

MODELING HEALTHY CHOICES: THE ROLE OF NUDGES AS A METHODOLOGICAL STRATEGY IN PUBLIC HEALTH

*MODELAGEM DE ESCOLHAS SAUDÁVEIS: O PAPEL DOS NUDGES COMO ESTRATÉGIA
METODOLÓGICA EM SAÚDE PÚBLICA*

DOI:

Henrique Ribeiro Cardoso¹

PhD in Law, State and Citizenship (UGF/Rio), with Post-doctorate
in Democracy and Human Rights (IGC - University of Coimbra)
and Post-doctorate in Human Rights and Development (PPGCJ/UFPB);
EMAIL: henriqueddi@academico.ufs.br
ORCID: 0000-0001-8592-7224

André Felipe Santos de Souza²

Graduated in Law from the Federal University of Sergipe (UFS).
EMAIL: andrefelipe@academico.ufs.br
ORCID: 0009-0006-3519-2008

RESUMO: Este estudo aborda a influência das ciências comportamentais na formulação de políticas públicas, utilizando a estratégia de nudge proposta por Richard Thaler e Cass Sunstein. Os Nudges têm como objetivo orientar sutilmente as escolhas individuais, promovendo o bem-estar sem restringir a liberdade de escolha. A pesquisa explora como o pensamento humano, que oscila entre os modos intuitivo e racional, pode ser direcionado por intervenções quase imperceptíveis para a adoção de comportamentos mais saudáveis e sustentáveis. A metodologia do estudo baseia-se na análise da literatura existente em psicologia e neurociência, destacando a eficácia dos nudges no alinhamento do comportamento individual com o bem-estar coletivo sem o uso de medidas coercitivas. Os resultados apontam para a possibilidade de melhorar a saúde pública e o bem-estar através de políticas que incorporem conhecimentos da economia comportamental, respeitando a autonomia individual e utilizando conhecimentos sobre a natureza humana. O estudo sugere que a aplicação destes princípios nas políticas públicas pode transformar significativamente a eficácia das intervenções governamentais, especialmente em contextos que exigem uma abordagem sensível e adaptada

¹ Public Prosecutor in Sergipe. PhD in Law, State and Citizenship (UGF/Rio), with Post-doctorate in Democracy and Human Rights (IGC - University of Coimbra) and Post-doctorate in Human Rights and Development (PPGCJ/UFPB); Master in Law, State and Citizenship (UGF/Rio); Specialist in Procedural Constitutional Law (FAPESE/UFS); Graduated in Law from the State University of Santa Cruz (UESC/Bahia); Professor of the Postgraduate Program at the Federal University of Sergipe (Masters/PRODIR/UFS); Professor of the Postgraduate Program at Tiradentes University (Doctorate/Masters/PPGD/UNIT); Professor at the Higher School of the Public Ministry of Sergipe (ESMP/SE); Member of the Sergipean Academy of Legal Letters (ASLJ/SE) and Leader of the Research Group on Constitutionalism, Citizenship and Implementation of Public Policies.

² Lawyer. Linked to the Postgraduate Program Degree in Law from the Federal University of Sergipe (PRODIR) as a regular student at the stricto sensu master's degree. Graduated in Law from the Federal University of Sergipe (UFS). Scholarship funded by the Coordination for the Improvement of Higher Education Personnel (CAPES). Member of the Council and Organizing Committee of the Extension and Research Center in International Relations (NEPRIN), linked to the UFS Law Department (DDI). Member of Research Group "Constitutionalism, Citizenship and Implementation of Public Policies".

às vulnerabilidades das populações. Esta abordagem não só respeita a autonomia individual, mas também aproveita a compreensão científica do comportamento humano para promover escolhas mais saudáveis e responsáveis, representando uma estratégia inovadora e eticamente consciente no desenvolvimento de políticas públicas.

ABSTRACT: This study addresses the influence of behavioral sciences on the formulation of public policies, using the nudge strategy proposed by Richard Thaler and Cass Sunstein. Nudges aim to subtly guide individual choices, promoting well-being without restricting freedom of choice. The research explores how human thinking, which oscillates between intuitive and rational modes, can be directed by almost imperceptible interventions to adopt healthier and more sustainable behaviors. The study methodology is based on the analysis of existing literature in psychology and neuroscience, highlighting the effectiveness of nudges in aligning individual behavior with collective well-being without the use of coercive measures. The results point to the possibility of improving public health and well-being through policies that incorporate knowledge from behavioral economics, respecting individual autonomy and using insights into human nature. The study suggests that the application of these principles in public policies can significantly transform the effectiveness of government interventions, especially in contexts that require a sensitive approach adapted to the vulnerabilities of populations. This approach not only respects individual autonomy, but also harnesses scientific understanding of human behavior to promote healthier and more responsible choices, representing an innovative and ethically conscious strategy in developing public policies.

PALAVRAS-CHAVE: Ciências do comportamento; Cutucadas; Direito Regulatório; Política pública.

KEY-WORDS: Behavioral sciences; Cudges; Regulatory Law; Public policy.

SUMÁRIO: 1 Introdução. 2 O direito à saúde como pilar da dignidade humana na constituição brasileira e no contexto internacional. 2.1 Análise Econômica do Direito e a Eficácia dos *Nudges* na Formulação de Políticas Públicas: Uma Abordagem Não Coercitiva para o Bem-Estar Social. 2.2 Reforçando Políticas Públicas através de *Nudges*. 3 Integrando *Nudges* e Economia Comportamental para aprimorar a Tomada de Decisão e o Bem-Estar Social. 3.1 Racionalidade Limitada. 3.2 Transformações Comportamentais e Políticas Públicas em Saúde. 4 Implementação e Desafios Éticos na Utilização de *Nudges* em Saúde Pública. 4.1 Metodologia de Implementação de Nudges em Políticas de Saúde. 4.2 Desafios e Limitações na Aplicação de *Nudges* na Saúde Pública: Uma Perspectiva da Análise Econômica do Direito. 5 Conclusão. 6 Referências.

1 Introduction

The evolution of behavioral sciences has provided a more detailed understanding of how human decisions are strongly influenced by the contextual circumstances in which they occur. This field of study is essential to the concept of nudges, a strategy proposed by Richard Thaler and Cass Sunstein aimed at subtly and non-coercively influencing individual choices. The central idea of nudges is to create environments that facilitate decisions promoting general well-being without the need for direct impositions, such as laws or mandates. This article seeks to explore the

potential of nudges in public policy formulation, investigating how these interventions can align individual behavior with broader social goals.

The underlying hypothesis is that by understanding the duality of human thought—divided between an intuitive, fast, and heuristic mode and a rational, slow, and deliberative mode—it is possible to develop effective behavioral interventions that respect individuals' freedom of choice. Psychology and neuroscience have significantly contributed to understanding how these two modes of thought influence decisions, suggesting that simple and almost imperceptible interventions can have a substantial impact on human behavior. This understanding underpins the application of nudges in various contexts, such as promoting healthy eating habits and reducing energy consumption.

The justification for using nudges in public policy lies in the need for solutions that are both effective and ethical, respecting individual autonomy. In a context where government intervention is often met with skepticism, nudges offer an alternative that promotes healthy and sustainable choices without compromising individual freedom. This approach is particularly relevant in scenarios requiring sensitive strategies adapted to the vulnerabilities of populations, where coercive interventions may be counterproductive.

The methodology of this study includes a comprehensive review of literature in psychology, neuroscience, and behavioral economics to identify the mechanisms through which nudges can influence human behavior. Additionally, case studies illustrating the practical application of nudges in public policies will be analyzed, providing insights into their effectiveness and the challenges associated with implementation.

In conclusion, this article suggests that incorporating behavioral economics principles into public policies can significantly transform the effectiveness of government interventions. By respecting individual autonomy and utilizing a scientific understanding of human behavior, nudges represent an innovative and ethically conscious strategy to improve public health and social well-being. In light of this scenario, the following question arises: how can nudges be implemented to maximize social benefits without compromising individual autonomy?

2 The right to health as a pillar of human dignity in the Brazilian Constitution and the international context

Social rights, explicitly listed in the Constitution of the Federative Republic of Brazil, reflect the principle of human dignity and form the foundation of fundamental rights, imposing on the public authorities the responsibility to fulfill their constitutional obligations³. Among these rights, the right to health stands out, enshrined as inalienable in Article 6 and expanded upon in Article 196 of the Constitution⁴. The latter proclaims health as a right of all and a duty of the State, to be guaranteed through the implementation of public policies aimed at promoting a dignified life for all citizens. In this context, the constituent assembly emphasized that health must be ensured for everyone through effective public policies designed to guarantee a dignified existence.

Since the ratification of the American Convention on Human Rights (ACHR) in 1992, also known as the Pact of San José, Costa Rica, Brazil has undertaken the commitment to protect not only civil and political rights but also economic, social, cultural, and environmental rights, as stipulated in Article 26 of the Convention. The State's obligation to develop these rights was highlighted in the case of the *Yakye Axa Indigenous Community vs. Paraguay*, adjudicated in 2005 by the Inter-American Court of Human Rights (IACHR). This case underscored the necessity of state measures to ensure human dignity, particularly for populations in situations of vulnerability, as observed:

A obrigação de garantir uma vida digna, de acordo com os artigos 1.1 e 4 da CADH está intimamente ligada à **obrigação do Estado** de desenvolver progressivamente os direitos econômicos, sociais, culturais e ambientais, os quais estão estabelecidos no artigo 26 da CADH. O desenvolvimento do direito a uma vida decente, juntamente com o artigo 26 da CADH, ficou evidente no caso da comunidade indígena *Yakye Axa vs. Paraguai* de 2005, onde a Corte IDH declarou que: 162. Uma das obrigações que o Estado inevitavelmente deve assumir, com o objetivo de proteger e garantir o direito à vida, é a de criar as condições de vida mínimas compatíveis com a

³ Vd.: Art. 6º São direitos sociais a educação, a saúde, o trabalho, o lazer, a segurança, a previdência social, a proteção à maternidade e à infância, a assistência aos desamparados, na forma desta Constituição. Translated as “Social rights include education, health, work, leisure, security, social security, protection of maternity and childhood, and assistance to the underprivileged, as provided for in this Constitution”.

⁴ Translated as “Health is the right of everyone and the duty of the State, guaranteed through social and economic policies aimed at reducing the risk of illness and other harm, and ensuring universal and equal access to actions and services for its promotion, protection, and recovery”.

dignidade da pessoa humana e a de não produzir condições que a dificultem ou impeçam. Nesse sentido, o Estado tem o dever de adotar medidas positivas, concretas e orientadas à satisfação do direito a uma vida digna, em especial quando se trata de pessoas em situação de vulnerabilidade e risco, cuja atenção se torna prioritária (grifo nosso)⁵ (Steiner, p. 147, 2020).

It is important to emphasize that the right to health is a right dependent on state intervention, achieved through the implementation of public policies aimed at supporting and providing social protection to the most vulnerable populations, that is, those who lack the resources to live with dignity (Comparato, p. 77, 2010).

Thus, recognizing the close connection between the right to health and human dignity, it is the responsibility of the State to define and implement effective public policies to fulfill this fundamental constitutional duty.

2.1 Economic analysis of Law and the effectiveness of nudges in public policy formulation: A non-coercive approach to Social Welfare

The implementation of insights from behavioral sciences in the formulation and optimization of public policies has become a growing global trend, especially in light of Economic Analysis of Law (EAL), which seeks to evaluate the economic implications of such policies. Within this framework, techniques such as nudges and the concept of libertarian paternalism have gained prominence, significantly influencing administrative practices at various governmental levels (Rocha, p. 238, 2022). These techniques offer a way to influence individuals' behavior in a non-coercive manner, preserving their autonomy while promoting social and economic well-being. EAL, in analyzing these mechanisms, focuses on how behavioral interventions can produce more cost-effective outcomes, minimizing adverse economic impacts and fostering choices that enhance social utility.

⁵ Translated as “The obligation to ensure a dignified life, according to Articles 1.1 and 4 of the American Convention on Human Rights (ACHR), is closely linked to the State's duty to progressively develop economic, social, cultural, and environmental rights, as established in Article 26 of the ACHR. The development of the right to a decent life, in conjunction with Article 26 of the ACHR, became evident in the case of **Yakye Axa Indigenous Community vs. Paraguay (2005)**, where the Inter-American Court of Human Rights (IACHR) declared: **162. One of the obligations that the State must inevitably assume, with the aim of protecting and ensuring the right to life, is to create the minimum living conditions compatible with human dignity and to refrain from creating conditions that hinder or prevent it. In this sense, the State has the duty to adopt positive, concrete measures aimed at satisfying the right to a dignified life, especially when it comes to people in situations of vulnerability and risk, whose attention becomes a priority**” (emphasis added) (Steiner, p. 147, 2020).

Thaler and Sunstein (p. 89, 2008) identify several factors that affect decision-making processes, including the ease of selecting among alternatives, the presentation of information, and adherence to social norms. According to behavioral economics, influencing choices is a constant phenomenon that occurs regardless of deliberate planning. From the EAL perspective, these influences are particularly relevant as they demonstrate that human behavior does not always conform to the rationality idealized by the traditional homo economicus model. Consequently, public policies based on nudges can reduce intervention costs by avoiding more intrusive measures, such as direct regulations or taxes, translating into greater economic efficiency.

The "choice architecture," a term describing the process through which decisions are shaped by contextual variables, is a central element of this analysis. According to Thaler and Sunstein, manipulating these variables should preserve the freedom of choice for individuals affected by the intervention, without resorting to prohibitions or significant economic penalties. For EAL, this approach represents progress, aligning public policies with principles of economic efficiency by minimizing regulatory costs and negative market effects. Instead of creating distortions through taxes or subsidies, nudges use subtler stimuli, enabling public policy objectives to be achieved with less impact on the state budget and citizens' economic freedom (Rocha, p. 241, 2021).

Libertarian paternalism, in turn, promotes interventions that guide individuals' choices while preserving their autonomy. In this regard, EAL provides a valuable lens for assessing the economic feasibility of such policies. By encouraging more rational choices that maximize well-being without directly interfering in the market, nudges avoid the costs associated with more interventionist policies. For instance, rather than introducing new taxes or subsidies to incentivize healthier behaviors, nudge-based policies can redesign the decision-making environment so individuals make choices that improve their health without requiring a direct increase in public spending. As the authors aptly state:

If people want to smoke cigarettes, eat a lot of sweets, choose an inadequate health plan, or fail to save for retirement, libertarian paternalists will not force them to do otherwise—or even make it harder for them. Nevertheless, the approach we recommend is considered paternalistic

because choice architects, both public and private, are not merely trying to track or implement people's anticipated choices. Instead, they are deliberately attempting to steer people in directions that will make their lives better. They nudge. A nudge, as we will use the term, is any aspect of choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives.

(Thaler; Sunstein, p. 8, 2008).

Thaler and Sunstein emphasize that a nudge is any aspect of choice architecture that modifies people's behavior in a predictable way without restricting options or significantly altering economic incentives. From the perspective of Economic Analysis of Law (EAL), this approach is advantageous because it combines regulatory efficiency with the preservation of freedom of choice, maximizing social welfare through low-cost interventions. By avoiding significant economic distortions, nudges provide an economical and practical solution to problems that traditionally would require more burdensome interventions. The aforementioned authors explain this technique as follows:

Nudge, in our conception, is a stimulus, a gentle push, a prod; it is any aspect of choice architecture capable of predictably changing people's behavior without forbidding any option and without any significant change in their economic incentives. To be considered a nudge, the intervention must be inexpensive and easy to avoid. A nudge is not a command. (Sunstein; Thaler, p. 13, 2009).

2.2 Strengthening public policies through nudges

Public policies have proven insufficient to ensure the effective enjoyment of fundamental social rights, particularly for the most vulnerable groups. In this context, it becomes necessary to adopt a new perspective, such as the application of Thaler and Sunstein's nudge theory in public policy formulation. This theory suggests creating a "choice architecture" that, without imposing, leads individuals to make more beneficial decisions, promoting well-being in line with Article 1, Section III of the 1988 Brazilian Federal Constitution, which establishes human dignity as a fundamental principle.

The approach known as libertarian paternalism, advocated by Thaler and Sunstein, does not involve coercion but rather facilitates the choices people would make if they had complete information and could adequately analyze their options. Instead of imposing or prohibiting behaviors, "choice architects" modify the decision-making environment so that individuals are naturally directed toward options

that enhance their well-being without compromising their freedom of choice (Sunstein; Thaler, p. 14, 2009).

In this sense, nudges represent a form of behavioral intervention that differs by not relying on mandates or prohibitions. Instead, they use subtle changes in the environment to influence behavior. These interventions can have significant impacts in various areas, such as public health and personal finances, demonstrating that small contextual changes can lead to substantial improvements in quality of life and human behavior (Sunstein; Thaler, p. 17, 2009).

The concept of nudges appears to have been strategically designed to appeal to the defenders of democratic values prevalent in the Western world. Ramiro and Fernandez (p. 1-18, 2017) argue that the application of nudges, particularly through state intervention, is relevant in contexts where systematic errors occur that economic agents cannot identify (Rocha, p. 22, 2021).

Furthermore, governments can use modern communication mechanisms and findings from Behavioral Economics to provide simple, safe, and accurate guidance to individuals affected by public policies. As highlighted by Chater (p. 116-128, 2015), these behavioral approaches can guide citizens' choices in ways that improve their well-being while preserving their autonomy (Klagenberg, 2019).

In summary, the nudge proposal is not only compatible with democratic values but also benefits from the latest scientific discoveries to create more effective and humanized public policies. This approach represents a significant advancement in how governments can interact with their citizens, using data and behavioral insights to promote collective well-being in a subtle, efficient, and respectful manner.

3 Integrating nudges and behavioral economics to enhance decision-making and Social Welfare

The theoretical constructs of Thaler and Sunstein offer an approach that enables the creation of a "choice architecture" without direct imposition, with the central objective of promoting individual well-being (Sunstein; Thaler, p. 17, 2009).

The nudge proposal, developed by Thaler and Sunstein, seeks to influence individuals' decisions without restricting their freedom of choice. The concept of "choice architecture" refers to the conscious and deliberate way of presenting different

options to a decision-maker. Interventions that alter how these options are presented are known as nudges.

In the context of Behavioral Economics, nudge policies aim to adopt simple and low-cost measures that, at the same time, respect individuals' freedom of choice, as illustrated by the following teaching:

The authors define Behavioral Economics as follows: it consists of amendments to traditional economic theory. It improves traditional economic analysis. Both traditional economics and behavioral economics assume that: 1) people tend to choose the best available option (optimization); 2) people tend to choose the best available option when interacting with others (equilibrium concept); 3) models must be tested with data (empiricism). Although Behavioral Economics emerged after the famous article by two Israeli psychologists (Daniel Kahneman and Amos Tversky) in 1979, Adam Smith had already addressed concepts of Behavioral Economics in his seminal works. The authors of the article list six principles⁶ of Behavioral Economics that should be introduced in an introductory economics course.

This analysis of Behavioral Economics leads us directly to the discussion of the concept of bounded rationality, the central theme of the next topic. Bounded rationality, proposed by Herbert Simon, refers to individuals' inability to process all the

⁶ In summary, in the authors' words: **1st Principle: People tend to choose the best option, but sometimes they fail.** Errors (or failures) are predictable. More experienced decision-makers tend to make better decisions. For example, it has been shown that people with more experience with credit cards tend to pay fewer fees. Thus, more experienced individuals tend to make optimal decisions.

2nd Principle: Individuals care about reference points. For example, if a person enters a casino with 200 reais, they will evaluate their losses and gains based on this reference point. Additionally, losses weigh much more than gains (a phenomenon called loss aversion). In general, people suffer twice as much from losses as they gain pleasure from equivalent gains. Loss aversion discourages trade. As a result, people avoid exchanges and stick with their assets (known as the endowment effect or status quo bias). That is, individuals believe the things they own are worth more than others, which leads to avoiding exchanges.

3rd Principle: People have self-control problems. For example, people plan to work hard, diet, exercise, and save more. However, they often fail to follow through. There is a gap between intentions and outcomes.

4th Principle: People care a lot about their material gains, but they also care about the intentions, actions, and gains of others. For example, in a game where individual 1 must decide how to divide 10 reais with individual 2, and if the second person rejects the offer, both get nothing. Generally, the first person offers at least 2 reais.

5th Principle: Market exchanges often eliminate the influence of psychological factors, yet these factors can still affect markets. For example, if investors with behavioral biases make up a small part of the market, rational investors will eliminate the influence of these biases on asset prices. Otherwise, the beliefs of biased investors will greatly influence the market, as seen in the tech bubble of 2000 and the 2008 financial crisis.

6th Principle: In theory, limiting people's options can protect them from cognitive biases. But in practice, highly paternalistic governments are unpopular and perform inconsistently. Successful paternalism: social security. Failed paternalism: prohibition of alcohol, sugar taxes.

necessary information to make perfectly rational decisions, which highlights the importance of nudges and choice architecture in facilitating more effective decisions.

In the context of public health policies, which will be explored later, this cognitive limitation becomes even more relevant, as health-related choices are often complex and involve long-term decisions. Thus, by understanding how human behavior can be influenced by contextual and emotional factors, we can develop more suitable interventions to promote healthy and sustainable behaviors.

3.1 Bounded Rationality

The theory of bounded rationality, developed by Herbert Simon, critiques the traditional concept of maximizing or substantive rationality, which assumes an unrestricted ability of individuals to optimize their choices and achieve their objectives in the best possible way. Simon questions this idealized view and proposes its replacement with the notion of bounded rationality.

Bounded rationality argues that decision-making occurs in a "unique world" composed of numerous variables that, in theory, could mutually influence one another, but, in practice, rarely do so (Melo; Fucidji, p. 622-645, 2016). This assumption implies a discrepancy between the relationships perceived by the decision-maker and those that objectively exist, given that individuals possess only a fragmented understanding of the conditions (Simon, p. S211-S212, 1986) surrounding their choices. This limitation prevents the establishment of a precise correlation between alternatives and outcomes (Koblitz, p. 267, 2008).

This perspective is central to bounded rationality, where complex problems are broken down into basic components. Simon (p. 7-29, 1983) argues that human beings navigate an extremely complex world by developing well-defined procedures for decision-making. Thus, even in the face of the complexity and interconnectedness of the world, individuals operate with bounded rationality, employing heuristics and simplifications to manage available information, focusing on the most immediate and comprehensible variables.

For Simon, making predictions about human behavior requires starting from descriptive microeconomics and observing people's behavior. The author's position advocates using the concept of procedural rationality in the decision-making process.

[...] when perception and cognition intervene between the decision-maker and his objective environment, this model [The [neo]classical theory] no longer proves adequate. We need a description of the choice process that recognizes that alternatives are not given but must be sought; and a description that takes into account the arduous task of determining what consequences will follow on each alternative. (Simon, 1959, p. 272).

For the author, bounded rationality offers a pragmatic approach to transforming unsolvable problems into solvable ones. He proposes "procedural rationality," which emphasizes the process of searching for alternatives and the idea of "satisficing" rather than total optimization. In this context, decision-making is not based on readily available alternatives but requires an active search for viable options. Thus, he states:

In *Administrative Behavior*, bounded rationality is characterized as a residual category – rationality is bounded when it lacks omniscience. The lack of omniscience primarily arises from failures in knowledge of alternatives, uncertainty regarding relevant exogenous events, and inability to calculate their consequences. There was a need for a more positive and formal characterization of the mechanisms of choice under conditions of bounded rationality. [...] Two concepts are fundamental for this characterization: search and satisficing [sic]. If the alternatives for choice are not initially available to the decision-maker, then they must initiate a process of searching for alternatives. Therefore, the theory of bounded rationality must incorporate a theory of search (Simon, p. 42, 1980).

The consequences of Simon's theory of bounded rationality led to the replacement of the "economic man" of classical theory with the "administrative man," characterized by limited knowledge. In his book *Administrative Behavior*, Simon strongly criticizes classical administrative theory, particularly its administrative principles.

However, as economic analysis increasingly deals with uncertainty, it becomes essential to consider the decision-making process. Recent advances in artificial intelligence and cognitive psychology have contributed to a deeper understanding of procedural rationality, providing new tools to comprehend the dynamics of choices and the influence of institutional structures in this process. After all:

[...] economics has always been more concerned with the outcomes of rational choice than with the process of choice itself. As economic analysis

requires delimitation with the dynamics of choice under uncertainty, it will become increasingly essential to consider the process of choice. Over the past twenty years, significant advances have been made in our understanding of procedural rationality as a result of research in artificial intelligence and cognitive psychology. The importance of these theories of the choice process in economics can provide immense assistance in defining our understanding of the dynamics of rationality and the influence of institutional structures on choice (Simon, 1976).

3.2 Behavioral transformations and public health policies

The adoption of new health-related behaviors has been a growing global concern. Implementing lifestyle changes, ensuring the continuity of these changes, and formulating effective public policies involve complex challenges. In this context, behavioral theories applied to the field of health play a crucial role, particularly in collaboration among various health professionals (Sunstein; Thaler, p. 171, 2009).

By replacing a sentence imposed by the State-Judge with a decision collaboratively constructed, it is possible to address the socioeconomic complexity of modern society. The Judiciary has recognized the utility of developing new social policies in this regard (Warat, p. 76, 1998).

Empowering patients to communicate and choose their solutions not only contributes to the emotional component but also creates an environment of support and listening. The presence of a mediator is essential to encourage the parties involved to express their concerns and work together to build a solution.

Joseph Folger and Tricia Jones emphasize that "communication is the sine qua non of conflict" (p. 51, 1997). For these authors, communicative behavior, both verbal and non-verbal, has the power to reflect and resolve conflicts. Furthermore, they understand communication from a perspective that views it as a socially constructed and managed reality. In this context, conflict emerges as a phenomenon that affects and is affected by the environment in which it develops, influencing both the meaning and behavior of the parties involved (Borges, p. 227-242, 2017).

4 Implementation and ethical challenges in the use of nudges in public health

The growing complexity of contemporary public health challenges demands innovative and effective approaches to promote healthy behaviors and improve population health indicators. Among these approaches, the use of nudges stands out—subtle behavioral interventions that guide individuals' choices without restricting

their options. Based on principles of behavioral economics and psychology, nudges aim to enhance everyday decision-making, positively influencing health habits (Santos, 2022) without resorting to coercive measures.⁷

However, the implementation of techniques such as nudges in public health policies involves not only the development of effective strategies but also the consideration of important ethical issues (Senna, 2022). Striking a balance between influencing behaviors for the common good and preserving individual autonomy is a central point of debate. Moreover, the effectiveness of nudges may be conditioned by contextual and behavioral factors, requiring ongoing analysis to ensure sustainable outcomes over time.

This section examines the methodology for implementing nudges in health policies, highlighting the essential steps for the success of these interventions. It also addresses key ethical issues, such as transparency, equity, and the potentially paternalistic nature of policies based on nudging. Finally, it discusses practical challenges and limitations faced in applying these interventions, offering a critical analysis of the conditions necessary to ensure their long-term effectiveness. By exploring these dimensions, the aim is to provide a deeper and more balanced understanding of the application of nudges in public health, promoting interventions that are both effective and ethically sustainable.

⁷It is worth highlighting the need for strategies that are not only innovative but also effective in promoting healthy behaviors. The emphasis on nudges, or "gentle pushes," represents a paradigm shift in how health interventions are conceived and implemented. Instead of relying on coercive or regulatory measures, nudges leverage insights from behavioral economics and psychology to subtly and non-invasively guide individuals' choices. This approach is particularly compelling as it acknowledges the complexity of human decision-making and seeks to work with this complexity rather than against it. By positively influencing daily habits through small changes in the environment or the way options are presented, nudges can lead to significant health improvements without causing resistance or compromising autonomy. This makes the approach more acceptable and sustainable in the long term, as it respects individual freedom of choice while promoting collective well-being. In this way, the use of nudges opens a vast field for innovation and creativity in health policies. From designing school cafeteria menus to promote healthier eating choices to creating vaccination campaigns that increase adherence, the possibilities are numerous. However, the effectiveness of these interventions depends on a deep understanding of human behavior and motivations, underscoring the importance of an interdisciplinary approach that combines theory and practice holistically.

4.1 Methodology for implementing nudges in health policies

The implementation of nudges in public health policies requires a systematic approach (Matias; Santos, p. 111-135, 2021) that integrates interdisciplinary knowledge from behavioral psychology, economics, and public health. The first step in this process is identifying the target behaviors to be influenced, such as adherence to medical treatments, regular physical activity, or the adoption of healthy eating habits.

Following the definition of objectives, it is essential to carry out the diagnostic phase (Souza; Ramos; Perdigão, p. 234-250, 2018), during which the behavioral barriers hindering the adoption of desired behaviors are analyzed. This step involves using tools such as surveys, interviews, and behavioral data analysis to understand the factors influencing individuals' decisions⁸.

Based on this diagnosis, nudging interventions are designed and tailored to the target behavior identified in the first stage. These interventions may include strategies such as persuasive messages, changes in choice architecture, or modifications to incentives (Leódido, 2022). Practical examples of nudges include reorganizing healthy foods to more visible locations in cafeterias or sending personalized SMS reminders to patients to take their medications (Fernandes; Nascimento; Belchior, p. 490-516, 2021).

The implementation phase of the interventions must be accompanied by rigorous monitoring and continuous evaluation to measure their effectiveness. Methods such as randomized controlled trials (RCTs) and interrupted time series analyses are widely used to assess the impact of nudges. A systematic analysis of the

⁸ The diagnosis of behavioral barriers is a crucial step in the process of implementing nudges in public health. At this stage, tools such as surveys, interviews, and behavioral data analysis are employed to identify and understand the obstacles preventing the adoption of desired behaviors. The importance of this step lies in the fact that human behaviors are complex and influenced by a multiplicity of contextual, psychological, and social factors. For instance, surveys might reveal that a lack of knowledge about the benefits of a particular vaccine, unfounded fears based on misinformation, or even logistical barriers such as difficulty accessing vaccination sites negatively impact adherence to immunization campaigns. Qualitative interviews can provide deeper insights into individuals' perceptions and motivations, while behavioral data analysis can uncover patterns and trends that are not immediately visible. By understanding these barriers, policymakers can design more precise and effective interventions. For example, if the analysis shows that the main barrier to adopting healthy diets is a lack of knowledge about preparing nutritious meals, the intervention might include cooking workshops and educational campaigns. Thus, diagnosing behavioral barriers not only informs the design of more effective nudges but also ensures that these interventions are contextually relevant and aligned with the needs and realities of individuals.

collected data is essential to determine whether the interventions are achieving the expected results and to identify any necessary adjustments.

4.2 Challenges and limitations in the application of nudges in public health: A perspective from the Economic Analysis of Law

The Economic Analysis of Law (EAL) can be a useful tool for examining the economic costs and benefits of nudges in public health, as well as addressing ethical challenges related to economic efficiency and social justice. The implementation of nudges in this sector faces several challenges and limitations that need careful evaluation. One of the main obstacles is the variability in human behavior (Oliveira, 2021), which can compromise the effectiveness of interventions. What works in one context may not be effective in another, requiring constant and tailored adaptations for different populations and environments (Costa, 2023). From the EAL perspective, this continuous adaptation process can increase implementation costs, which must be balanced against the expected benefits.

Another significant challenge is the sustainability of the effects of nudges. While many of these interventions show an initial positive impact, their effectiveness may decrease over time as individuals become accustomed to the intervention or develop resistance to it. In this sense, EAL suggests planning strategies to maintain long-term effectiveness, such as periodically introducing variations in interventions or combining nudges with other public policies, ensuring that additional costs for new interventions do not outweigh the benefits (Reis, 2023). Analyzing the trade-offs between the cost of intervention variations and their effectiveness is central to ensuring these policies remain efficient.

Moreover, measuring the impact of nudges is also a significant challenge (Santiago, 2022). Accurately assessing the effectiveness of these interventions can require substantial resources, especially in public health contexts where budgets are often limited. EAL emphasizes the importance of a rigorous cost-benefit analysis, as precise data collection and thorough analysis are essential to validate policy effectiveness. Additionally, it is crucial to consider external factors that may influence

outcomes, further complicating the evaluation process. These confounding factors⁹ can generate hidden costs that compromise the efficiency of the interventions.

Therefore, although nudges have the potential to positively influence health behaviors, it is essential that policies be implemented with rigorous economic analysis that considers not only efficiency but also social justice and respect for individual autonomy. The Economic Analysis of Law (EAL) suggests that, when evaluating the benefits and limitations of nudges, careful balance must be achieved between implementation costs, ethical challenges, and the social impact of these interventions, ensuring they are fair, effective, and economically viable in the long term.

5 Conclusion

The conclusion of this analysis highlights the central relevance of social rights in the Brazilian Constitution, with particular emphasis on the right to health as a fundamental pillar of human dignity, protected both by domestic legislation and international commitments, such as the American Convention on Human Rights. These frameworks underscore the necessity of effective public policies sensitive to the conditions of the most vulnerable populations, ensuring the real and appropriate implementation of fundamental rights. The case of the Yakye Axa Indigenous Community vs. Paraguay illustrates the importance of state actions that respect and

⁹ In the context of measuring the impact of nudges in public health, confounders refer to external variables that can influence the outcomes of interventions, making it challenging to accurately evaluate their effectiveness. These factors are called confounders because they obscure the relationship between the intervention and the observed results, introducing noise into the analysis. For example, if a nudge intervention is implemented to increase vaccination rates in a community, confounders might include other concurrent health campaigns or vaccination programs that could affect the outcomes. If a government launches a broad awareness campaign about vaccination at the same time as the nudge intervention, it can be difficult to isolate the specific impact of the nudge. Additionally, seasonal changes can influence adherence to certain health practices. For instance, during the winter, people may be more inclined to get flu vaccinations regardless of the nudge intervention. Similarly, festivals, health crises, or other community events coinciding with the implementation of the nudge could also affect the results. A disease outbreak in the community, for example, might increase vaccination rates independently of the intervention. Demographic and socioeconomic variations in the target population's characteristics, such as age, education level, income, and access to health services, can also influence the response to the intervention. Changes in public health policies, such as the introduction of new laws or regulations, could further impact the nudge's effectiveness. To address confounders, advanced statistical methods and carefully controlled study designs, such as randomized controlled trials (RCTs), are necessary. These approaches help isolate the effect of the intervention by controlling for external factors that might influence the outcomes. Rigorous analysis and consideration of confounders are therefore essential to ensure that conclusions about the interventions' effectiveness are valid and reliable.

promote human dignity, clearly affirming the duty of governments to guarantee a dignified life for all.

The integration of Economic Analysis of Law (EAL) and behavioral economics concepts, such as nudges, into public policy formulation is a promising innovation. These interventions, which respect individual autonomy while guiding choices toward collective well-being, provide an efficient and non-coercive alternative to traditional approaches. By using subtle stimuli to influence behaviors, nudges have the potential to significantly enhance the effectiveness of public policies without compromising citizens' freedom of choice.

Furthermore, the application of Herbert Simon's theory of bounded rationality is essential to understanding individuals' cognitive limitations and how these affect their decisions. By considering these limitations, policymakers can develop strategies that facilitate more informed choices aligned with the population's long-term interests, promoting health and well-being.

In summary, the theories discussed in this study, when applied ethically and conscientiously, have the potential to transform Brazil's public policy landscape significantly. The careful implementation of these approaches can contribute to a more just and equitable society, ensuring that public policies are not only formulated based on principles of social justice but also experienced in ways that promote the dignity and well-being of all citizens, particularly those in vulnerable situations.

6 References

BORGES, Rosa Maria Zaia. A mediação dos sentidos e os sentidos da mediação. **Revista Eletrônica Direito e Sociedade-REDES**, v. 5, n. 1, p. 227-242, 2017.

CHATER, Nick. A revolução da ciência comportamental nas políticas públicas e em sua implementação. In: ÁVILA, Flávia; BIANCHI, Ana Maria (org.). Guia de Economia Comportamental e Experimental. São Paulo: Economiacomportamental.org, 2015.

COMPARATO, Fábio Konder. **A afirmação histórica dos Direitos Humanos**, 7ª ed. rev. E atual. Saraiva, 2010.

COSTA, José Marcione da et al. O uso de *Nudges* na tomada de decisão de agricultores: um estudo bibliométrico. **Interface (Natal)**. Vol. 20, n. 2 (jul./dez. 2023), p. 120-140, 2023.

FERNANDES, André Dias; NASCIMENTO, Letícia Queiroz; BELCHIOR, Germana Parente Neiva. Green nudges: os incentivos verdes conferidos pelo Estado como meio de induzir comportamentos sustentáveis. **Revista Jurídica**, v. 1, n. 63, p. 490-516, 2021.

FOLGER, Joseph P. BUSH, Robert A. B. Ideología, orientaciones respecto del conflicto y discurso de la mediación. In: FOLGER, Joseph P. JONES, Tricia S. (comps.). **Nuevas direcciones en mediación. Investigación y perspectivas comunicacionales**. Buenos Aires: Paidós, 1997. pp. 25-53.

KLAGENBERG, A. A Economia Comportamental e o uso de nudge em políticas públicas. Trabalho de Conclusão - Curso de Graduação em Ciências Econômicas, Faculdade de Ciências Econômicas, Universidade Federal do Rio Grande do Sul, Porto Alegre, 2019. Disponível em: <https://lume.ufrgs.br/handle/10183/205630>. Acesso em: 10 fev. 2024.

KOBLITZ, A. Simon e Racionalidade Limitada. **Economia e Desenvolvimento**, vol. 7, no. 2, julho/dezembro, p. 267, 2008.

LAIBSON, David; LIST, John A. Princípios de economia (comportamental). ↑ **American Economic Review**, v. 5, 2015.

LEÓDIDO, Diógenes Emidio. **Nudges digitais com chatbots: uma solução de apoio à fisioterapia pós-cirúrgica do ombro**. 2022. Dissertação de Mestrado. Universidade Federal de Pernambuco.

MATIAS, João Luís Nogueira; SANTOS, Luciana Rêgo dos. Alimentação, saúde e meio ambiente: os nudges como instrumento para uma alimentação saudável e sustentável no Brasil. Nomos: **Revista do Programa de Pós-Graduação em Direito da UFC**, Fortaleza, v. 41, n. 1, p. 111-135, jan./jun. 2021. Disponível em: <http://www.periodicos.ufc.br/nomos/article/view/62771>. Acesso em: 29 maio 2024.

MELO, Tatiana Massaroli; FUCIDJI, José Ricardo. Racionalidade limitada e a tomada de decisão em sistemas complexos. **Revista de Economia Política**, v. 36, n. 3, p. 622-645, 2016.

OLIVEIRA, Milene Mendes de; LEITE, Juliana Pires de Arruda; RIBEIRO, Beatriz Couto. Ciências comportamentais e inovação em governo: um mapeamento nos Laboratórios de Inovação do Setor Público (LISP) do Brasil. **Seminários do LEG**, n. 12, 2021.

RAMIRO, Thomas; FERNANDEZ, Ramon G. **O Nudge na prática: algumas aplicações do paternalismo libertário às políticas públicas**. Textos de Economia, Florianópolis, v. 20, n. 1, p.01-18, 13 nov. 2017. Disponível em: <http://dx.doi.org/10.5007/2175-8085.2017v20n1p1>. Acesso em: 22 maio. 2024.

REIS, Gláucia Figueiredo. **Efeitos da aplicação de nudges na conformidade tributária de empresas brasileiras**. 2023. Tese de Doutorado. Fundação Getúlio Vargas (FGV), 2024.

ROCHA, César Antônio Alves. Nudges e paternalismo libertário: apontamentos sobre questões emergentes. **Revista Brasileira de Terapia Comportamental e Cognitiva**, v. 23, 2021.

SANTIAGO, Thatiany Mendes de Oliveira. **O uso de nudges em correspondências postais e seus efeitos na conformidade espontânea dos contribuintes: uma avaliação de impacto**. 2022. Tese de Doutorado. Fundação Getúlio Vargas (FGV), 2023.

SANTOS, L.R. Comportamento, vacinação e direito à saúde: o uso de insights comportamentais como ferramenta complementar para o combate à redução vacinal infantil no Brasil. 2022. Dissertação (Mestrado em Direito) – **Universidade Federal do Ceará**, Fortaleza, 2022.

SENNA, Carolina Uehara. **NudgeRio**: inovação para além do Corcovado? 2022.

SIMON, Herbert A. Pesquisa e raciocínio na resolução de problemas. **Artefato. Intel.**, v. 1-2, pág. 7-29, 1983.

_____. Rationality in Psychology and Economics. **Journal of Business**, vol. 59, no. 4, parte 2, outubro, 1986.

_____. A Behavioral Model of Rational Choice. **Quarterly Journal of Economics**, vol. 69, no. 1, fevereiro, p. 272, 1959

_____. **Reason in Human Affairs**. Stanford: Stanford University Press. p. 42, 1980.

_____. **Administrative Behavior**: A Study of Decision-Making Processes in Administrative Organization, Third Edition, The Free Press, Collier Macmillan Publishers, London, UK, 1976.

SOUZA, Luciana Cristina; RAMOS, Karen Tobias França; PERDIGÃO, Sônia Carolina Romão Viana. Análise crítica da orientação de cidadãos como método para otimizar decisões públicas por meio da técnica nudge. **Revista Brasileira de Políticas Públicas**, v. 8, n. 2, p. 234-250, 2018.

STEINER, Cristão; GRANADOS, Patrícia Uribe (Org.). **Convenção Americana sobre Direitos Humanos: comentada**. Suprema Corte de Justiça da Nação, 2ª ed., 2020.

THALER, R.; SUNSTEIN, C. **Nudge**: Improving decisions about health, wealth, and happiness: Yale University Press, New Haven, CT, 2008, 293 pp, 2009.

_____. Nudge: Melhorando as decisões sobre saúde, riqueza e felicidade. In: **Fórum Jurídico de Amsterdã; HeinOnline: On-line**. 2008. pág. 89.

WARAT, Luís Alberto. **Em nome do Acordo** – A mediação no Direito. 2ª Edição. Editada por Associação Latinoamericana de Mediação, Metodologia e Ensino do Direito. ALMED, p. 76, 1998.

Como citar:

RIBEIRO, Henrique Cardoso. SANTOS, André Felipe de Souza. Modeling healthy choices: the role of nudges as a methodological strategy in public health. **Revista do Programa de Pós-Graduação em Direito da UFBA – Journal of the Graduate Program in Law at UFBA**, Salvador, v. 34, p. 1-19, 2024. DOI: (endereço do DOI desse artigo).

Originais recebido em: 12/12/2024.

Texto aprovado em: 12/12/2024.