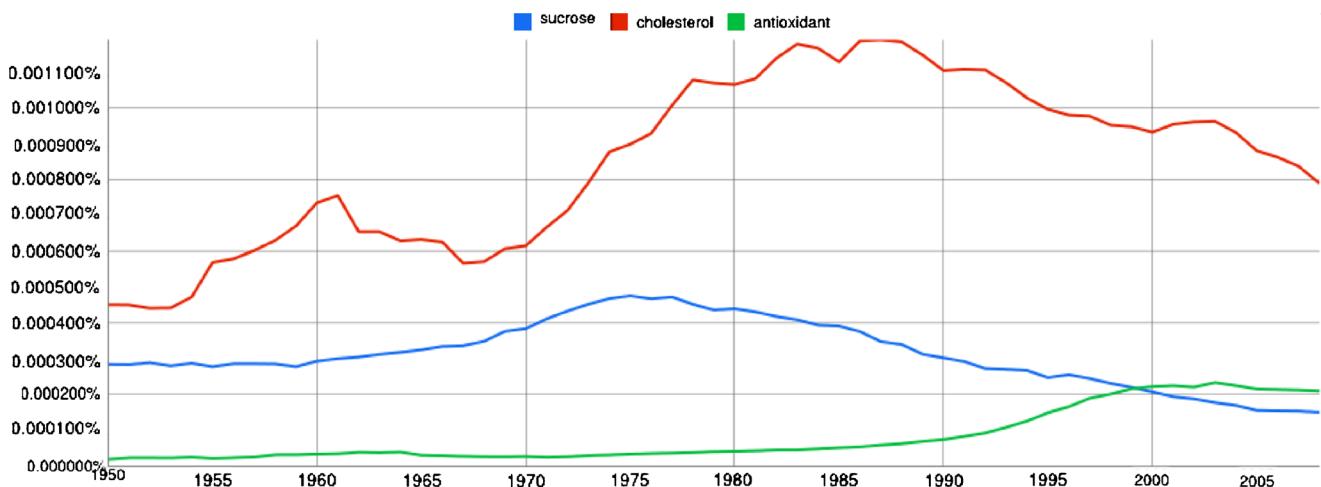


Fig. 1 Relative (to total words) frequency of the words cholesterol, sucrose, and antioxidant in English language publications by year (smoothed to 3-year intervals) from 1950 to 2008 (assembled from Google ngram)

harming others is that the negative health effects of smoking lead to more medical costs, which are ultimately passed on, in at least some cases, in the form of increased taxes. Now it is clear that over a fixed period of time, smokers incur more medical expenses than equivalent non-smokers. But they also live some 5–7 years less. Their lifetime medical expenses may be lower; lung cancer tends to be rapidly fatal in most people unfortunate to be so stricken. So it is at least possible that smoking saves the medical system money because it kills people considerably earlier. What is interesting about this possibility is that it has not stopped states from successfully suing tobacco companies to recover medical costs, and the tobacco industry has agreed to pay very large sums to the states, rather than openly confess that their product kills people prematurely.

In this whole debate about regulations to improve health, there is a surprising lack of concern for the public well-being costs of regulations. Taking an artificial sweetener off the market, or making smoking very expensive, deprives some citizens of one of their greatest pleasures. Just because we cannot measure that as precisely as we can longevity, does not mean we should ignore it.

So the first problem is that we have to know what imposed changes will improve the public health. That is problematic. There are some changes that might improve the public health, but will actually only benefit a minority of people. An example is sodium restriction. So far as I know, most people regulate their sodium levels well, and compensate for increased or decreased salt in their diet. For some people, salt intake may be related to blood pressure. What is the justification of imposing limits on a whole population, or even setting targets, when most people will reap no benefit at all, and will have less tasty food? Even if it is true that population longevity will be increased, this will be at significant cost in food pleasure to people who will not benefit from regulated levels of dietary sodium.

There is another problem with regulations in the domain of public health, independent of the curtailment of freedom. Proposed regulations may be ineffective. So far, the requirement of posting nutrition information (and particularly calories) in portions at chain restaurants, seems to have had no effect. We do not have any data on restriction of portion sizes, such as the proposed elimination of large beverage sizes in New York restaurants, on actual intake. There is some data that suggests that small decreases in portion sizes (say from a 16 to a 15 oz soda) that are maintained may have a net positive long term effect, but this is not yet established (Rozin et al. 2014). Bigger changes may be less likely to be successful. Some well-meaning changes may turn out to be counterproductive.

Availability is a major factor influencing food choice. This is obvious. For this reason, food chains have been encouraged to put salad on their menus, and they have done so. All of the

results are not in, but there is a suggestion that people eat more hamburgers and French fries when salad is on the menu! If true, the account might be that people feel that the restaurant is healthier when it serves salad, and this releases eating more of what they like.

The food and beverage industry are obviously very responsive to consumer demand. People wanted natural and organic foods, and they have appeared, as have gluten-free foods more recently. Low fat foods, and no fat foods like skim milk are readily available. Given the publicity for a link between portion size and obesity, with American portion sizes comparatively large, and higher rates of obesity in Americans (Rozin et al., 2003), food and beverage companies on their own have been producing smaller size soda cans, and smaller portions of other products. That is the best way to handle these things: nutritional science to the public to the food industry, not nutritional science to the food industry directly. Of course, there are cases, like regulation of toxins in foods, that must be overseen by government agencies.

Producing Changes in the Public Well-Being without Regulations

Clark McCauley, Barry Schwartz and I set out, almost 20 years ago to write a book in which we characterized the ways in which behaviors became established in a person's repertoire. We never completed the book, but the taxonomy I present below derives from our thinking.

Habitual, ritualized, without thought: At one extreme, people do things automatically without thought. We sometimes describe such activities as habits or rituals. This normally happens after many repetitions of a relatively simple action or set of actions. The most obvious example related to "public health", in contemporary culture, is the use of seat belts. For most people, it is just a part of entering a car, and requires no reminders.

Rational choice: The other extreme from habit and tradition is purely rational decision making. This involves considering all the alternatives and calculating the desirability of each in terms of whatever attributes are relevant. Then, one assigns a personal weighting to each attribute, and calculates a total value or utility. Until the last few decades, this was the model assumed by many economists, but it is too time consuming. One would never exit from the modern supermarket! Rather, it is now widely agreed, dating from classic work by Herbert Simon, that we sacrifice instead of optimize. We make a good, if not great decision, because the opportunity cost of an excellent decision is too high. We have a set of heuristics to use to make good, rule of thumb, approximations. We also may make some decisions carefully once, be it signing up for a credit card

or a health plan, and then just stay with it, rather than updating every month or even every year.

For many decisions we make, from cars to mops to meals, we do a tradeoff between price and quality. Most decisions are neither made automatically nor rationally, but rather by processes that fall between these extremes. For example, we can decide to do something because we like it or are addicted to it, or feel that it is morally correct.

In the critical domain of food, the major determinant of our choices, given availability and cost, is liking. We choose and eat the foods we like. And how do we get to like foods, or other entities such as music, furniture or cars, but not health plans?

Getting to Like Things

We have identified three processes that can cause a person to come to like (or dislike) something. They are briefly described here.

Mere exposure: You have to experience something in order to know what it is that you might like. This requires availability, that is, exposure. But exposure is more than a minimal first requirement. It seems that, in most cases, a modest number of exposures to something (consumption for food), can produce liking. It is called mere exposure, because it is simply exposure, without anything contingent on the exposure (Zajonc 1968). There is abundant evidence for this in many domains, but it does not always work. Most people can cite cases from their own experience, where extensive exposure did not produce liking, as with much modern pop music for people of my generation.

Evaluative conditioning: Another way to create a like for food or flavor X is to pair it with an already liked taste, for example, sugar. When this occurs, more often than not, the liking for the liked taste extends to the new taste paired with it (Zellner et al., 1983). This is a form of Pavlovian conditioning, which, when it induces likes or dislikes in humans, is called evaluative conditioning (De Houwer et al. 2001). This is presumably the process through which people come to like the taste and flavor of black, unsweetened coffee. The earliest coffee consumed is usually with cream and sugar, two innately positive mouth experiences. After many experiences of coffee-cream-sugar, the coffee itself becomes liked. The problem is that evaluative conditioning doesn't reliably happen in the laboratory, so it is difficult to analyze it.

The association of a flavor with another positive oral experience, evaluative conditioning, is very different from the rewarding of the consumption of a particular food or any other behavior. This type of sequence, commonly used by parents to get children to eat something, may have unintended negative effects. Not only is this not a good way to create likes, but it may reduce an existing like (Birch, Marlin and Rotter,

1984). It appears that when consumption is rewarded, the reward justifies the consumption, and this link may block liking. This is probably why people rarely get to like the taste of orally consumed medicines (such as chewable antacids) (Pliner et al., 1985). When parents treat a food as a medicine ("eat it, it is good for you"), they may be blocking liking acquisition.

Social effects and liking: Probably the major route through which liking is established is by being embedded in a positive social context. This could be a form of evaluative conditioning, but it may not fit that paradigm. Most of the time, when a food or flavor is consumed and enjoyed by admired others, the positive status of these others somehow converts into liking for the food. We don't know how this happens, or what contexts promote (or block) it.

Liking what you "should": intrinsic value: The dieter's dilemma is that favorite foods like chocolate, and other high fat and high sugar foods are both innately tasty, and also calorie dense and, in some cases thought to be low nutrient "unhealthy" as well as fattening foods. A dieter and/or health food enthusiast would have an easy life if she liked skim milk better than ice cream, and lettuce better than chocolate. For most Americans, their own beliefs about what is healthy (acquired from the media, the web, nutrition professionals) are not the principal guides to food choice. Such people would like to like what is described to them as healthy.

Some things are purchased and consumed for their intrinsic properties; we say the preference for these things is internalized (Ryan, Huta and Deci, 2008). Many people eat salad primarily because they think it is healthy, but they eat chocolate because it is inherently good. Its taste is inherent to chocolate, it defines chocolate. There is some research on what creates intrinsic values. For foods, it is largely liking the taste,

The concept of intrinsic value is best illustrated in the area of work. If work is enjoyed for its own sake, it can be described as a calling. If one's work is a calling, it is not limited to a working day, it is believed to make the world a better place, it is engaging, and it is not primarily a means of making money (Wrzesniewski et al., 1997). The opposite is a job, where "thank God it's Friday" holds. One works for the extrinsic reward of pay.

Moralization

People tend to do what they think is morally correct, and to avoid what they think is immoral. These beliefs are often reinforced at the social level in many ways, including, at the extreme, by laws and regulations. When there is widespread agreement about the moral status of a behavior, as for murder and theft, laws are accepted and not controversial.

If public health or anything else (e.g., abortion) enters the moral domain, a whole set of forces are unleashed which can transform practices, thoughts and norms. There is widespread agreement about certain moral matters, such as the immorality of murder or theft, and the morality of kindness, honesty and generosity. However, when it comes to matters that may involve public health, such as marijuana use, euthanasia, cigarette taxes, or fat taxes, there is substantial disagreement. When something is framed as a moral issue by many individuals in a culture, it becomes, for these people, resistant to compromise, and to some extent, resistant to empirical arguments. When an entire culture endorses something as a moral value, a number of consequences are likely to occur. In reviewing these consequences, I will use as an example the major changes in the last 30–50 years in the status of cigarette smoking in America (see Brandt, 2007; Rozin and Singh, 1999). Over this period, smoking cigarettes has gone from being a simple matter of preference to a quasi-immoral act. This conversion of a preference to a moral value is what I have called moralization (Rozin 1999). The reverse happens as well, and is occurring at present for attitudes to homosexuality and marijuana. This process can be called amoralization. With a substantial majority of a population framing a practice as moral or immoral, we usually observe a number of consequences (Brandt and Rozin 1997).

1. Government action, by the executive or legislative bodies, to promote or reduce the practice. In 20th century America, alcohol prohibition is a prominent example. More recently, high cigarette taxes and smoke free zones are examples in the moralization of smoking.
2. Individuals are entitled to publicly censure people doing something immoral, as happens often now with smokers.
3. Institutions become entitled to restrict or forbid an activity, as with smoking in university buildings on many campuses.
4. Research is funded generously to establish the basis for moral judgments. This is certainly the case for studies of the harmfulness of smoking. Most critically, since much of American culture, particularly the liberal half (Haidt, 2012), holds that morality is restricted to the domains of harm and fairness, it becomes important to show that others are harmed when a person smokes. Hence the major efforts to demonstrate the harm caused by second hand smoke, since otherwise, the smoker would only be hurting himself. As noted above, there is also the claim that smoking costs the public money via medical costs.
5. The powerful emotion of disgust is an effective way to recruit avoidance and condemnation. Disgust is frequently linked to some types of moral violations. It certainly is involved in the moralization of smoking, with strong negative reactions to cigarette stubs, smoke, and ashes, and in some cases to smokers (Rozin & Singh, 1999).

6. Surprisingly, parents are not very effective in transmitting their preferences to their children, even though they share genes with their children, and are a major part of their child's environment. This has been called the preference paradox (Rozin, 1991). The correlation between American parents and their adult children for preferences such as for broccoli or whole wheat bread, or oranges or acid rock music, or opera usually range between .15 and .20. On the other hand, in the same sample, parent-child correlations for values such as attitudes to abortion are about twice as high as the preference correlations. That suggests that parents are more effective in transferring their values as opposed to their preferences to their children. So in the moral domain, or after moralization, parental transmission is facilitated.
7. Evidence insensitivity. Moral beliefs are often axiomatic, and hence evidence insensitive. It is easy to change preferences (though not necessarily liking) with information about health risks, user descriptions of a product, or lower cost of an alternative. But values, with their strong moral component, are resistant to change with facts contrary to the value. People who believe in God (and those who don't) are very evidence insensitive. Work on opposition to genetically modified organisms in Europe shows that many Europeans consider GMOs a moral violation, and are not influenced by evidence on their minimal risks, and great benefits. (Scholderer & Frewer, 2003).

Moralization: How Does It Happen?

We are far from fully understanding how and when moralization occurs. However, we have information suggesting three forces that may promote it (Brandt and Rozin, 1997; Rozin, 1999).

Protestant based Prohibition Movements: Legal action based at least in part on moralization has often gone under the name of “prohibition.” Enactment of prohibitions in the last few centuries has occurred, within Western countries, almost entirely in predominantly Protestant countries. This may be because in comparison to most other religions, Protestantism emphasizes the important responsibility one has for one's own body and health.

Stigmatized minorities: “Spontaneous” moralization, or institutional/government action enforcing mores, seem more likely to occur when the focus of violations is a stigmatized minority group (Brandt and Rozin, 1997; Rozin, 1999). On the contrary, when a behavior or habit is practiced by the majority including admired members of society, the resistance to moralization is much greater. This is one reason that the moralization of cigarette smoking in the USA took many decades.

Harm to others, especially children: In the Western-developed world, the predominant moral system is based on autonomy (Shweder et al., 1997), or more specifically, explicit harm to others. Haidt (2012) analyzes the Western “liberal” moral domain as constituting harm and fairness. On the other hand, in most countries/cultures, there is a broader moral domain which includes respect for authority and violation of certain divine values (Shweder et al., 1997). Haidt has shown that these “communal” (authority/respect) and “divinity” codes are, in the United States, more commonly part of the moral world of conservatives as opposed to liberals. But in the United States perhaps the most widely shared moral value is a prohibition on harming others. It is for this reason that in the history of cigarette moralization in the USA, a critical factor was the demonstration that cigarette smoking by X harmed Y, where Y was either another individual or the general population. In accordance with claims about the damage to others from second hand smoke and medical costs of treating smokers, it was argued that smoking harmed others, and therefore was a moral violation.

Neither politically nor psychologically, is there a simple answer to when regulation is appropriate. It depends on individual and national value systems, quality of the data indicating a threat to public health or public well-being, the time course and severity of the threat, and the available alternatives to regulation. The latter includes communication of the relevant information, incentives and nudges. Regulation is intrusive and often expensive, the harm justification for regulation may be inaccurate, and possible regulations may backfire. The threshold for regulation should be rather high, but there certainly is a threshold. Like most policy issues, the answer is that it depends on the particulars, the risks and benefits, and their weighting in accordance with individual’s and government’s value systems.

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