How to cite:
Hortal, A. (2024) Thriving by Design:Can Behavioral Economics and Public Policy Shape Virtuous Lives? *Behanomics, 2,* 106-128.
DOI: https://doi.org/10.55223/bej.15

Behanomics
Year 2024
Volume 2

EDITORIAL SECTION / SECCIÓN EDITORIAL CRITERIO PROPIO

Thriving by Design:Can Behavioral Economics and Public Policy Shape Virtuous Lives? Prosperando por Diseño: ¿Pueden la Economía Conductual y las Políticas Públicas Formar Vidas Virtuosas?

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ABSTRACT
Drawing on behavioral economics, nudges (policy interventions based on choice architecture) have the capacity to strategically shape policymaking, subtly guiding individual behavior by adjusting their decision environment. Applied to enhance vaccinations, boost retirement savings, or promote healthy habits, these interventions align with consensus-defined well-being. As governments adopt nudges, scholars have explored their role in fostering virtues. This paper argues that nudges have the potential to efficiently contribute to virtuous development by instilling and sustaining habits, respecting individual choice, and ensuring deliberation. It introduces the concept of virtue nudges, emphasizing the alignment of habits with virtues for targeted behavioral change and the formation of morally virtuous habits.

RESUMEN
Basándonos en la economía del comportamiento, los *nudges* (intervenciones de política basadas en la arquitectura de elección) tienen la capacidad de dar forma estratégica a la formulación de políticas, guiando sutilmente el comportamiento individual ajustando su entorno de decisión. Aplicados para mejorar las vacunaciones, aumentar los ahorros para la jubilación o promover hábitos saludables, estas intervenciones se alinean con el bienestar definido por consenso. A medida que los gobiernos adoptan los *nudges*, los académicos han explorado su papel en fomentar virtudes. Este artículo sostiene que los *nudges* tienen el potencial de contribuir eficientemente al desarrollo virtuoso al inculcar y sostener hábitos, respetando la elección individual y asegurando la deliberación. Introduce el concepto de *virtue nudges*, enfatizando la alineación de hábitos con virtudes para un cambio de comportamiento dirigido y la formación de hábitos moralmente virtuosos.

PAPER HISTORY
Received: 03-02-2024
Accepted: 15-04-2024

PALABRAS CLAVE
Economía Conductual, Virtud, Políticas Públicas Conductuales, *Nudges*, Hábitos

KEYWORDS
Behavioral Economics, Virtue, Behavioral Public Policy, Nudges, Habits

Agradecimientos o financiamiento
Grateful thanks to the *Work in Progress* sessions at Wake Forest University's Philosophy Department and especially Dr. Christian Miller for their pivotal insights in this study.

1. Introduction: Rationality, Irrationality, and Choice Architecture

Before the 1950s, prevailing views in public policy and economics operated on the assumption that humans were entirely rational, consistently self-interested, and driven solely by the pursuit of utility maximization. However, a paradigm shift emerged through the works of thinkers such as Herbert Simon, Maurice Allais, Daniel Kahneman, and Amos Tversky. These scholars challenged the validity of models based on the assumption of human perfect rationality. Herbert Simon, in particular, critiqued the idealistic model and put forth an alternative perspective on human decision-making. According to Simon, human rationality is constrained by cognitive capacity, memory limitations, reaction time, and the complexity of the surrounding environment. In contrast to the optimization assumption, Simon introduced the concept of "satisficing," (1956) suggesting that individuals do not always seek to maximize utility but rather aim for satisfactory or "good enough" outcomes given their cognitive constraints. This marked a departure from the earlier paradigm, emphasizing a more realistic and nuanced understanding of human behavior in economic and policy contexts.

Following Simon's line of research (with essential differences that this paper will not examine), Amos Tversky and Daniel Kahneman proposed that our rationality is systematically and predictably bounded (1974). When deciding, people tend to rely on heuristic processes which make us prone to biases. These biases, our limited cognitive capacities, and the complexity of the environment in which we make decisions increase the difficulty of behaving according to what we think is right and acting in a way that would improve our wellbeing (financial or otherwise). This separation from the normative rational standards can frequently be observed in people's behavior: even in cases where they have the desire and the means to do it, people often fail to eat healthily, save money, meet deadlines, or exercise. Recent literature has extensively examined cognitive (or epistemic) biases; however, with a few exceptions, moral biases have primarily been characterized as distortions of our moral behavior driven by self-interest (Croson & Konow, 2009). Nonetheless, there are instances where our morality may be constrained by our rationality beyond self-interest. Both moral intuitions and decisions can be influenced by cognitive biases to the same extent as our economic or financial choices (Caviola et al., 2014). In other words, our moral judgments may be impacted by biases, and we might not always act in alignment with our moral principles because of the intricacies of the decision-making context, the constraints of our memory, and our limited and biased cognitive abilities. Part of what this paper argues that choice architecture, including nudges, can help address these challenges.

Some authors have considered three types of interventions to mitigate the effect of biases in intellectual virtues: virtue epistemology, epistemic paternalism, and epistemic collectivism. The first assumes that epistemic biases can be reduced through educational interventions that help us realize our own epistemic arrogance (lack of awareness of biases and no response to them), among other epistemic flaws. Accordingly,

to remediate these epistemic biases, we can cultivate intellectual humility (among other epistemic virtues) by employing "rule-based thinking, emphasizing accuracy and accountability, and taking on foreign perspectives" (Bland, 2022, p. 69).

Epistemic paternalism is the idea of guiding or influencing a person's beliefs or knowledge for their perceived benefit, even if it overrides their autonomy. It comes in "hard" (intrusive) and "soft" (less intrusive) forms. Some see it as a way to protect vulnerable individuals, while others argue it infringes on personal freedom. The acceptability of epistemic paternalism can vary across cultures and contexts, and examples include doctor recommendations, government warnings, and educational influence. It's a complex ethical issue balancing individual autonomy and well-being. A paternalist approach to ameliorate these biases in intellectual virtues, therefore, would focus on externalities. Under this procedure, experts can concentrate on aspects of the environment to make epistemic processes more accessible. For example, providing information in frequencies instead of relative probabilities can give people a better understanding of the situation (Gigerenzer, 1996).

The third approach would consider that the solution may be found in crowd knowledge or collective deliberation (some elements of Habermas and Popper share this approach). Hence, we can reduce confirmation biases in people in dialogical scenarios where individuals share their perspectives, and the group has the capacity to check the different individual approaches:

> [I]n many cases, no single participant had the correct answer to begin with. Several participants may be partly wrong and partly right, but the group will collectively be able to retain only the correct parts and thus converge on the right answer. This leads to the assembly bonus effect, in which the performance of the group is better than that of its best member (Mercier & Sperber, 2011, p. 63).

From a public policy standpoint, experts ought to address not only epistemic virtues but also take into account the moral virtues that underpin various forms of behavior, be it social, financial, or related to health, among others. There are situations in which policymakers should develop interventions aimed at individual maximization, often driven by self-interest, like saving for personal retirement. Conversely, there are scenarios where the focus should be on fostering prosocial behavior. At times, individuals may struggle to align their choices with their deeply held values, a concept known as expressive rationality. In such cases, nudges or other interventions based on choice architecture can provide valuable guidance. In other instances, the issues may revolve around pursuing individual gains, a facet of instrumental rationality.

Behavioral public policy, with a particular focus on nudges, plays a vital role in assisting individuals in addressing issues related to epistemic and moral biases. These strategies can guide us toward moral virtuousness by shaping our choice environment, a concept akin to moral libertarian paternalism and reminiscent of epistemic paternalism. By orchestrating the choice architecture, these policy approaches can help individuals become more aware of their biases.

For instance, they can illuminate the biases people share in specific situations, much like the way the judicial system informs judges of potential biases in certain scenarios. Furthermore, they can highlight choices related to generosity or justice, thereby promoting ecological justice or compassion for animals. A practical example of this is when restaurant menus emphasize or increase the vegetarian options (Parkin & Attwood, 2021) while providing information on the moral reasoning behind such emphasis.

These interventions can also adopt a collective approach, focusing on informing people descriptively about the moral decisions made by others instead of prescribing specific behaviors. Research, such as Goldstein et al. (2008), suggests that such descriptive information can be more effective. For instance, informing hotel guests that most of their fellow customers reuse towels to conserve water is more persuasive than simply stating that such behavior is better for the environment.

In essence, these policy measures can address a range of issues, from saving water and adopting healthier lifestyles to preparing for retirement and complying with taxes. These actions are all interconnected with virtues such as honesty, justice, love, generosity, and more. When individuals comprehend the reasons behind their choices and how these reasons align with virtuous principles, they are more likely to make morally sound decisions in their lives.

Since Thaler and Sunstein published *Nudge* in 2008, public policymakers have used this strategy to change people's behavior without limiting their choices. While Thaler and Sunstein claim that choice architecture, in general, and nudges, in particular, have been used for good and evil (Thaler & Sunstein, 2021, p.131), they maintain that what is distinctive is the purpose of the behavioral change sought to be achieved. To this end, they emphasize that decision architecture should aim to help people make better decisions "as judged by the choosers themselves" (Thaler & Sunstein, 2021, p. 7). Since they do not remove options and are not based on bans, mandates, financial penalties, or fees, they can be considered a libertarian approach to policymaking.

Nudges exhibit a dual nature, encompassing elements of both libertarianism and paternalism. When nudges are employed, the choice architect harbors a specific behavioral transformation in mind, striving to guide individuals' actions accordingly. Notably, the issue of whether nudges lean more towards libertarianism

or paternalism has sparked ongoing debate (Hausman & Welch, 2010). Nevertheless, their appeal to practitioners remains undeniably strong due to their cost-effectiveness and efficiency. The following sections of this article explore the possibility of governments and other agencies using the libertarian paternalism of the nudge approach to make people more virtuous in an updated Aristotelian sense.

Libertarian Paternalism as a possible Policy Path to Virtuous Life

Policymakers have various options to influence behavior, including mandates, bans, financial rewards and penalties, recommendations, and educational interventions. Mandates and financial penalties can restrict freedom but are often used to prevent harm to others or oneself. Interventions that restrict freedom can have ethical and political consequences, so policymakers try to respect individual choices when possible. In some cases, mandates are necessary to protect those who cannot choose, such as universal healthcare or vaccination mandates in health settings. These mandates also protect the freedom of others by ensuring that they are not restricted by the actions of others.

Mandates and similar regulations are also effective in ensuring that people do not restrict the freedom of others, especially those referred to by Amartya Sen (1999) under his notion of capabilities: political freedoms, economic facilities, social opportunities, transparency guarantees, and protective security.

Considering our (bounded) rationality, more and more mandates have been incorporating behavioral insights. The efficiency of mandates and bans has increased after practitioners abandoned the perfect rationality model in agents that assumed that individuals would behave as maximizers with full cognitive capacities (*homo economicus*) and started to embrace a behavioral approach. Following this line of thought, Adam Oliver developed in 2018 a conceptual framework to understand the different components of behaviorally informed public policies. For example, *shoves* and *budges* (Oliver, 2018) are regulatory (liberty-restricting) behavioral interventions. While shoves restrict individual freedoms (smoking ban), budges are applied to private companies, agencies, or institutions to protect people's freedom. Not allowing gambling advertising on TV during the mornings to prevent children from watching is a budge. The law to fight unrealistic beauty standards that passed in Norway in 2021 requiring influencers and advertisers to label retouched photos is also a budge.

Mandates and bans do not always work, and their effect may dissipate with time. In scenarios when citizens do not understand the reasons behind them or are opposed to the behavioral change they want to implement, mandates and bans can backfire and may not be as effective as other types of interventions.

Neglecting people's actual decision making skills can backfire: a vaccine mandate without carefully considering the empirical reality of our decision-making can cause the opposite effect and increase hesitancy and refusal. For example, in cases where security measures are mandated, risky behavior may increase, diminishing the impact of the intervention. This is known as the Peltzman Effect (Peltzman, 1975), and some researchers are finding similar cases related to COVID-19 (Iyengar et al., 2022). Vaccination mandates, for example, in some countries, have caused the opposite effect (Hortal, 2022). Research also shows that financial rewards (a type of regulatory measure) may not be effective in particular circumstances: attempting to boost blood donation with financial incentives (as if we were *homo economicus*) may reduce the number of participants (Mellström & Johannesson, 2008).

While educational interventions are often deemed indispensable from a political and ethical standpoint, their deployment can be costly and intricate. Such interventions are typically implemented through mandates and recommendations, yet their efficacy can be limited due to our bounded rationality, as knowledge does not always translate into action. For instance, individuals may possess comprehensive knowledge about how to lose weight and lead a healthy lifestyle, and may even desire to do so, but often struggle to put this knowledge into practice. As a result, despite their potential benefits, educational interventions may face significant challenges in achieving their intended outcomes. This is what psychology and behavioral economics call the intention-behavior gap (Sheeran and Webb, 2016).

Nudges can be an alternative that does not have to rely on the coercive strategy of mandates or the hope that education may translate into action. Nudges are behaviorally informed and non-regulatory. Since a choice environment is unavoidable, choice architects can organize it in a way that may change people's behavior purposefully, allowing them to decide according to what they think is right (trying to counterbalance the negative influence of our bounded rationality and the complex structure of the environment). A vegetarian default meal on a menu (Hansen et al., 2021), the default allocation of part of your salary in a retirement account (Camilleri et al., 2019), the wording in a text scheduling your vaccination explaining that it is waiting for you (Milkman et al., 2021), or a personalized email nudge to improve student homework (Smith et al., 2018) are examples of successful nudges that have influenced people's behavior increasing their wellbeing without manipulation or restricting their freedom.

According to Thaler (2015) to be a nudge, an intervention must respect autonomy, be transparent, and never be misleading. It should be as easy as possible to avoid, and there should be a good reason to believe that the behavior being encouraged will improve the welfare of those being nudged. For example, Luc Bovens (2009) claims that nudges can solve agency problems like ignorance, inertia, akrasia, queasiness, exception, and social benefits.

Nudges are efficient, cost-effective, and can increase habituation and deliberation. In this last regard, a type of nudge called *nudge plus* (Banerjee & John, 2021) adds a reflective component that integrates an element of self-awareness and internal deliberation (transparency labels about nudges, cooling-off periods, self-pledges, and commitment programs are examples of nudge plus). Since they have the capacity to foster deliberation and respect the freedom to choose, being nudged does not necessarily equal to being manipulated.

While nudges are a prominent tool in public policy, they are not the only approach that utilizes behavioral insights. In addition to nudges, we have already described *budges* and *shoves*. *Boosts*, a different appraoch discussed by Hertwig and Grüne-Yanoff (2017), refer to non-regulatory, non-monetary educational interventions aimed at improving individuals' decision-making skills using principles from the behavioral sciences. Boosts can educate individuals in making better choices, whether in the realm of finance or nutrition, by imparting simple rules of thumb. It is important to note that educative nudges and boosts can coexist and complement one another in the realm of policymaking, with the potential for long-lasting effects on behavior and habits.

This section has also underscored the growing impact of evidence-based public policy interventions, emphasizing the increased utilization of nudges due to their cost-effectiveness and efficacy in influencing behavioral change. Nudges are particularly well-suited for encouraging virtuous behavior, owing to their libertarian approach, capacity to instill and sustain habits, and their potential for enduring effects. This nuanced perspective offers a more comprehensive understanding of the diverse tools available to policymakers in their efforts to foster positive societal outcomes.

Virtues and Nudges

Your passage is well-written and already quite clear and formal. However, I can suggest a few stylistic adjustments to enhance the flow and clarity: In the classical sense, living a virtuous life is seen as the way to achieve well-being and fulfill our human nature. It involves nurturing ethical qualities and seeking equilibrium in both our actions and emotions. This perspective is rooted in the belief that understanding and embodying virtue—through recognizing what is good, finding the middle ground between extremes, maintaining self-control in adversity, and pursuing happiness rationally—is crucial for a life that is both full and meaningful. This philosophy advocates for ongoing self-enhancement and thoughtful examination of one's actions and aspirations, striving for an ideal characterized by wisdom, justice, moderation, and courage. Integral to a virtuous existence is the commitment to live by the values one deems correct. While this article does not

intend to examine moral complexities in depth, it does consider moral virtues to be overarching prescriptions for appropriate behavior and fundamental to flourishing in life. These virtues encompass qualities like moderation, generosity, compassion, honesty, solidarity, fortitude, justice, and patience. Virtues are character traits that guide individuals to do what is right and avoid what is wrong according to their judgement and values. To be morally virtuous, a person must act in accordance with their virtues, align their actions with reason, and possess the willpower to consistently do so. Since nudges are mostly transparent, do not coerce, help in habit formation, and can include an element of deliberation, they may help encourage and promote virtuous behavior by making it the easiest choice. This article proposes that, in the classification of nudges (nudge plus, meta-nudges, educational nudges, self-nudges, etc.), we can distinguish a unique category that has the potential to help people become virtuous: *virtue nudges*. A virtue nudge, therefore, must make it easier for people to act according to virtue while affecting their habits and fostering deliberation. The existence of virtue nudges does not imply that they should be the only cause of virtue and that experts can deploy them in isolation to form virtuous citizens. Above all different policy approaches, nudges have the advantage of respecting the freedom to choose, which is indispensable to distinguishing virtuous behavior (when people are forced to act in specific ways, we do not see their virtuous character). Nudges are easily avoidable and do not manipulate conduct: nudged people don't behave against their will and always express their intention.

People are not just virtuous or vicious. There is a gradient in which, in a different setting, people will express or not part of their moral character. Since the structure of the environment affects the way we make choices, altering this structure to make good behavior salient does not have to raise ethical issues, nor should we think that nudged people are less virtuous than those who are not nudged. Setting up the choice environment with a particular disposition of choices is unavoidable. For example, if the choices in a school cafeteria are pizza and salad, and you have two spots available where one must be in front of the other, some type of order is inevitable. If organizing a school cafeteria to make healthier choices more salient increases their consumption and decreases the consumption of less healthy alternatives, why not do it? Similarly, reducing the size of the plate in hotel restaurants decreases food waste by 20% (Kallbekken & Sælen, 2013).

In the Book II of *Nicomachean Ethics* (1999, p. 20), Aristotle claims that there are two kinds of virtues: intellectual and moral. Intellectual virtue can be taught and requires experience and time, while moral virtue results from habit. Virtues, he explains, appeared as the result of exercise. That is, we learn them by doing them (Aristotle, 1999, p. 21), and a good legislator should help in forming those habits:

> This is confirmed by what happens in states; for legislators make the citizens good by forming habits in them, and this is the wish of every legislator, and those who do not effect it miss their mark, and it is in this that a good constitution differs from a bad one (Aristotle, 1999, p. 21).

To clarify, Aristotle believed that our character is shaped by our actions, and virtue is cultivated through habituation. To promote virtuous behavior in people, policymakers should encourage and support these actions to help them form good habits or maintain existing ones. Some authors, like Matt Stitcher, liken virtues to technical skills (Stichter, 2021), where experts know how to avoid excesses and deficiencies. Therefore, habits and good practice will allow us to make better choices according to virtue. Once habits are developed, people can acquire practical wisdom (phronêsis). It is the combination of both that produces ethical virtue.

As previously discussed, our bounded rationality, which may include emotional factors, can influence our deliberative processes and weaken our rational will, leading to *akrasia*. In this regard, Aristotle describes how emotions may affect our deliberative decisions: "For some men after deliberating fail, owing to their emotion, to stand by the conclusions of their deliberation, others, because they have not deliberated, are led by their emotion" (Aristotle, 1999, p. 117). In the first part of the paragraph, Aristotle emphasizes that possessing knowledge does not necessarily lead to acting in accordance with sound judgment, because emotions can interfere. Behavioral public policy, in general, and nudges, in particular, are based on this premise. Akrasia is one of the factors that nudges can address without raising ethical concerns (Bovens, 2009).

To become virtuous, therefore, a person must perform virtuous acts repeatedly and habitually: "On an Aristotelian account, we acquire such habits through practice — by repeating appropriate thoughts, feelings, and actions over and over again until we gradually become disposed to think, feel, and act in the right ways at the right places at the right times, as if by second nature" (Lamb et al., 2021). This paper argues that some nudges can help people form these habits by organizing the choice environment to make virtuous actions easier. Since people will always be able to choose differently and nudges are transparent, a rational element of deliberation will always be present.

The framing of messages, commitment devices, default choices, and visual interventions can effectively change people's behavior. Can they have a long-lasting effect (or affect habits) even when the nudge is absent? Research shows this is possible: some nudges have temporal spillovers that impact our future decisions (Van Rookhuijzen et al., 2021). For example, people with chronic diseases can prevent health with self-management. Since "interventions consisting exclusively of information provision and education have

been shown to be effective at improving self-management in chronic disease only to a limited extent" (Möllenkamp et al., 2019, p. 1200), nudges can provide a good alternative. According to researchers, the lack of self-management is thought to be caused by "ambiguity aversion, omission bias, status quo bias (inertia), unrealistic optimism, hyperbolic discounting (present bias), and loss aversion leading them to behaving irrationally" (Möllenkamp et al., 2019, p. 1200). Nudges, in these situations, can remediate some of the effects of bounded rationality inculcating habits in patients to self-manage their chronic disease (the virtue here will be "care" or "self-care"). Different studies have also demonstrated that some nudges have the capacity to create habits related to exercise, which is connected to virtues like love, generosity, or moderation. Accordingly, empirical results suggest that "nudges in this context show promise as a means to induce exercise habit formation, which is an important public health goal" (Bhattacharya et al., 2015, p. 15).

Christian Miller (2020, p. 358) states that virtue should be the source of appropriate motivation and action. He argues that behaving correctly due to mental illness, for example, will not necessarily make a person virtuous (or vicious). Since nudges have the intention of helping people accomplish their decisions as judged by themselves, their motivation is respected. While mandates force people to behave in particular ways, nudges do not coerce people to act against their own will, allowing people to express themselves and their possibility to live a virtuous life. Forcing people to act virtuously would not make people virtuous since the freedom to choose disappears. The libertarian angle of nudges, their transparency, efficiency in creating habits, and their possible element of deliberation make them public policy interventions capable of helping people to be virtuous.

It is essential to mention that one does not have to be challenged by temptation (making the wrong choice easier to make than the right one) to be virtuous. Accordingly, choice architects also have the critical task of understanding the moral role they play in people's behavior: having the choice to make good options salient (or easier to choose among different alternatives) and not doing it can be morally questionable since it would be a type of entrapment.

Connecting Virtues, Behavior, and Nudges

Age and the Formation of Habits

As mentioned earlier, the impact of nudges can endure long after the intervention has ended, creating good habits as individuals perceive them. While some might presume that Aristotle believed habituation could only occur during childhood, most authors contend that this is not necessarily true. According to W. Sanderse,

"wisdom-guided habituation is also possible for adults who continue and confirm their already established virtuous habits" (2020, p. 98). A nudge does not have a teacher praising your good behavior, but it does create a sense of pleasure to achieve the desired goal. In situations where people want to do the right thing, but their bounded rationality or the complexity of the environment creates difficulty, a nudge can help. Nudges can guide individuals struggling with akrasia or ignorance toward making the right choices, and when these nudged actions are consistently repeated, they can help cultivate a habit that, if all other necessary conditions for virtue are in place, may lead to virtuous behavior. Being virtuous is a lifelong process. As Sanderse claims, it does not imply that one can just "sit back, relax and enjoy the fruits of our childhood upbringing" (2020, p. 105). While nudge plus can even have an element of deliberation, most nudges are transparent and can invite rational reflection (phronêsis) about our decisions. There is a way to access the palace of reason through the courtyard of habit (Peters, 2015, p. 52).

In hygiene and open defecation issues, for example, certain nudges have been shown to effectively change and maintain behavior (Neal et al., 2016). Habits, they claim, "are automatically triggered by context cues, including physical settings, preceding actions, and times of day" (Neal et al., 2016, p. 6). Consequently, as modifications of the choice environment, nudges can set up the context to activate virtuous habits regardless of age. Moreover, the effectiveness of nudges isn't limited to any specific age group. They can be employed in settings where behavior change is needed across the lifespan. For example, in schools, educational institutions can implement nudges by placing reminders about hand hygiene and sanitation practices in visible locations, thus helping children develop good habits from a young age. Simultaneously, adults can also benefit from nudges in workplace environments or public spaces, where reminders and cues can prompt them to maintain their hygiene practices. By recognizing the role of context and deploying nudges thoughtfully, it becomes possible to address hygiene and open defecation issues comprehensively, making them a valuable tool for public health initiatives and behavior change campaigns.

In the context of fostering virtuous habits, life changes, such as relocation or significant transitions, can serve as powerful catalysts for behavioral transformation. The disruption of established routines during these events offers a unique opportunity to instill more virtuous habits. Notably, research findings (Walker et al., 2015) suggest that old habits do not vanish abruptly but rather decay over a transitional period, while new habits are established. To leverage this, creating supportive environments in the new setting, offering reinforcement and encouragement, and providing education on the benefits of virtuous behaviors can be instrumental. Long-term assessment is crucial for understanding habit formation and ensuring sustained virtuous habit adoption. In conclusion, life changes present a strategic juncture for inculcating better habits,

and recognizing the dynamics of habit transition can facilitate the cultivation of virtuous behaviors in individuals.

An Example of Virtue: Honesty

Nudges work by making particular behaviors easier to accomplish while adding behavioral frictions to other actions that would be against what people should think is not right for them when deliberating rationally (if unaffected by the complexity of the environment and their bounded rationality). A study conducted on default choices, honesty, and cheating (Mazar & Hawkins, 2015) showed that people are less likely to cheat when they are required to override a default: "default options can also encourage honest behavior by creating a psychological barrier to dishonesty" (Mazar & Hawkins, 2015, p. 107). This passage discusses how default options, the preset choices we encounter, affect people's behavior. Two studies found that when people can passively accept an incorrect default option, they tend to cheat more (Omission). When they have to actively override a correct default option, they cheat less (Super-Commission) than when choosing an incorrect option (Commission). This is because overriding a correct default is psychologically harder. People expect both physical and psychological costs to influence cheating, but they don't see a fundamental difference in moral character. These findings have practical implications for policy, like using default options to encourage honesty, such as in taxation. When individuals have the inclination to act dishonestly, they can still choose to do so. However, the concept of a "nudge" comes into play to ensure that genuinely honest people don't inadvertently engage in dishonest behavior, especially when facing certain circumstances. A "nudge" involves altering the environment or the default options in a way that gently steers individuals toward making more ethical or virtuous choices. This strategy aims to make it easier for people to act in line with their true moral values, even when they might be tempted to act otherwise. For instance, in the context of the previous discussion on default options, a nudge could involve setting an honest default option, making it less likely for individuals to inadvertently engage in dishonesty. By providing a virtuous default choice, honest individuals can stay aligned with their true values, and the temptation to behave unethically is reduced. In summary, the concept of a nudge helps create an environment where individuals can more easily uphold their virtue and ethical standards, mitigating the risk of unintentional dishonesty in challenging circumstances.

Not all nudges work the same way or are effective all the time. As Alejandro Hortal argued (2023), even the success of randomized controlled trials in a setting cannot guarantee that nudges would work in a different location or future time. Hence, if the individual is not virtuous according to a specific character trait or if financial rewards are at stake (Isoni et al., 2019), nudges may not be sufficient to affect her behavior. Nudged people don't act against their will; coerced people do. Suppose an individual is dishonest when filling out insurance claims. It is possible that her dishonesty may remain part of her character even if nudges are

present. A comprehensive study on honesty nudges (Martuza et al., 2022) examined the effectiveness of nudges in promoting customer honesty when reporting information in the context of insurance claims. Despite prior mixed findings, a controlled field experiment involving 5,704 participants was conducted with a major Nordic insurance company. Three different nudge approaches were tested: (1) signing a statement, (2) displaying a social norm message, and (3) using a solidarity message. Surprisingly, none of these nudges, alone or combined, significantly reduced fraud indicators in insurance claims. However, they did lead to more detailed loss descriptions, and their impact varied based on customer age and loyalty.

The aforementioned scholarly article posits that the impact of honesty nudges varies among individuals, rendering their application on the broader populace impracticable. Consequently, this underscores the potential variability in the effectiveness of nudges within specific demographic or population subgroups. For example, different research (Dimant et al., 2020) that studied the possibility of increasing honesty in individuals using framing nudges found that the examined interventions produced a null effect. They explored the impact of different ways of encouraging honesty using social norms. In their study, four groups of participants received messages promoting honesty, but these messages had no significant effect on honesty levels. A follow-up experiment revealed that the norm-nudges didn't actually change social norms, and some participants conveniently misremembered the messages to justify dishonesty. That is, none of the nudges worked. Dishonest people remain dishonest, while honest people show their virtue.

Although people's dishonesty increases outside of the lab (Yaniv et al., 2020), there is some evidence to think that nudges can help honest people remain honest. In light of the complexities inherent in enhancing overall honesty, an alternative approach, as proposed by Eugen Dimant and Shaul Shalvi in their study (2022), emerges, whereby the focus shifts from targeting individual behavior to directing interventions towards "social influencers" - individuals possessing the capacity to exert a discernible impact on the behavior of others. This novel approach can be described as a form of meta-nudging and may hold considerable promise in situations where personal gain eclipses the societal benefit, such as in the realm of fostering honesty.

Dimant and Shalvi argue that the concept of meta-nudging could potentially persuade individuals to relinquish individual advantages in favor of the greater collective good (e.g., honesty). In this sense, meta-nudging functions as a mechanism to encourage individuals to act in ways that prioritize the welfare of the broader society and can convince "the individual to forego an individual benefit in favor of the collective good" (Dimant & Shalvi, 2022, p.3). Such interventions may target individuals who are in a position to exert a direct influence on the behavior of others or serve as exemplars of moral conduct, aligning with Aristotle's notion of "moral exemplars" who inspire and guide others towards virtuous behavior. Accordingly, meta-nudging has the potential to create a ripple effect, where individuals inspired by moral exemplars (who have been meta-

nudged) may, in turn, become sources of inspiration and ethical guidance for others, further reinforcing the cultivation of virtuous character within society.

Nudges are showing promising behavioral changes in different positive character traits. They can be used to increase attention to inequality (Waldfogel & Kteily, 2022), to decrease student's cheating in tests and exams by creating behavioral friction (Zhao et al., 2022), and boost charitable contributions and long-term charity giving (Zarghamee et al., 2017).

An Example of Nudge: Exploiting the Fresh Start Effect

People may have the desire to change their behavior (to eat healthier, stop smoking, or save more for their kids' college) and know the virtuous path to do so but fail to accomplish those goals due to different constraints from themselves or the environment. Some studies (Beshears et al., 2021; Dai et al., 2014; Yu et al., 2022) claim that people are more likely to start these changes to attain their goals if a temporal mark is salient (a Monday or the first day of the year are clear examples). They call this the *fresh start effect*: people are better motivated to start new habits when starting a new temporal frame. Research shows that "these landmarks demarcate the passage of time, creating many new mental accounting periods each year, which relegate past imperfections to a previous period, induce people to take a big-picture view of their lives, and thus motivate aspirational behaviors" (Dai et al., 2014, p. 2563). Accordingly, these moments have the capacity to separate life into mental accounting periods, allowing people to relegate past imperfections (lack of virtue or vicious behavior) to the previous time frame. These landmarks can facilitate people to see a big picture of their life, necessary for virtuous living, proving that the time point of decision-making is something choice architects should consider when promoting virtuous choices.

Temporal landmarks make a specific day more salient and help individuals to gain motivation for long-term goals that are otherwise difficult to attain. Experiments regarding food choices, for example, demonstrate that individuals are more likely to select healthy food when a fresh start is salient (Yu et al., 2022). Fresh starts can also be used successfully in nudges that increase retirement savings (Beshears et al., 2021) so people can live with moderation to have a better financial future.

Other Virtues and the Role of Deliberation

To be virtuous, the action must have a deliberate intention. As Hortal argues (2020), nudges must be deployed with educational interventions that may help people understand why those actions are valuable. Thanks to their libertarian angle (and capacity to enable deliberation), nudges allow people to choose freely, while policymakers can paternalistically foster the type of community needed to improve *eudaimonia*

(happiness, welfare, good life). Therefore, by simplifying the choice environment or highlighting certain aspects, nudges respect autonomy, motivate repetitions of actions that lead to habituation, and, if designed accordingly, may enable rational reflections about our actions.

Vaccination compliance serves as an exemplary demonstration of virtuous behavior, as it can be portrayed as an act of generosity, particularly when the risk of hospitalization and illness for the vaccinated individual is low. From this perspective, showing care and concern for the well-being of others can be a compelling motive for getting vaccinated. Consequently, immunization can be viewed from two distinct yet interconnected angles: as a life-saving measure for individuals (self-care) and as a means to protect others from hospitalization, infection, or potential mortality. When a person is vaccinated decreases her chances of infecting others. For example, "people who become infected with the Omicron variant are less likely to spread the virus to others if they have been vaccinated" (Prosser Scully, 2022). In this context, what someone does affects the lives of others. Getting a vaccine can be seen as an act of generosity, a virtuous action if the vaccinated person understands their public health responsibility. Nudges have been used to reduce vaccine hesitancy (Hortal, 2022), and those that make prosocial vaccination salient with messages like "protect others" can help us deliberate about the moral factors of vaccination. Considering this, it is in the interest of forming virtuous citizens to ensure they understand vaccination's prosocial factors (generosity and love related) and that people comply with their immunization schedule (Li et al., 2016). Some experiments have successfully used social nudges emphasizing herd immunity as one of the consequences of vaccination (Lazić et al., 2021). To increase compliance using the fresh start effect, researchers have used a temporal framing in experiments designed to efficiently increase vaccination uptake (Dai et al., 2021). Starting a habit is sometimes dependent on previous actions. In vaccination, "intentional vaccine choice was most highly associated with previous vaccination behavior" (Lin et al., 2010, p. 7706), so starting with one specific vaccine is essential.

Maintaining a healthy lifestyle can also be connected to the virtue of generosity in several ways. Firstly, by adopting habits that reduce the likelihood of requiring extensive medical care, individuals indirectly ease the burden on healthcare facilities and resources, making healthcare more accessible for others in need, especially in countries with universal healthcare systems. Additionally, a healthier life often leads to an extended life expectancy, allowing individuals to spend more quality time with their loved ones, providing emotional and physical support—an act that embodies generosity. Furthermore, those who pursue a healthy lifestyle often share their knowledge and inspire others to do the same, contributing to the well-being of their communities and exemplifying generosity by helping others improve their own lives. To inform evidence-based decision-making for health policymakers, a systematic review was conducted to assess the effectiveness of these nudging interventions on promoting a healthy diet and physical activity (Laiou et al., 2021). Sixty-four

studies were analyzed, showing that certain interventions, like changing proximity and presentation, can effectively encourage healthier diet choices. However, interventions like labeling, availability, prompting, and sizing had inconclusive results. When it comes to physical activity, limited evidence is available, highlighting the need for further research to determine the most effective types and circumstances for nudge-related interventions, particularly for physical activity. A different article (Forberger et al., 2019) also concludes that nudging represents a promising strategy for encouraging physical activity among the general population. Nevertheless, the authors claim, there are substantial research gaps that remain to be addressed. Many untapped opportunities still exist in this field. It is imperative to conduct further research, rooted in behavioral insights, and encompassing a comprehensive spectrum of nudging strategies. This research should place particular emphasis on advancing theoretical frameworks, conducting practical feasibility assessments, exploring avenues for scalable implementation, and, above all, examining how interventions can positively affect habit formation.

Some nudges can increase and maintain charity donations with the help of default options, reminders, or by simplifying the process of donating money or goods to others. Motivation plays a crucial role in this context, as people are more likely to contribute when they are motivated by a cause they care about. A similar outcome is produced using default choices that transfer charity bills to updated credit cards, especially when individuals are motivated to support the cause. All these approaches can form more generous and lovable people if that is precisely what they want to be (nudges are easily avoidable). Sometimes the environment is too complex, and our rationality is too bounded, making motivation an essential factor in driving charitable actions.

Justice and poverty

Nudges can assist with other virtues, like justice, by helping people understand their biases. We can draw examples from recent literature and research concerning the application of behavioral public policy in general and nudges in particular in reducing biases from judges in their sentencing decisions. One of the potential benefits of behavioral public policy as a scientific discipline is its work on biased decision-making and how it may deviate from standard norms of rationality. For example, judges can be affected by pro-prosecution inclinations based on confirmation or role-induced biases (Berryessa et al., 2022). To fight different types of biases in the judicial system, nudges are being deployed to help judges become more just using digital interfaces. To avoid judges' implicit biases (Sela, 2019), next to guidelines, judicial systems can implement additions that draw judges' attention to disparities in federal sentencing. Also, "an advisory notice, which emphasizes the racial disparities in sentencing and is printed on the Guidelines, also acts as a nudge that

slightly moves each judge's anchor, which is the base or norm by which the decisionmaker builds choices" (Cremin, 2021, p. 66).

Studies conducted by Paul Piff and other researchers show how social class influences prosocial behavior (P. K. Piff et al., 2010) or how wealth increases selfishness and narcissism (P. K. Piff et al., 2012). Piff argues in his TED Talk that "small nudges in certain directions can restore levels of egalitarianism and empathy" (P. Piff, 2013). Implementing behavioral interventions across various settings to remind individuals of the importance of engaging in prosocial behavior can help reduce egotistic attitudes. These reminders are crucial for aligning one's behavior with their moral values, as people may occasionally forget to act in accordance with their ethical principles. Gentle reminders serve to make it easier for individuals to make morally sound choices. It's important to note that nudges, as a form of reminder in decision-making contexts, do not compel individuals to act against their will; instead, they encourage and guide them toward more altruistic choices. Reminders can help people pay their bills on time (Sunstein, 2020, p. 5) or be distant during a pandemic. Consequently, nudged individuals who comply with the nudge will have a higher chance of behaving according to their moral reasons and expressing their moral attitudes.

Concluding Remarks: The Doctrine of the Mean, Nudges, and Virtues

In this paper, we have explored the transformative potential of nudges in shaping individuals' character through the nuanced interplay of habit formation and behavioral change. Rather than merely proposing a categorical term such as 'virtue nudges,' the paper delves into the intricate mechanisms by which specific nudges can be strategically employed to instill and perpetuate virtuous behavior. These nudges, carefully designed and implemented, operate as catalysts for positive behavioral change, creating a ripple effect that goes beyond momentary decisions. Through the cultivation of virtuous habits, individuals are not only nudged toward ethical choices (they would agree with) but are also empowered to internalize and sustain these virtuous tendencies, thereby fostering enduring character development. This nuanced perspective on nudges as agents of character evolution opens new avenues for considering the ethical implications and societal impact of choice architecture in the realm of behavioral economics. Regarding virtues, the framework used was an updated version of his notion of virtue to understand the meaning (or objectives) of a good, virtuous life and how behavioral public policy may contribute to it. Therefore, a general approach to virtue ethics would fit with nudge theory, as it stands as the third option between the non-consequentialism of deontology and the consequentialist approach. However, these two ethical frames have criticized the nudge framework due to factors such as the impossibility of choice architects to determine what people want, and how nudges may impede learning, may backfire, or even challenge our autonomy (Iyer, 2016). As this paper

has made evident, since these criticisms can be easily refuted, they are not enough to reject the simplification of choice architecture to promote virtue.

The libertarian paternalism of nudges respects the perspective that virtue is a mean state between vices. A doctrine of the mean would be impossible on policies based on bans and mandates. Educational interventions would, of course, be an ideal strategy in policies that foster virtue ethics. However, as it has become clear in psychological research and the insights of behavioral economics, educational interventions alone are sometimes inefficient. Aristotle even understood that one could not teach people how to be virtuous. Nudges' libertarian paternalism respects individual freedom (people would always do what they intended to do), allowing enough room for the necessary wiggle that the doctrine of the mean needs. Should a virtuous person eat healthily every meal of her life? Not necessarily. Bans or mandates do not allow people to express themselves. When we are forced to act, we are not being virtuous; only in situations where options are present can we express ourselves morally. Choice architects that present choices should consider the complexity of the choice environment and the bounded rationality of individuals to make the best (more virtuous) choice the more salient. There is no reason to assume that for people to be virtuous, they must act in choice architectures that make the virtuous option difficult.

The aim of this manuscript was to broaden the scope of behavioral public policy researchers' work in categorizing nudges. While using a virtue perspective is not a novel approach, as other scholars have employed it in various fields, this paper proposed that certain nudges that operate while respecting the agent's will in attempting to pursue what they believe is best for themselves have the potential to be classified as virtue nudges. Furthermore, if these nudges have the capability to modify and sustain habits that are associated with virtuous behavior, they may be categorized as virtue-enhancing nudges. Policymakers can, for example, boost the use of public transportation with messages "that positively label passengers as sustainable travelers in their communication strategies" (Franssens et al., 2021). In this scenario, people that did not use public transportation may start doing it after a nudge highlights an aspect of behavior that was not previously considered. A just person, for example, should act and think justly; this should be part of her character. A choice architect should not make just options difficult for her, and public policymakers should always make virtue choices salient. Compassionate individuals reason and act compassionately. Sometimes our limited cognitive capacity and the complexity of the environment in which we choose to hide compassionate decisions. A nudge can make those choices salient when possible. Nudges that introduce deliberation and help with forming and maintaining habits can assist in developing practical wisdom (phronêsis). If virtue makes the goal right and practical wisdom the things leading to it (Aristotle, 1999, p.103), nudges can help in scenarios where the choice environment is complex by simplifying it and making the virtuous choices salient.

Communities will always have people that are not virtuous, and nudges are not a silver bullet to change their behavior. Adam Oliver considers that policymakers should establish the conditions that may enable people to pursue their conception of the desired life (Oliver, 2021), especially when that desired life matches some objective evidence or consensual approach to people's wellness. Mandates, educational tools, and incentives must be combined with nudges to increase eudaimonia.

In summary, among various types of nudges, there's a specific category aimed at encouraging the development of positive habits, some of which are associated with virtuous behavior. Virtue requires a disposition to act in a virtuous manner, and such actions should result from habit. A virtuous individual is someone who consistently acts virtuously. Hence, virtue nudges are interventions designed to assist individuals in cultivating or upholding virtuous behaviors through habit formation or maintenance. Given their affordability, potential effectiveness, and respect for personal choice, it is advisable for governments and institutions to explore ways to incorporate virtue nudges alongside other interventions to promote and instill virtuous lifestyles.

Disclosure Statement

No potential conflict of interest was reported by the author.

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