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Nudge Without Evidence: The Hidden Risks of Behavioural Policy**

1. Introduction

The concept of "nudge" was popularized in 2008 by Cass Sunstein and Richard Thaler.[1] Although the scientific community was already familiar with the cognitive biases underlying decision-making processes,[2] Thaler and Sunstein's major contribution lay in presenting these insights in a manner accessible to both institutional decision-makers and the general public, while simultaneously offering a rigorous intellectual critique of neoclassical notions of market equilibrium and rational choice theory.[3]

A nudge is defined in various ways; however, there remains no clarity regarding its precise meaning, and no definitive limiting characteristics have been established.[4]

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1 R.H. Thaler, C.R. Sunstein, *Nudge: Improving decisions about health, wealth, and happiness,* Yale University Press, New Haven 2008.

2 D.R. Marchiori, M.A. Adriaanse, D.T.D. De Ridder, *Unresolved Questions in Nudging Research: Putting the Psychology Back in Nudging*, "Social and Personality Psychology Compass" 2017, no. 11, pp. 1–3, https://www.uu.nl/sites/default/files/marchiori-et-al-2017-social-and-personality-psychology-compass.pdf (accessed: 9.04.2026).

3 N. Gane, *Nudge Economics as Libertarian Paternalism*, "Theory, Culture & Society" 2021, vol. 38, issue 6, p. 119, doi.org/10.1177/0263276421999447.

4 T. Grüne-Yanoff, *Behavioral Public Policy, One Name, Many Types. A Mechanistic Perspective* [in:] *The Routledge Handbook of the Philosophy of Economics*, eds. C. Heilmann, J. Reiss, Routledge, New York 2021; L. Congiu, I. Moscati, *A Review of Nudges: Definitions, Justifications, Effectiveness*, "Journal of Economic Surveys" 2022, no. 36, p. 188, https://doi.org/10.1111/joes.12453.

A "classic" definition proposed by Sunstein and Thaler describes a nudge as "any aspect of the choice architecture that alters people's behavior in a predictable way without forbidding any options or significantly changing their economic incentives. To count as a mere nudge, the intervention must be easy and cheap to avoid. Nudges are not mandates."[5]

The first and fundamental component of the definition of nudge is that any change it induces must be deliberately planned. Thus, a nudge should activate a mechanism initiated by a specific stimulus and designed to culminate in a predetermined decision by the individual making the choice.[6]

The rest of this article is structured as follows. Section two analyses factors that adversely affect the predictability of a nudge's outcomes, pertaining both to the design of experimental research and to the process whereby the nudge is implemented. The following one (section 3) examines the consequences of implementing behavioural regulations that are supported by insufficient evidence of their effectiveness. The fourth section presents conclusions and recommendations.

This article proceeds from three central hypotheses: (H1) Nudges that are introduced without rigorous underpinning evidence often fail to produce predictable and reliable outcomes. (H2) The absence of such evidence risks undermining the legitimacy of behavioural regulation, by fostering technocratic overreach or superficial governance. (H3) Legal safeguards and institutional accountability are necessary conditions for ensuring that nudges function as credible regulatory tools. These hypotheses will be revisited in the concluding section.

2. Key reasons of nudge failures

Researchers underscore that the application of nudges must be preceded by careful investigation, given that nudges are, by definition, evidence-based interventions.[7] Randomized Controlled Trials (RCTs),[8] often referred to as the "gold standard" in

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5 R.H. Thaler, C.R. Sunstein, *Nudge: Improving*…, p. 6.

6 For clarity, it is useful to distinguish between "cognitive biases" and "nudges." A cognitive bias refers to a systematic deviation from rational judgment, often arising from reliance on heuristics or mental shortcuts. Common examples include loss aversion, framing effects, and anchoring. Such biases represent limitations in human decision-making, which may lead individuals to act in ways that are inconsistent with their own welfare or stated preferences. By contrast, a "nudge" is a deliberate intervention in the choice architecture that seeks to steer individuals toward decisions that improve their welfare, while preserving freedom of choice. In this sense, cognitive biases are descriptive phenomena, while nudges are normative tools designed to respond to, or even exploit, those phenomena in order to improve outcomes.

7 B. Szaszi *et al*., *A Systematic Scoping Review of the Choice Architecture Movement: Toward Understanding When and Why Nudges Work*, "Journal of Behavioral Decision Making" 2018, no. 31, p. 355, 362, https://doi.org/10.1002/bdm.2035.

8 Randomized Controlled Trials (RCTs) are experimental studies in which participants are randomly assigned to treatment and control groups, thereby enabling causal inference about the effect of an intervention.

evidence-based policymaking, play a pivotal role in applied behavioural science, "given its emphasis on quantitative methods that produce a robust counterfactual to estimate an intervention's impact".[9] For such studies to be deemed sufficient, they must conform to established standards, exhibit universal characteristics, and be replicable.[10] They should also be examined using a uniform terminology that is both comprehensible to and shared by researchers across diverse fields.[11] Nevertheless, RCTs face various challenges cited by numerous scholars.

First, multiple taxonomies of nudge interventions ("lack of definitional and conceptual clarity")[12] have emerged in the literature, thereby complicating research efforts. These complexities are attributable to several factors. To begin with, divergent classifications are grounded in different criteria, sometimes concentrating on cognitive processes and sometimes on the interventions themselves. Moreover, categories within these classifications can be both overlapping and incomplete, as one label may encompass multiple techniques and may fail to account for all nudge interventions.[13] This situation hampers the precise replication of studies (due to excessively vague intervention descriptions),[14] the effective implementation of interventions, and the development of systematic reviews.[15] This is why many scholars have proposed taxonomies, distinguishing, for example, between transparent and non-transparent nudges,[16] between nudges and boosts,[17] or—following Sunstein's approach—between defaults, simplifications, information disclosure, warnings, and reminders.[18]

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[9] M. Hallsworth, *A Manifesto for Applying Behavioral Science*, Behavioural Insights Team Blog, 20 March 2023, p. 45, https://www.bi.team/publications/a-manifesto-for-applying-behavioral-science/ (accessed: 9.04.2026).

[10] B. Szaszi *et al*., *A Systematic Scoping Review*…, p. 362.

[11] *Ibidem*.

[12] G.J. Hollands *et al*., *Altering Micro-Environments to Change Population Health Behaviour: Towards an Evidence Base for Choice Architecture Interventions,* "BMC Public Health" 2013, vol. 13, pp. 1, 2, https://doi.org/10.1186/1471-2458-13-1218.

[13] B. Szaszi *et al*., *A Systematic Scoping Review*…, p. 362.

[14] *Ibidem*; *cf.* M. Hallsworth, *A Manifesto for Applying*… p. 51; P.E. Shrout, J.L. Rodgers, *Psychology, Science, and Knowledge Construction: Broadening Perspectives from the Replication Crisis*, "Annual Review of Psychology" 2018, no. 69, p. 487, doi: 10.1146/annurev-psych-122216-011845; Open Science Collaboration, *Estimating the Reproducibility of Psychological Science*, "Science" 2015, vol. 349, issue 6251, p. 943, doi: 10.1126/science.aac4716; M. Tincani, J. Travers, *Replication Research, Publication Bias, and Applied Behavior Analysis,* "Perspectives on Behavior Science" 2019, vol. 42, p. 59, https://doi.org/10.1007/s40614-019-00191-5.

[15] The House of Lords, Science and Technology Select Committee, *Definitions, Categorisation and the Ethics of Behaviour Change Interventions*, Parliament.uk, 2011, https://publications.parliament.uk/pa/ld201012/ldselect/ldsctech/179/17905.htm (accessed: 9.04.2026).

[16] P.G. Hansen, A.M. Jespersen, *Nudge and the Manipulation of Choice: A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy*, "European Journal of Risk Regulation" 2013, vol. 4, no. 1, p. 3, https://www.jstor.org/stable/24323381 (accessed: 9.04.2026).

[17] R. Hertwig, T. Grüne-Yanoff, *Nudging and boosting: Steering or empowering good decisions*, "Perspectives on Psychological Science" 2017, vol. 12, issue 6, p. 973, https://doi.org/10.1177/1745691617702496.

[18] C.R. Sunstein, *The ethics of nudging*, "Yale Journal on Regulation" 2015, vol. 32, issue 2, p. 417, https://www.yalejreg.com/print/the-ethics-of-nudging/ (accessed: 4.04.2026).

Secondly, RCTs underperform in complex adaptive systems due to the dynamic interconnections that can undermine the isolation of control groups and due to "non-linear changes occurring over time".[19] Establishing causality in such a complex experimental setting is challenging.[20] Furthermore, an excessive focus on specific outcomes may overshadow other important but unpredictable results.[21] The emergence of new outcomes is not the only concern; during the evaluation process, entirely new questions, causal relationships, stakeholders, or even objectives may surface that the initial evaluation framework does not address.[22] In addition, in case of complex interventions with interacting elements, inadequate reporting makes it difficult to distinguish the effects of individual components.[23]

Thirdly, there is the problem of how RCT findings translate into outcomes of large-scale regulations in real-world scenarios.[24] The influence of nudges on behaviours prompts an important question regarding the consistency between academic research findings and results observed in broader governmental applications. A key issue here is the scalability of RCTs, given that both researchers and policymakers aim to utilize insights from smaller-scale interventions to inform the creation and

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19 M. Hallsworth, *A Manifesto for Applying*… p. 45.

20 *Ibidem.*

21 *Ibidem*, p. 15; Craig and others emphasize that complex public health interventions interact with context in ways that make replication and causal attribution difficult. They highlight that an exclusive focus on narrow outcomes risks missing unintended consequences, spillover effects, or emergent outcomes that only appear during or after implementation. P. Craig *et al*., *Developing and Evaluating Complex Interventions: The New Medical Research Council Guidance*, "International Journal of Nursing Studies" 2013, vol. 50, p. 587; *cf.* H.M. Treasury, *Magenta Book Annex: Handling complexity in policy evaluation*, Gov.uk., March 2020, https://assets.publishing.service.gov.uk/media/5e96cab9d3bf7f412b2264b1/HMT_Magenta_Book.pdf (accessed: 9.04.2026); A. Deaton, N. Cartwright, *Understanding and Misunderstanding Randomized Controlled Trials*, "Social Science & Medicine" 2018, no. 210, p. 2, https://doi.org/10.1016/j.socscimed.2017.12.005.

22 HM Treasury, *Magenta Book Annex*…; J. Heal, B. Groot, *Running RCTs With Complex Interventions*, Behavioural Insights Team Blog, 1 November 2017, https://www.bi.team/blogs/running-rcts-with-complex-interventions/ (accessed: 9.04.2026); K. Underhill, *Broken Experimentation, Sham Evidence-Based Policy*, "Yale Law & Policy Review" 2020, vol. 38, no. 150, pp. 150–154, https://scholarship.law.columbia.edu/faculty_scholarship/3276 (accessed: 9.04.2026).

23 B. Szaszi *et al*., *A Systematic Scoping Review*…, p. 362; *cf.* D.M. Sanbonmatsu, E.H. Cooley, J.E. Butner, *The Impact of Complexity on Methods and Findings in Psychological Science*, "Frontiers in Psychology" 2021, no. 11, p. 1, doi: 10.3389/fpsyg.2020.580111; L.R. Skov *et al*., *Choice Architecture as a Means to Change Eating Behaviour in Self-Service Settings: A Systematic Review*, "Obesity Reviews" 2013, no. 14, pp. 187, 193, doi: 10.1111/j.1467-789X.2012.01054.x; T.R. Nørnberg *et al*., *Choice Architecture Interventions for Increased Vegetable Intake and Behaviour Change in a School Setting: A systematic Review*, "Perspectives in Public Health" 2015, vol. 136, issue 3, p. 132, doi/10.1177/1757913915596017.

24 DellaVigna and Linos analysed over 200 nudges implemented by government units compared to results in academic publications. They found that effect sizes in real-world policy applications are often two to three times smaller than those reported in academic journals. They attribute this discrepancy to smaller study groups in government trials, publication bias, and design optimism among academics. S. DellaVigna, E. Linos, *RCTs to Scale: Comprehensive Evidence from Two Nudge Units*, "Econometrica" 2022, vol. 90, no. 1, pp. 81–83, https://doi.org/10.3982/ECTA18709.

implementation of more expansive programmes.[25] There is a marked discrepancy between the effectiveness of nudges reported in academic journals and that found in studies conducted in nudge units.[26] DellaVigna and Linos sought to clarify these discrepancies, attributing them, among others, to the size of the study groups.[27] The researchers also suggest that academics' optimistic views on nudge effect sizes can influence how they design their trials, resulting in variations in statistical power. Relying on scientific research during policymaking is not free from numerous pathologies, such as "the neglect and deliberate undermining of research (broken experimentation), (…) the distortion of evidence (…), the disingenuous use of selective evidence to de-fund entire program categories (ratcheting)".[28]

Fourthly, authors draw attention to the phenomenon of publication bias, defined as the tendency to publish statistically significant findings while disregarding non-significant results.[29] This bias partly arises from the well-documented difficulties of null-hypothesis significance testing, where outcomes showing no effect are often considered difficult to interpret.[30] Stibe and Cugelman note that reputational and funding concerns can disincentivize reporting backfiring results, reinforcing publication bias.[31]

Publication and reporting biases can skew the estimated effect sizes of interventions, impede the exploration of boundary conditions of nudges, and obstruct the testing of hypotheses intended to elucidate the underlying mechanisms.[32]

It should be acknowledged however that recent years have witnessed a substantial movement aimed at counteracting publication bias. Journals increasingly accept and

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[25] S. Saccardo *et al*., *Scaling Nudges: Who Moves and How*, SSRN, 9 July 2025, http://dx.doi.org/10.2139/ssrn.3971192.

[26] S. DellaVigna, E. Linos, *RCTs to Scale…*, pp. 81–83.

[27] *Ibidem.*

[28] K. Underhill, *Broken Experimentation…*, p. 155.

[29] S. Mertens *et al*., *The effectiveness of Nudging: A Meta-Analysis of Choice Architecture Interventions Across Behavioral Domains*, "Proceedings of the National Academy of Sciences" 2022, no. 119, pp. 1–4, https://doi.org/10.1073/pnas.2107346118; *cf.* S. Mills, *Nudge Theory: What 15 Years of Research Tells us About its Promises and Politics*, The Conversation, 6 September 2023, https://theconversation.com/nudge-theory-what-15-years-of-research-tells-us-about-its-promises-and-politics-210534 (accessed: 9.04.2026); D. Hummel, A. Maedche, *How Effective is Nudging? A Quantitative Review on the Effect Sizes and Limits of Empirical Nudging Studies*, "Journal of Behavioral and Experimental Economics" 2019, vol. 80, pp. 47, 54, https://doi.org/10.1016/j.socec.2019.03.005; S. DellaVigna, E. Linos, *RCTs to Scale…*, pp. 104–112.

[30] C.J. Ferguson, M. Heene, *A Vast Graveyard of Undead Theories Publication Bias and Psychological Science's Aversion to the Null*, "Perspectives on Psychological Science" 2012, vol. 7, issue 6, p. 555, https://doi.org/10.1177/1745691612459059.

[31] "Backfiring effects" are defined as unintended consequences of a behavioural intervention that result in outcomes opposite to those intended. A. Stibe, B. Cugelman, *Persuasive Backfiring: When Behavior Change Interventions Trigger Unintended Negative Outcomes* [in:] *Persuasive Technology*, eds. A. Meschtscherjakov, B. De Ruyter, V. Fuchsberger, M. Murer, M. Tscheligi, Series: Lecture Notes in Computer Science, vol. 9638, Springer, Cham 2016, pp. 65–66, https://doi.org/10.1007/978-3-319-31510-2_6.

[32] B. Szaszi *et al*., *A Systematic Scoping Review…*, p. 363; *cf.* M. Maier *et al*., *No Evidence for Nudging After Adjusting for Publication Bias*, "Proceedings of the National Academy of Sciences" 2022, vol. 119, p. 1.

even encourage the publication of null or non-significant results, while initiatives such as preregistration, registered reports, and large-scale replication projects have been developed to strengthen the reliability of behavioural findings. For example, Machery highlights how reforms in philosophy and psychology are reshaping the evidentiary standards by emphasizing transparency, reproducibility, and methodological rigour.[33] Similarly, the Geography of Philosophy Project, supported by the Templeton Foundation, advances large-scale cross-cultural replications to test whether central psychological findings are culturally universal or context-specific.[34] These efforts significantly mitigate, though do not fully eliminate, the risks of basing legal and policy interventions on fragile evidence.

A further, albeit far less common, issue is outright fabrication of research results. Instances of scientific misconduct have received disproportionate attention because of their dramatic implications, often ending the careers of those involved. While such cases are rare and should not be generalized as indicative of the field as a whole, they nonetheless contribute to broader concerns about the credibility of behavioural science.[35] More serious and systemic challenges to reliability stem from methodological weaknesses, replication failures, and selective reporting practices, which occur with greater frequency and therefore pose a more persistent threat to the evidentiary foundations of behavioural policy. Deaton and Cartwright emphasize that "researchers put too much trust in RCTs over other methods of investigation".[36] The outcomes of experiments do not necessarily depict reality because the experimental design itself is "unrealistic," at times disconnected from real-life conditions.[37]

Problems with predicting the effects of nudges are not limited to the quality of *ex ante* research; they also depend on how nudges are actually implemented in practice. Sunstein remarked that: "experts are generally right, and ordinary people are generally wrong".[38] However, researchers from various fields and perspectives have questioned the assumption that experts can accurately determine what constitutes a rational or appropriate decision for the general public.[39]

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33 E. Machery, *What is a Replication?*, "Philosophy of Science" 2020, no. 87, p. 545.

34 The Geography of Philosophy Project, Templeton Foundation.

35 A. Hill, A. Jack, *Harvard Fraud Claims Fuel Doubts over Science of Behaviour*, "The Financial Times", 29 June 2023, https://www.ft.com/content/846cc7a5-12ee-4a44-830e-11ad00f224f9 (accessed: 9.04.2026); *cf.* N. Scheiber, *The Harvard Professor and the Bloggers*, "The New York Times", 30 September 2023, https://www.nytimes.com/2023/09/30/business/the-harvard-professor-and-the-bloggers.html (accessed: 9.04.2026); J. Stern, *An Unsettling Hint at How Much Fraud Could Exist in Science*, "The Atlantic", 2 August 2023, https://www.theatlantic.com/science/archive/2023/08/gino-ariely-data-fraud-allegations/674891/ (accessed: 9.04.2026).

36 A. Deaton, N. Cartwright, *Understanding and Misunderstanding*…

37 M.J. Rizzo, *Rationality – What? Misconceptions of Neoclassical and Behavioral Economics* [in:] *The Cambridge Handbook of Classical Liberal Thought*, ed. M.T. Henderson, Cambridge University Press, Cambridge – New York – Melbourne 2018, p. 12.

38 C.R. Sunstein, *Risk and Reason: Safety, Law, and the Environment*, Cambridge University Press, Cambridge 2002, p. 55.

39 M.D. White, *The Crucial Importance of Interests in Libertarian Paternalism* [in:] *Nudging – Possibilities, Limitations and Applications in European Law and Economics,* eds. K. Mathis, A. Tor, 3rd ed., Springer, Cham

First, numerous researchers note that "public decision-makers are subject to the same distortions as are other people".[40] As Rizzo and Glen remarked; "[i]f policymakers are subject to the same cognitive biases that affect regular people, that, too, will inhibit good policy-making". Underhill enumerates various biases and heuristics[41] influencing policymakers' decisions:[42] "overestimating the likelihood of familiar or vividly imaginable events, regretting losses more acutely than we value gains, generalizing to social groups from individual examples, seeking out evidence that confirms our prior beliefs, changing our opinions depending on the framing of choices, updating beliefs to conform with others in our political party or social group, being stymied by ambiguity or complexity, interpreting emotions as information, believing that independent events are related, and believing that we will be luckier than others".[43]

Commenting on this phenomenon, Frey and Gallus observe about policymakers: "[i]t could even be argued that they act in a less careful manner because they decide about other people's, and not their own, money".[44] Additionally, policymakers face the so-called "curse of knowledge," whereby choice architects rely too heavily on their own knowledge or desires and fail to account for what decision-makers actually know or prefer.[45]

Policymakers' vulnerability to simplified cognitive processes is not the only issue. Rizzo and Whitman point out that policymakers may lack the knowledge required to design effective paternalistic policies.[46] Nudges are often introduced on an ad

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2016, pp. 21–23; *cf.* A.J. Skoble, *The Dangers of Nudging—the Use of State Coercion to Affect Behaviour*, Fraser Institute, 19 January 2018, https://www.fraserinstitute.org/commentary/dangers-nudging-use-state-coercion-affect-behaviour (accessed: 9.04.2026); J. Collins, *Why Behavioral Economics is Itself Biased*, "Economics" 12 December 2020, https://evonomics.com/why-behavioral-economics-is-itself-biased/ (accessed: 9.04.2026); K. Underhill, *Broken Experimentation*…

40 B.S. Frey, J. Gallus, *Beneficial and Exploitative Nudges* [in:] *Nudging – Possibilities*…, p. 14; *cf.* E.L. Glaeser, *Paternalism and Psychology*, "University of Chicago Law Review" 2006, vol. 73, issue 1, p. 199, https://chicagounbound.uchicago.edu/uclrev/vol73/iss1/8/ (accessed: 9.04.2026); K. Underhill, *Broken Experimentation*…, p. 155; C.R. Sunstein, *Simpler: The Future of Government*, Simon & Schuster, New York – London – Toronto 2013, p. 69; P.G. Lewis, *Policy Thinking, Fast and Slow: A Social Intuitionist Perspective on Public Policy Processes*, "APSA Annual Meeting Paper" 2013, p. 1, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2300479 (accessed: 27.01.2025); P. Cairney, *The Politics of Evidence-Based Policy Making*, Palgrave Pivot, London 2015, p. 16.

41 Behavioural research demonstrates that individuals often rely on heuristics—mental shortcuts that simplify decision-making but may also produce systematic errors known as cognitive biases.

42 At the same time, recent scholarship highlights that professional training and legal expertise can, in certain contexts, reduce susceptibility to cognitive distortions. Tobia, for example, shows that expert knowledge of legal concepts may attenuate some biases that affect lay reasoning. This suggests a more differentiated account: while expertise does not confer complete immunity from bias, it can provide partial protection, depending on the type of cognitive error and the domain of application. K. Tobia, *Legal Concepts and Legal Expertise*, "Synthese" 2024, vol. 203, p. 107.

43 K. Underhill, *Broken Experimentation*…, p. 164.

44 B.S. Frey, J. Gallus, *Beneficial and Exploitative Nudges*…, p. 14.

45 R.S. Nickerson, *How We Know—and Sometimes Misjudge—What Others Know: Imputing One's Own Knowledge to Others*, "Psychological Bulletin" 1999, vol. 125, no. 6, pp. 737, 750.

46 M.J. Rizzo, D.G. Whitman, *The Knowledge Problem of New Paternalism*, "Brigham Young University Law Review" 2009, issue 4, p. 905, https://digitalcommons.law.byu.edu/lawreview/vol2009/iss4/4 (accessed: 4.04.2026).

hoc basis – essentially via a "copy-paste" approach – without sufficient *ex ante* or *ex post* evaluation.[47] Oliver at al. have identified the following obstacles to proper behavioural policymaking: "The most frequently reported barriers were the lack of availability to research, lack of relevant research, having no time or opportunity to use research evidence, policymakers' and other users not being skilled in research methods, and costs."[48] Additional factors include the quality of collaboration between researchers and policymakers, the accessibility of research findings, the financial resources to apply them, and the comprehensibility of the results.[49] Underhill notes: "High-quality research on policy decisions is often absent, and evaluation mandates are unfunded or toothless, culminating in research that is poorly designed or irrelevant to policy choices (…) Pathological uses of existing research evidence are similarly ubiquitous."[50]

McChesney explores how nudges are formulated in practice and subsequently integrated into legal frameworks, using the Federal Trade Commission's Cooling-Off Rule as an example.[51]

3. Case study

This regulation was introduced to protect consumers from impulsive purchasing decisions that they might later regret. The Cooling-Off Rule applies to transactions worth $25 or more, conducted away from the seller's primary place of business, making it especially relevant to door-to-door sales. It grants consumers the right to cancel sales agreements within three days and requires sellers to provide information about these rights and the associated procedures at the time of sale. McChesney notes that this regulation was not preceded by experiments confirming its necessity or effectiveness: "The FTC's[52] 'Statement of Basis and Purpose' for the Rule included almost no quantitative information, and was devoid of any systematic evidence of the need for the rule."[53] The Commission failed to establish a clear method to determine whether direct selling practices systematically involved seller opportunism, rather than occasional instances of such opportunism, and whether this was likely to undermine consumers' bounded

47 K. Underhill, *Broken Experimentation*…, p. 153.

48 K. Oliver *et al*., *A Systematic Review of Barriers to and Facilitators of the Use of Evidence by Policymakers*, "BMC Health Services Research" 2014, vol. 14, pp. 2–4, https://doi.org/10.1186/1472-6963-14-2.

49 *Ibidem*, p. 7.

50 K. Underhill, *Broken Experimentation*…, p. 154.

51 16 CFR § 429.1 (Electronic Code of Federal Regulations, current as of 15 April 2025).

52 Federal Trade Commission.

53 F.S. McChesney, *Behavioral Economics: Old Wine in Irrelevant New Bottles?*, "Supreme Court Economic Review" 2014, vol. 21, no. 1, pp. 43, 69, https://www.jstor.org/stable/10.1086/675265 (accessed: 22.04.2026).

rationality.[54] "The record relied on what 'everybody knew' about door-to-door purchases—assumptions about consumers—rather than on actual consumer behaviour and experience."[55] The author wryly observes that the supposedly paternalistic libertarian nudgers were themselves operating under conditions of bounded rationality, shaping decisions in areas where their expertise was limited. He cautions that some nudges rest on broad, colloquial assumptions about human behaviour and cognition, without being adequately tested in specific regulatory or cultural settings.

Similar observations are shared by Liscow and Markovits: "in making judgments about the right policy, BLE [Behavioral Law and Economics] has erected a new, shaky structure, based on ad hoc and often unstated normative assumptions".[56] These critiques particularly concern studies of the effectiveness of a regulation which are carried out after it has already been implemented, frequently without prior investigations. The absence of pre-regulation studies precludes comparisons between post-regulation outcomes and the original situation, thereby limiting the value of subsequent evaluations. Without any evidence on the issue which is meant to be regulated, it is impossible to determine whether the regulation has in fact been effective.[57] Szaszi et al. highlight the same problem: "[p]olicy makers have often relied on nudge-like techniques in the past to influence human behavior, but due to lack of rigorous research, these attempts were mostly based on the pure luck of trial-and-error. The nudge movement aimed to take the next step and provide an evidence-base to practitioners in their attempts to promote socially advantageous behavior. However, previous domain-specific nudge reviews suggested that for identifiable reasons, the field is greatly limited in its ability to accumulate evidence, and to predict when and to explain why nudges work."[58]

In my view, the lesson is that policymakers must recognize the structural limits of behavioural science: methodological weaknesses, replication concerns, and expert biases are not peripheral but central obstacles to effective implementation. Unless these are directly addressed, the promise of nudges will remain fragile.

The foregoing analysis shows that methodological shortcomings, conceptual ambiguities, and institutional vulnerabilities systematically hinder the reliability of nudges. These deficiencies point directly to the broader concern that, when implemented without sufficient evidence, behavioural regulation risks losing legitimacy. The next section explores these normative and institutional consequences of suboptimal implementation.

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[54] The notion of "bounded rationality" refers to the limited cognitive resources of individuals, which constrain their ability to make fully rational decisions in complex environments.

[55] *Ibidem*.

[56] Z. Liscow, D. Markovits, *Democratizing Behavioral Economics,* "Yale Journal on Regulation" 2022, no. 39, p. 1217, https://doi.org/10.2139/ssrn.4012996.

[57] F.S. McChesney, *Behavioral Economics*…, p. 69.

[58] B. Szaszi *et al*., *A Systematic Scoping Review*…, p. 362.

4. Consequences of suboptimal implementation

Shortcomings in experimental research on nudges, together with their implementation without robust supporting studies, produce a range of consequences that prevent nudges from reliably performing as expected. In many instances, they prove ineffective or have only a limited impact,[59] yield outcomes contrary to their original intent,[60] or generate side effects,[61] spillover effects,[62] or slippery slopes.[63] Moreover, there is a growing acknowledgment that interventions based solely on behavioural insights may be insufficient to achieve policy objectives on their own.[64]

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[59] G. Gigerenzer, *On the Supposed Evidence for Libertarian Paternalism*, "Review of Philosophy and Psychology" 2015, vol. 6, p. 361, https://doi.org/10.1007/s13164-015-0248-1; *cf.* R. Baldwin, *From Regulation to Behaviour Change: Giving Nudge the Third Degree*, "The Modern Law Review" 2014, vol. 77, pp. 831, 839, http://dx.doi.org/10.1111/1468-2230.12094; S. Mills, R. Whittle, *Seeing the Nudge from the Trees: The 4S Framework for Evaluating Nudges*, "Public Administration" 2024, vol. 102, issue 2, p. 580, https://doi.org/10.1111/padm.12941; N. Chater, G. Loewenstein, *The I-Frame and the s-Frame: How Focusing on Individual-Level Solutions Has Led Behavioral Public Policy Astray*, "Behavioral and Brain Sciences" 2023, no. 46, p. 1, https://doi.org/10.1017/S0140525X22002023; S. Mills, *Nudge Theory*…; J. Collins, *Why Behavioral Economics*…; M. Osman *et al*., *Learning from Behavioural Changes That Fail,* "Trends in Cognitive Sciences" 2020, vol. 24, issue 12, p. 969, https://doi.org/10.1016/j.tics.2020.09.009; A.S. Kristal, A.V. Whillans, *What We Can Learn from Five Naturalistic Field Experiments That Failed to Shift Commuter Behaviour*, "Nature Human Behaviour" 2020, no. 4, p. 169, https://doi.org/10.1038/s41562-019-0795-z; T. Dumanovsky, *Changes in Energy Content of Lunchtime Purchases from Fast Food Restaurants After Introduction of Calorie Labelling: Cross Sectional Customer Surveys*, "The British Medical Journal" 2011, vol. 343, p. d4464, https://doi.org/10.1136/bmj.d4464.

[60] M. Osman *et al*., *Learning from*…; *cf.* S. Chabé-Ferret *et al*., *When Nudges Backfire: Evidence from a Randomized Field Experiment to Boost Biological Pest Control*, "Annals of Economics and Statistics" 2024, vol. 156, p. 9, https://brgm.hal.science/hal-04900081/document (accessed: 3.04.2026); T. Mullett, *What are the Advantages and Disadvantages of Nudging?*, Warwick Business School, 14 February 2022, https://www.wbs.ac.uk/news/what-are-the-advantages-and-disadvantages-of-nudging (accessed: 3.04.2026).

[61] O. Amir, O. Lobel, *Stumble, Predict, Nudge: How Behavioral Economics Informs Law and Policy*, "Columbia Law Review" 2008, vol. 108, no. 8, pp. 2098, 2116, http://www.jstor.org/stable/40041817 (accessed: 3.04.2026); *cf.* A. Stibe, B. Cugelman, *Persuasive Backfiring*…, p. 70.

[62] "Spillover effects" are defined as secondary effects of an intervention that extend beyond the targeted behavior, either positively or negatively. M.M.J. Torres, F. Carlsson, *Direct and Spillover Effects of a Social Information Campaign on Residential Water Savings*, "Journal of Environmental Economics and Management" 2018, vol. 92, p. 222, https://doi.org/10.1016/j.jeem.2018.08.005; *cf.* A. Maki *et al*., *Meta-Analysis of Pro-Environmental Behaviour Spillover, Nature Sustainability*, "Nature" 2019, vol. 2(4), p. 307, https://ideas.repec.org/a/nat/natsus/v2y2019i4d10.1038_s41893-019-0263-9.html (accessed: 17.04.2026).

[63] "Slippery slope" is defined as the risk that small-scale behavioural interventions may legitimize progressively more intrusive forms of regulation. M.J. Rizzo, D.G. Whitman, *Little Brother is Watching You: New Paternalism on the Slippery Slopes*, "Arizona Law Review" 2009, vol. 51, p. 685, https://arizonalawreview.org/pdf/51-3/51arizlrev685.pdf (accessed: 3.04.2026).

[64] J.Y. Campbell, *Restoring Rational Choice: The Challenge of Consumer Financial Regulation*, "American Economic Review" 2016, vol. 106, p. 1, https://scholar.harvard.edu/campbell/publications/restoring-rational-choice-challenge-consumer-financial-regulation (accessed: 3.04.2026); G. Loewenstein, N. Chater, *Putting Nudges in Perspective*, "Behavioural Public Policy" 2017, no. 1, p. 26, https://www.cmu.edu/dietrich/sds/docs/loewenstein/putting_nudges_in_perspective.pdf (accessed: 3.04.2026); N. Chater, G. Loewenstein, *The I-Frame…*, p. 2; *cf.* J. Petimar *et al*., *Evaluation of the Impact of Calorie Labeling on McDonald's Restaurant*

Deficiencies in research preceding the introduction of a nudge also intensify doubts about whether nudges should be legitimized as regulatory tools. Some scholars contend that an ineffective nudge amounts to a "technocratic abuse of power",[65] as using a nudge without proper knowledge or evidence base is seen as governmental overreach.[66] Others maintain that an ineffective nudge is merely a superficial measure used to conceal government inaction in addressing regulatory problems, focusing on minor individual adjustments instead of more profound systemic reforms.[67] As Mills puts it, "they put the emphasis on slight changes from individuals instead of more meaningful and effective systemic change".[68] In Schneider's assessment, "nudging can be understood as an approach to risk management that eschews meaningful interventions in the neoliberal political economic order".[69] To illustrate this issue, Schneider refers to an example from the sphere of mortgage contracts.

5. Case study

In keeping with the premises of libertarian paternalism, the issue of complex mortgage agreements and the attendant risks associated with a variable interest rate (including contractual terms such as negative amortization or balloon payments) is addressed by simplifying these agreements so that everyone, even so-called unsophisticated mortgage shoppers, can understand the contract conditions. Schneider points out that a nudge, in this case, does not resolve the core problem of predatory practices in the mortgage business. She remarks: "Sunstein and Thaler do not believe that it is

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Menus: A Natural Experiment, "The International Journal of Behavioral Nutrition and Physical Activity" 2019, vol. 16, https://doi.org/10.1186/s12966-019-0865-7; K.M. Kiszko *et al*., *The Influence of Calorie Labeling on Food Orders and Consumption: A Review of the Literature*, "Journal of Community Health" 2014, vol. 39, p. 1248, https://doi.org/10.1007/s10900-014-9876-0.

65 P.G. Hansen, A.M. Jespersen, *Nudge and the Manipulation of Choice*…, pp. 3, 12; H. Farrell, C. Shalizi, *"Nudge" Policies are Another Name for Coercion*, "New Scientist", 2 November 2011, https://www.newscientist.com/article/mg21228376-500-nudge-policies-are-another-name-for-coercion/ (accessed: 3.04.2026); D. Lazanski, *A Nudge Towards Totalitarianism?*, Institute of Economic Affairs, 9 October 2009, https://iea.org.uk/blog/a-nudge-towards-totalitarianism-0/ (accessed: 3.04.2026); S. Schneider, *Technocracy Without Society: A Critique of Nudging as an Approach to Managing Risk*, "International Review of Applied Economics" 2025, vol. 39, pp. 919–931, https://doi.org/10.1080/02692171.2024.2384457.

66 J. Collins, *Why Behavioral*…; *cf.* A.J. Skoble, *The Dangers of Nudging*…; S. Mills, *Nudge Theory*…; B. O'Neill *A Message to the Illiberal Nudge Industry: Push Off*, Spiked-online.com, 1 November 2010, https://www.spiked-online.com/2010/11/01/a-message-to-the-illiberal-nudge-industry-push-off/ (accessed: 3.04.2026); D. Lithwick, *Taming Your Inner Homer Simpson: How to Opt Out of Our Own Stupid Choices*, Slate, 12 May 2008, https://slate.com/culture/2008/05/cass-sunstein-and-richard-thaler-s-nudge.html (accessed: 3.04.2026); A. Oliver, *Nudges, Shoves and Budges: Behavioural Economic Policy Frameworks*, "The International Journal of Health Planning and Management" 2018, vol. 33, issue 1, pp. 272, 283, https://doi.org/10.1002/hpm.2419.

67 S. Mills, *Nudge Theory*…; N. Chater, G. Loewenstein, *The I-Frame*…, p. 3.

68 S. Mills, *Nudge Theory*…

69 S. Schneider, *Technocracy Without Society*…, p. 9.

appropriate for governments to restrict the types of mortgages that exist or bank predatory lending features… Nudgers do not accept that financial risks of this sort can be ameliorated by making it harder for sharks; instead, they offer swimmers goggles."[70]

According to Schneider, using a nudge as a solution essentially masks the lack of genuinely effective government action, avoiding the use of more forceful legal measures to eliminate hazardous practices. Mills provides a similar example in the realm of pro-environmental interventions, arguing that a nudge can be a tool for politicians to maintain voter support without making genuine efforts to resolve regulatory challenges. He notes: "[f]or instance, nudges that encourage households to reduce their energy consumption may be considered a good idea. But what if this nudge also reduces the political will to pursue more effective (and expensive) policies, such as retrofitting homes or dramatically investing in sources of sustainable energy?"[71]

This approach to regulatory problem solving is linked to the notion that certain regulatory issues are rooted in citizens' own choices—choices shaped by cognitive limitations that can allegedly be addressed "only" through a nudge—thereby shifting responsibility onto the public.[72]

Taken together, these examples suggest that the risks of nudging extend beyond empirical failure: they entail questions of governmental legitimacy, democratic accountability, and the rule of law. If these concerns are to be addressed, it becomes imperative to rethink the legal framework surrounding behavioural interventions. The concluding section therefore evaluates possible safeguards and articulates recommendations for reform.

6. Conclusions

The analysis in this article substantiated the three hypotheses outlined in the introduction. According to the first one (H1), nudges introduced without rigorous preparatory evidence frequently fail to yield reliable or predictable outcomes, as demonstrated by problems of methodological weakness and replication crises. The second hypothesis (H2) is that such deficiencies compromise the legitimacy of behavioural regulation, risking both technocratic misuse and superficial governance. In line with the third one (H3), safeguarding the credibility of nudges requires embedding them within a legally grounded framework that enforces accountability and proportionality. Together, these findings underscore the need to integrate behavioural science into law not merely as a technical tool but as a regulated practice, which is subject to normative and institutional constraints.

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[70] *Ibidem*, p. 10.

[71] S. Mills, *Nudge Theory*…

[72] N. Chater, G. Loewenstein, *The I-Frame*…, pp. 2–3; M.A. Madi, *The Dark Side of Nudges*, Routledge, London – New York 2020, p. 72.

If one of the key elements in defining a nudge is the predictability of regulatory outcomes—arising from pre-implementation studies as well as institutional reliability and expertise—then, as the above analysis suggests, this requirement is not always fulfilled. Regarding the reasons why nudges fail, such as inadequate experimental research, Szaszi et al. propose several recommendations to enhance research quality.[73] First, the taxonomy of nudges should be standardized so that researchers can rely on a shared nomenclature. Second, it is advisable to use reporting guidelines[74] to streamline how research is conducted and to support future replication. Third, the adoption of public preregistration systems is encouraged, as it can help reduce publication bias and maintain high standards of reporting.[75] Another crucial observation is that not every government decision must rely solely on scientific evidence, recognizing that evidence-based policymaking has its limits.[76]

An increasing number of scholars advocate the development of a legally grounded framework to refine the rules for applying and evaluating nudges in regulatory practice.[77] If we accept that a nudge is a regulatory tool intentionally employed by government authorities, then those authorities should bear responsibility for how they use this tool and for the outcomes it produces. In view of the current limited "involvement of the law" in behavioural policymaking, some argue that it would be beneficial to apply rule-of-law safeguards to nudges more frequently: "If nudges are intentionally used, then the people who engage in nudging are responsible and can be held accountable for the consequences of these nudges."[78] Zeilstra proposes basing the sys-

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[73] B. Szaszi *et al*., *A Systematic Scoping Review…*, p. 364.

[74] J. Anders *et al*., Evaluation of Complex Whole-School Interventions: Methodological and Practical Considerations. A Report for the Education Endowment Foundation, October 2017, https://d2tic4wvo1iusb.cloudfront.net/production/documents/evaluation/methodological-research-and-innovations/EEF_CWSI_RESOURCE_FINAL_25.10.17.pdf (accessed: 4.04.2026); C. Begg *et al*., Improving the quality of reporting of randomized controlled trials. The CONSORT statement, JAMA, 28 August 1996, pp. 637–639, doi: 10.1001/jama.276.8.637; M.R. Munafò *et al*., *A Manifesto for Reproducible Science*, "Nature Human Behaviour" 2017, no. 1, p. 1, https://doi.org/10.1038/s41562-016-0021.

[75] B. Szaszi *et al*., *A Systematic Scoping Review…*, p. 364.

[76] K. Underhill, *Broken Experimentation…*, p. 155; J.J. Donohue III, J. Wolfers, *Uses and Abuses of Empirical Evidence in the Death Penalty Debate*, "Stanford Law Review" 2006, vol. 58, pp. 791–793, https://ssrn.com/abstract=870312 (accessed: 4.04.2026).

[77] A. Alemanno, A. Spina, *Nudging Legally: On the Checks and Balances of Behavioral Regulation*, "International Journal of Constitutional Law" 2014, vol. 12, issue 2, pp. 429, 455, https://doi.org/10.1093/icon/mou033; A.S. Van Aaken, *Judge the Nudge: Legal Limits in the EU* [in:] *Nudge and the law: a European perspective*, eds. A. Alemanno, A.L. Sibony, Bloomsbury Publishing, Oxford 2015; R. Lepenies, M. Małecka, *The Institutional Consequences of Nudging – Nudges, Politics, and the Law*, "Review of Philosophy and Psychology" 2015, no. 6, p. 427, doi: 10.1007/s13164-015-0243-6; R. Zeilstra, *Nudging and the Safeguards of the Rule of Law*, "German Law Journal" 2024, vol. 25, issue 5, p. 750, https://doi.org/10.1017/glj.2024.30; C. McCrudden, J. King, *The Dark Side of Nudging: The Ethics, Political Economy, and Law of Libertarian Paternalism* [in:] *Choice architecture in democracies: Exploring the Legitimacy of Nudging*, eds. A. Kemmerer, C. Möllers, M. Steinbeis, G. Wagner, Nomos/Hart, Oxford 2017.

[78] R. Zeilstra, *Nudging and the Safeguards…*, p. 751.

tem that differentiates nudges on three approaches developed by the European Court of Human Rights (ECtHR): (1) the *de minimis* principle, (2) the notion of the core of fundamental rights, and (3) the criterion of the seriousness of the interference.[79] The author contends that drawing an analogy between the ECtHR's legal safeguards and a governmental system assessing nudges is valid, as both aim to guard against abuses of power. By applying these measures, modelled after the ECtHR's approach, legal actors could determine whether nudges intrude on fundamental rights such as autonomy, dignity, or democracy, and if so, assess the gravity of such interference.[80]

Experimental jurisprudence provides a complementary reminder that the legitimacy of behavioural regulation cannot be divorced from how legal concepts are actually interpreted by experts and laypeople. If judges, policymakers, and citizens are all susceptible to cognitive distortions,[81] then embedding nudges within a robust legal framework becomes not merely a matter of institutional design, but a safeguard for ensuring that law itself is applied consistently and fairly.

I argue that the risks of nudging without evidence are not confined to empirical shortcomings but extend to fundamental questions of legitimacy, accountability, and the rule of law. The future of behavioural regulation depends on embedding nudges within a robust legal framework that mandates scrupulous evidentiary standards, transparency in design, and institutional safeguards against overreach. Without such measures, there is a risk that nudges will function as technocratic shortcuts that erode democratic deliberation. With such measures, however, nudges may serve as legitimate complements to law, enhancing welfare, while preserving freedom of choice. This balance, rather than uncritical enthusiasm or wholesale rejection, should guide the next generation of behavioural public policies.

References

Alemanno A., Spina A., *Nudging Legally: On the Checks and Balances of Behavioral Regulation*, "International Journal of Constitutional Law" 2014, vol. 12, issue 2, pp. 429–456, https://doi.org/10.1093/icon/mou033.

Amir O., Lobel O., *Stumble, Predict, Nudge: How Behavioral Economics Informs Law and Policy*, "Columbia Law Review" 2008, vol. 108, no. 8, pp. 2098–2137, http://www.jstor.org/stable/40041817 (accessed: 3.04.2026).

Anders J., Brown Ch., Ehren M., Greany T., Nelson R., Evaluation of Complex Whole-School Interventions: Methodological and Practical Considerations. A Report for the Education Endowment Foundation, October 2017, https://d2tic4wvo1iusb.cloudfront.net/production/documents/evaluation/methodological-research-and-innovations/EEF_CWSI_RESOURCE_FINAL_25.10.17.pdf (accessed: 4.04.2026)

[79] *Ibidem*, p. 760.

[80] *Ibidem*, p. 763.

[81] K. Tobia, *How People Judge What Is Reasonable*, "Alabama Law Review" 2018, vol. 70, p. 293, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3108236 (accessed: 4.04.2026).

Baldwin R., *From Regulation to Behaviour Change: Giving Nudge the Third Degree*, "The Modern Law Review" 2014, vol. 77, pp. 831–857, http://dx.doi.org/10.1111/1468-2230.12094.

Begg C., Cho M., Eastwood S., Horton R., Moher D., Olkin I., Pitkin R., Rennie D., Schulz K.F., Simel D., Stroup D.F., Improving the quality of reporting of randomized controlled trials. The CONSORT statement, JAMA, 28 August 1996, pp. 637–639, doi: 10.1001/jama.276.8.637.

Cairney P., *The Politics of Evidence-Based Policy Making*, Palgrave Pivot, London 2015.

Campbell J.Y., *Restoring Rational Choice: The Challenge of Consumer Financial Regulation*, "American Economic Review" 2016, vol. 106, pp. 1–30, https://scholar.harvard.edu/campbell/publications/restoring-rational-choice-challenge-consumer-financial-regulation (accessed: 3.04.2026).

Chabé-Ferret S., Le Coënt P., Lefebvre C., Préget R., Salanié F., Subervie J., Thoyer S., *When Nudges Backfire: Evidence from a Randomized Field Experiment to Boost Biological Pest Control*, "Annals of Economics and Statistics" 2024, vol. 156, pp. 9–30, https://brgm.hal.science/hal-04900081/document (accessed: 3.04.2026).

Chater N., Loewenstein G., *The I-Frame and the s-Frame: How Focusing on Individual-Level Solutions Has Led Behavioral Public Policy Astray*, "Behavioral and Brain Sciences" 2023, no. 46, pp. 1–63, https://doi.org/10.1017/S0140525X22002023.

Collins J., *Why Behavioral Economics is Itself Biased*, "Economics", 12 December 2020, https://evonomics.com/why-behavioral-economics-is-itself-biased/ (accessed: 9.04.2026).

Congiu L., Moscati I., *A Review of Nudges: Definitions, Justifications, Effectiveness*, "Journal of Economic Surveys" 2022, no. 36, pp. 188–213, https://doi.org/10.1111/joes.12453.

Craig P., Dieppe P., Macintyre S., Michie S., Nazareth I., Petticrew M., *Developing and Evaluating Complex Interventions: The New Medical Research Council Guidance*, "International Journal of Nursing Studies" 2013, vol. 50, pp. 1–6.

Deaton A., Cartwright N., *Understanding and Misunderstanding Randomized Controlled Trials*, "Social Science & Medicine" 2018, no. 210, pp. 2–21, https://doi.org/10.1016/j.socscimed.2017.12.005.

DellaVigna S., Linos E., *RCTs to Scale: Comprehensive Evidence from Two Nudge Units*, "Econometrica" 2022, vol. 90, no. 1, pp. 81–116, https://doi.org/10.3982/ECTA18709.

Donohue III J.J., Wolfers J., *Uses and Abuses of Empirical Evidence in the Death Penalty Debate*, "Stanford Law Review" 2006, vol. 58, pp. 791–846, https://ssrn.com/abstract=870312 (accessed: 4.04.2026).

Dumanovsky T., *Changes in Energy Content of Lunchtime Purchases from Fast Food Restaurants After Introduction of Calorie Labelling: Cross Sectional Customer Surveys*, "The British Medical Journal" 2011, vol. 343, pp. 1–11, https://doi.org/10.1136/bmj.d4464.

Farrell H., Shalizi C., *"Nudge" Policies are Another Name for Coercion*, "New Scientist", 2 November 2011, https://www.newscientist.com/article/mg21228376-500-nudge-policies-are-another-name-for-coercion/ (accessed: 3.04.2026).

Ferguson C.J., Heene M., *A Vast Graveyard of Undead Theories Publication Bias and Psychological Science's Aversion to the Null*, "Perspectives on Psychological Science" 2012, vol. 7, issue 6, pp. 555–561, https://doi.org/10.1177/1745691612459059.

Frey B.S., Gallus J., *Beneficial and Exploitative Nudges* [in:] *Nudging – Possibilities, Limitations and Applications in European Law and Economics,* eds. K. Mathis, A. Tor, 3rd ed., Springer, Cham 2016, pp. 11–20.

Gane N., *Nudge Economics as Libertarian Paternalism*, "Theory, Culture & Society" 2021, vol. 38, issue 6, p. 119, doi.org/10.1177/0263276421999447.

Gigerenzer G., *On the Supposed Evidence for Libertarian Paternalism*, "Review of Philosophy and Psychology" 2015, vol. 6, pp. 361–383, https://doi.org/10.1007/s13164-015-0248-1.

Glaeser E.L., *Paternalism and Psychology*, "University of Chicago Law Review" 2006, vol. 73, issue 1, pp. 133–156, https://chicagounbound.uchicago.edu/uclrev/vol73/iss1/8/ (accessed: 9.04.2026).

Grüne-Yanoff T., *Behavioral Public Policy, One Name, Many Types. A Mechanistic Perspective* [in:] *The Routledge Handbook of the Philosophy of Economics*, eds. C. Heilmann, J. Reiss, Routledge, New York 2021, pp. 480–493.

Hansen P.G., Jespersen A.M., *Nudge and the Manipulation of Choice: A Framework for the Responsible Use of the Nudge Approach to Behaviour Change in Public Policy*, "European Journal of Risk Regulation" 2013, vol. 4, no. 1, pp. 3–28, https://www.jstor.org/stable/24323381 (accessed: 9.04.2026).

Hallsworth M., *A Manifesto for Applying Behavioral Science*, Behavioural Insights Team Blog, 20 March 2023, p. 45, https://www.bi.team/publications/a-manifesto-for-applying-behavioral-science/ (accessed: 9.04.2026).

Heal J., Groot B., *Running RCTs With Complex Interventions*, Behavioural Insights Team Blog, 1 November 2017, https://www.bi.team/blogs/running-rcts-with-complex-interventions/ (accessed: 9.04.2026).

Hertwig R., Grüne-Yanoff T., *Nudging and boosting: Steering or empowering good decisions*, "Perspectives on Psychological Science" 2017, vol. 12, issue 6, pp. 973–986, https://doi.org/10.1177/1745691617702496.

Hill A., Jack A., *Harvard Fraud Claims Fuel Doubts over Science of Behaviour*, "The Financial Times", 29 June 2023, https://www.ft.com/content/846cc7a5-12ee-4a44-830e-11ad00f224f9 (accessed: 9.04.2026).

Hollands G.J., Shemilt I., Marteau T.M., Jebb S.A., Kelly M.P., Nakamura R., Suhrcke M., Ogilvie D., *Altering Micro-Environments to Change Population Health Behaviour: Towards an Evidence Base for Choice Architecture Interventions,* "BMC Public Health" 2013, vol. 13, pp. 1–6, https://doi.org/10.1186/1471-2458-13-1218.

Hummel D., Maedche A., *How Effective is Nudging? A Quantitative Review on the Effect Sizes and Limits of Empirical Nudging Studies*, "Journal of Behavioral and Experimental Economics" 2019, vol. 80, pp. 47–58, https://doi.org/10.1016/j.socec.2019.03.005.

Kiszko K.M., Martinez O.D., Abrams C., Elbel B., *The Influence of Calorie Labeling on Food Orders and Consumption: A Review of the Literature*, "Journal of Community Health" 2014, vol. 39, pp. 1248–1269, https://doi.org/10.1007/s10900-014-9876-0.

Kristal A.S., Whillans A.V., *What We Can Learn from Five Naturalistic Field Experiments That Failed to Shift Commuter Behaviour*, "Nature Human Behaviour" 2020, no. 4, pp. 169–176, https://doi.org/10.1038/s41562-019-0795-z.

Lazanski D., *A Nudge Towards Totalitarianism?*, Institute of Economic Affairs, 9 October 2009, https://iea.org.uk/blog/a-nudge-towards-totalitarianism-0/ (accessed: 3.04.2026).

Lepenies R., Małecka M., *The Institutional Consequences of Nudging – Nudges, Politics, and the Law*, "Review of Philosophy and Psychology" 2015, no. 6, pp. 427–437, doi: 10.1007/s13164-015-0243-6.

Lewis P.G., *Policy Thinking, Fast and Slow: A Social Intuitionist Perspective on Public Policy Processes*, "APSA Annual Meeting Paper" 2013, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2300479 (accessed: 27.01.2025).

Liscow Z., Markovits D., *Democratizing Behavioral Economics,* "Yale Journal on Regulation" 2022, no. 39, p. 1217, https://doi.org/10.2139/ssrn.4012996.

Lithwick D., *Taming Your Inner Homer Simpson: How to Opt Out of Our Own Stupid Choices*, Slate, 12 May 2008, https://slate.com/culture/2008/05/cass-sunstein-and-richard-thaler-s-nudge.html (accessed: 3.04.2026).

Loewenstein G., Chater N., *Putting Nudges in Perspective*, "Behavioural Public Policy" 2017, no. 1, pp. 25–53, https://www.cmu.edu/dietrich/sds/docs/loewenstein/putting_nudges_in_perspective.pdf (accessed: 3.04.2026).

Machery E., *What is a Replication?*, "Philosophy of Science" 2020, no. 87, pp. 545–567.

Madi M.A., *The Dark Side of Nudges*, Routledge, London – New York 2020.

Maier M., Bartoš F., Stanley T.D., Shanks D.R., Harris A.J.L., Wagenmakers E.-J., *No Evidence for Nudging After Adjusting for Publication Bias*, "Proceedings of the National Academy of Sciences" 2022, vol. 119, pp. 1–2.

Maki A., Carrico A.R., Raimi K.T., Truelove H.B., Araujo B., Yeung K.L., *Meta-Analysis of Pro-Environmental Behaviour Spillover, Nature Sustainability*, "Nature" 2019, vol. 2(4), pp. 307–315, https://ideas.repec.org/a/nat/natsus/v2y2019i4d10.1038_s41893-019-0263-9.html (accessed: 17.04.2026).

Marchiori D.R., Adriaanse M.A., De Ridder D.T.D., *Unresolved Questions in Nudging Research: Putting the Psychology Back in Nudging*, "Social and Personality Psychology Compass" 2017, no. 11, pp. 1–13, https://www.uu.nl/sites/default/files/marchiori-et-al-2017-social-and-personality-psychology-compass.pdf (accessed: 9.04.2026).

McChesney F.S., *Behavioral Economics: Old Wine in Irrelevant New Bottles?*, "Supreme Court Economic Review" 2014, vol. 21, no. 1, pp. 43–76, https://www.jstor.org/stable/10.1086/675265 (accessed: 22.04.2026).

McCrudden C., King J., *The Dark Side of Nudging: The Ethics, Political Economy, and Law of Libertarian Paternalism* [in:] *Choice architecture in democracies: Exploring the Legitimacy of Nudging*, eds. A. Kemmerer, C. Möllers, M. Steinbeis, G. Wagner, Nomos/Hart, Oxford 2017, pp. 67–132.

Mertens S., Herberz M., Hahnel U.J.J., Brosch T., *The effectiveness of Nudging: A Meta-Analysis of Choice Architecture Interventions Across Behavioral Domains*, "Proceedings of the National Academy of Sciences" 2022, no. 119, pp. 1–10, https://doi.org/10.1073/pnas.2107346118.

Mills S., *Nudge Theory: What 15 Years of Research Tells us About its Promises and Politics*, The Conversation, 6 September 2023, https://theconversation.com/nudge-theory-what-15-years-of-research-tells-us-about-its-promises-and-politics-210534 (accessed: 9.04.2026).

Mills S., Whittle R., *Seeing the Nudge from the Trees: The 4S Framework for Evaluating Nudges*, "Public Administration" 2024, vol. 102, issue 2, pp. 580–600, https://doi.org/10.1111/padm.12941.

Mullett T., *What are the Advantages and Disadvantages of Nudging?*, Warwick Business School, 14 February 2022, https://www.wbs.ac.uk/news/what-are-the-advantages-and-disadvantages-of-nudging (accessed: 3.04.2026).

Munafò M.R. Nosek B., Bishop D. *et al*., *A Manifesto for Reproducible Science*, "Nature Human Behaviour" 2017, no. 1, pp. 1–9, https://doi.org/10.1038/s41562-016-0021.

Nickerson R.S., *How We Know—and Sometimes Misjudge—What Others Know: Imputing One's Own Knowledge to Others*, "Psychological Bulletin" 1999, vol. 125, no. 6, pp. 737–759, https://doi.org/10.1037/0033-2909.125.6.737.

Nørnberg T.R., Houlby L., Skov L.R., Perez-Cuet F.J.A., *Choice Architecture Interventions for Increased Vegetable Intake and Behaviour Change in a School Setting: A systematic Review*, "Perspectives in Public Health" 2015, no. 136, pp. 1–11.

Oliver A., *Nudges, Shoves and Budges: Behavioural Economic Policy Frameworks*, "The International Journal of Health Planning and Management" 2018, vol. 33, issue 1, pp. 272–283, https://doi.org/10.1002/hpm.2419.

Oliver K., Innvar S., Lorenc T., Woodman J., Thomas J., *A Systematic Review of Barriers to and Facilitators of the Use of Evidence by Policymakers*, "BMC Health Services Research" 2014, vol. 14, pp. 1–12, https://doi.org/10.1186/1472-6963-14-2.

O'Neill B., *A Message to the Illiberal Nudge Industry: Push Off*, Spiked-online.com, 1 November 2010, https://www.spiked-online.com/2010/11/01/a-message-to-the-illiberal-nudge-industry-push-off/ (accessed: 3.04.2026).

Open Science Collaboration, *Estimating the Reproducibility of Psychological Science*, "Science" 2015, vol. 349, issue 6251, p. 943, doi: 10.1126/science.aac4716.

Osman M., McLachlan S., Fenton N., Neil M., Löfstedt R., Meder B., *Learning from Behavioural Changes That Fail,* "Trends in Cognitive Sciences" 2020, vol. 24, issue 12, pp. 969–980, https://doi.org/10.1016/j.tics.2020.09.009.

Petimar J., Ramirez M., Rifas-Shiman S.L., Linakis S., Mullen J., Roberto Ch.A., Bloc J.P., *Evaluation of the Impact of Calorie Labeling on McDonald's Restaurant Menus: A Natural Experiment*, "The International Journal of Behavioral Nutrition and Physical Activity" 2019, vol. 16, pp. 1–11, https://doi.org/10.1186/s12966-019-0865-7.

Rizzo M.J., *Rationality – What? Misconceptions of Neoclassical and Behavioral Economics* [in:] *The Cambridge Handbook of Classical Liberal Thought*, ed. M.T. Henderson, Cambridge University Press, Cambridge – New York – Melbourne 2018, pp. 191–212.

Rizzo M.J., Whitman D.G., *Little Brother is Watching You: New Paternalism on the Slippery Slopes*, "Arizona Law Review" 2009, vol. 51, pp. 685–739, https://arizonalawreview.org/pdf/51-3/51arizlrev685.pdf (accessed: 3.04.2026).

Rizzo M.J., Whitman D.G., *The Knowledge Problem of New Paternalism*, "Brigham Young University Law Review" 2009, issue 4, pp. 905–968, https://digitalcommons.law.byu.edu/lawreview/vol2009/iss4/4 (accessed: 4.04.2026).

Saccardo S., Dai H., Han M., Raja N., Vangala S., Croymans D., *Scaling Nudges: Who Moves and How*, SSRN, 9 July 2025, http://dx.doi.org/10.2139/ssrn.3971192.

Sanbonmatsu M.D., Cooley E.H., Butner J.E., *The Impact of Complexity on Methods and Findings in Psychological Science*, "Frontiers in Psychology" 2021, no. 11, pp. 1–16, doi: 10.3389/fpsyg.2020.580111.

Scheiber N., *The Harvard Professor and the Bloggers*, "The New York Times", 30 September 2023, https://www.nytimes.com/2023/09/30/business/the-harvard-professor-and-the-bloggers.html (accessed: 9.04.2026).

Schneider S., *Technocracy Without Society: A Critique of Nudging as an Approach to Managing Risk*, "International Review of Applied Economics" 2025, vol. 39, pp. 919–931, https://doi.org/10.1080/02692171.2024.2384457.

Shrout P.E., Rodgers J.L., *Psychology, Science, and Knowledge Construction: Broadening Perspectives from the Replication Crisis*, "Annual Review of Psychology" 2018, no. 69, pp. 487–510, doi: 10.1146/annurev-psych-122216-011845.

Skoble A.J., *The Dangers of Nudging—the Use of State Coercion to Affect Behaviour*, Fraser Institute, 19 January 2018, https://www.fraserinstitute.org/commentary/dangers-nudging-use-state-coercion-affect-behaviour (accessed: 9.04.2026).

Skov L.R., Lourenço S., Hansen G.L., Mikkelsen B.E., Schofield C., *Choice Architecture as a Means to Change Eating Behaviour in Self-Service Settings: A Systematic Review*, "Obesity Reviews" 2013, no. 14, pp. 187–196, doi: 10.1111/j.1467-789X.2012.01054.x.

Stern J., *An Unsettling Hint at How Much Fraud Could Exist in Science*, "The Atlantic", 2 August 2023, https://www.theatlantic.com/science/archive/2023/08/gino-ariely-data-fraud-allegations/674891/ (accessed: 9.04.2026).

Stibe A., Cugelman B., *Persuasive Backfiring: When Behavior Change Interventions Trigger Unintended Negative Outcomes* [in:] *Persuasive Technology*, eds. A. Meschtscherjakov, B. De Ruyter, V. Fuchsberger, M. Murer, M. Tscheligi, Series: Lecture Notes in Computer Science, vol. 9638, Springer, Cham 2016, pp. 65–77, https://doi.org/10.1007/978-3-319-31510-2_6.

Sunstein C.R., *Risk and Reason: Safety, Law, and the Environment*, Cambridge University Press, Cambridge 2002.

Sunstein C.R., *Simpler: The Future of Government*, Simon & Schuster, New York – London – Toronto 2013.

Sunstein C.R., *The ethics of nudging*, "Yale Journal on Regulation" 2015, vol. 32, issue 2, pp. 413–450, https://www.yalejreg.com/print/the-ethics-of-nudging/ (accessed: 4.04.2026).

Szaszi B., Palinkas A., Palfi B., Szollosi A., Aczel B., *A Systematic Scoping Review of the Choice Architecture Movement: Toward Understanding When and Why Nudges Work*, "Journal of Behavioral Decision Making" 2018, no. 31, pp. 355–366, https://doi.org/10.1002/bdm.2035.

Thaler R.H., Sunstein C.R., *Nudge: Improving decisions about health, wealth, and happiness,* Yale University Press, New Haven 2008.

The House of Lords, Science and Technology Select Committee, *Definitions, Categorisation and the Ethics of Behaviour Change Interventions*, Parliament.uk, 2011, https://publications.parliament.uk/pa/ld201012/ldselect/ldsctech/179/17905.htm (accessed: 9.04.2026).

Tincani M., Travers J., *Replication Research, Publication Bias, and Applied Behavior Analysis,* "Perspectives on Behavior Science" 2019, vol. 42, pp. 59–75, https://doi.org/10.1007/s40614-019-00191-5.

Tobia K., *How People Judge What Is Reasonable*, "Alabama Law Review" 2018, vol. 70, pp. 293–359, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3108236 (accessed: 4.04.2026).

Tobia K., *Legal Concepts and Legal Expertise*, "Synthese" 2024, vol. 203, pp. 1–45.

Torres M.M.J., Carlsson F., *Direct and Spillover Effects of a Social Information Campaign on Residential Water Savings*, "Journal of Environmental Economics and Management" 2018, vol. 92, pp. 222–243, https://doi.org/10.1016/j.jeem.2018.08.005.

Treasury H.M., *Magenta Book Annex: Handling complexity in policy evaluation*, Gov.uk., March 2020, https://assets.publishing.service.gov.uk/media/5e96cab9d3bf7f412b2264b1/HMT_Magenta_Book.pdf (accessed: 9.04.2026).

Underhill K., *Broken Experimentation, Sham Evidence-Based Policy*, "Yale Law & Policy Review" 2020, vol. 38, no. 150, pp. 151–227, https://scholarship.law.columbia.edu/faculty_scholarship/3276 (accessed: 9.04.2026).

Van Aaken A.S., *Judge the Nudge: Legal Limits in the EU* [in:] *Nudge and the law: a European perspective*, eds. A. Alemanno, A.L. Sibony, Bloomsbury Publishing, Oxford 2015, pp. 83–114.

White M.D., *The Crucial Importance of Interests in Libertarian Paternalism* [in:] *Nudging – Possibilities, Limitations and Applications in European Law and Economics,* eds. K. Mathis, A. Tor, 3rd ed., Springer, Cham 2016, pp. 21–38.

Zeilstra R., *Nudging and the Safeguards of the Rule of Law*, "German Law Journal" 2024, vol. 25, issue 5, pp. 750–771, https://doi.org/10.1017/glj.2024.30.

Abstract

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Nudge Without Evidence: The Hidden Risks of Behavioural Policy

Nudge interventions have risen to prominence as ostensibly evidence-based regulatory tools, predicated on empirical insights into human decision-making. In theory, successful nudges require rigorous preparation, including carefully designed randomized controlled trials (RCTs) and pilot studies, to ensure they achieve their anticipated effects. In practice, however, many nudges fail to deliver the intended outcomes. This article explores the key determinants of such failures, with particular attention to issues in trial design and quality, the frequent reliance on ad hoc "copy-and-paste" approaches, and even absence of preparatory research. Consequently, this suboptimal implementation invites a range of objections regarding the legitimacy of behavioural regulation. Critics contend that nudges may be misused as technocratic exercises of power, provide a façade of government action without meaningfully addressing regulatory challenges, or function as instruments wielded by unqualified authorities. These flawed implementations give rise to a host of adverse consequences, such as side-effects of the regulation or unintended counter-effects. By dissecting these systemic shortcomings, this article offers a critical assessment of the relationship between approaches based on behavioural economics insights and regulatory practice, urging renewed scrutiny of nudge implementation processes to safeguard their credibility and efficacy.

Keywords: nudge, RCTs, behavioural intervention, evidence-based regulation, implementation, abuse of power