

REPLY

A reply to Luc Bovens: ethics and impact of boosting and nudging

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Luc Bovens offers thoughtful reflections on our article ‘Moving from nudging to boosting: Empowering behaviour change to address global challenges’. We appreciate the opportunity to clarify some of the issues raised.

Pragmatism versus idealism

Bovens suggests that ‘Nudge takes people as they are. Boost takes people as they might be’. While at first glance this seems to be an apt characterization, we believe it is more accurate to say that ‘Nudges are resigned to human limitations and seek to enlist them. Boosts recognise human potential and seek to realise it’. In that sense it is correct to suggest that boosts align more closely with the ethical principle of respect for human agency, but equally important is the evidence that this approach is simply more closely aligned with evidence on real human capabilities, especially the capability to improve.

Thus, while people clearly make errors in decisions, particularly in text-based (described) scenarios devoid of learning and experience (Lejarraga and Hertwig, 2021), there has been an undue focus, combined with a ‘rhetoric of irrationality’ (Lopes, 1991), on apparent demonstrations of stupidity, as was already noted more than four decades ago: ‘poor-performance articles are receiving most of the attention from other writers, despite equivalent proportions of each type [good-performance and poor-performance] in the journals’ (Christensen-Szalanski and Beach, 1984, p. 75). And there is considerable evidence that decision making can be highly efficient and adapted to the objectives of the situation at hand. This includes research on the mind as an intuitive statistician (see Peterson and Beach, 1967), on naturalistic decision making in complex, high-stakes real-world settings (e.g., Klein, 1999), on ecologically rational

heuristics (e.g., Gigerenzer *et al.*, 2011), and on Bayesian rationality (e.g., Griffiths *et al.*, 2010).

A little knowledge can be a dangerous thing

Bovens suggests that improving statistical literacy, and thus the consequences of our choice, can work against public health goals. He uses an example of how an infographic on breast cancer screening which quantifies its benefits may lead to fewer people participating in early breast cancer screening. But the infographic is incomplete in one very important way. It does not present the *false positive rate* (and, by extension, the psychological and health costs associated with this), which also needs to be factored into any decision. It seems that we could all benefit from a boost in statistical literacy (see Herzog and Hertwig, 2025). Indeed, the trade-offs in medical decisions are far from simple, and people need to be fully informed, including understanding the problem of overdiagnosis and overtreatment (Esserman *et al.*, 2013). It cannot be wise to entrust a medical-industrial complex with vested interests, or soft-paternalistic choice architects who are either unaware of or unwilling to account for heterogeneity in preferences, to make these trade-offs on behalf of people and nudge them accordingly.

Boosting is not all you need

Our argument for boosting is not an argument against seatbelt laws or tobacco taxes, as Bovens seems to imply (p. 7). As stressed in Herzog and Hertwig (2025) and in Kozyreva *et al.* (2020), boosting is part of a toolbox of public policies. Many global problems – for example, the climate crisis, pandemics and obesity – need the smart co-ordination of multiple classes of interventions. These have been identified in the ‘Behaviour Change Wheel’ as: education, persuasion, incentivisation, coercion, training, restriction, modelling, enablement and environmental restructuring (Michie *et al.*, 2011). Boosting is part of education, training and enablement. Boosting is also about environmental restructuring to create opportunities for us to demonstrate and improve on our capabilities. What is more, the other element in our critique of nudging – that it is individualistic as well as pessimistic – is directed (at least in part) to the neglect of collective action and its importance in bringing about structural changes. New laws that restrict corporate actions and profits don’t just happen; they are fought for!

What’s in a name?

Bovens notes the limitations of labels to characterise potentially complex intervention approaches such as ‘nudge’ and ‘boost’. By themselves, labels do create a risk of oversimplification. However, they can also serve a crucial role in acting as a hook on which to hang a coherent and nuanced set of ideas and principles (e.g., Table 1 in Michie *et al.*, 2011; Hertwig and Grüne-Yanoff, 2017), and there is no doubt that they do inform policymakers’ choices. Nudging and boosting represent different emphases regarding intervention targets, views of human cognitive malleability and values. Labels are important in signalling these conceptual and ethical assumptions, guiding policy makers searching for potential policy solutions. Labels are linguistic tools that can improve communication, help define paths and crossroads for policy makers, and suggest what

values are implied and strived for. Additionally, as labelling theorists have long recognised (e.g., Becker, 1963), labels can have perverse effects on those who are labelled, creating the very phenomena they purport to describe. A major element in our critique of nudging during the corona pandemic was that in labelling the public as deficient it corroded trust, lowered the influence of health authorities and undermined adherence to COVID protections (Reicher and Bauld, 2021).

Building better people

Bovens appears to doubt the idea that ‘building better people’ (p. 7) will lead to ‘better societies’. It is strange to be having to defend such an obvious truth but that can happen in academic debate where the wood gets lost for the trees. Such doubt must surely be limited to very specific domains of intervention since there is no doubt in general that education, training and life-long investments into competences are essential for civilisation and prosperity. Neither can there be any doubt that building devices and infrastructures that employ and develop our understanding and skills are highly effective in promoting more prosperous, better adapted societies.

Certainly, when it comes to combating unhealthy behaviours, promoting environmental sustainability, having an effective workforce, participating in an increasingly digital world or preparing for climate adaptation (Lutz *et al.*, 2014), it would be perverse to argue that this could be done without educating, training and communicating in a respectful and transparent way (Kerr *et al.*, 2022).

References

- Becker, H. S. (1963), *Outsiders: Studies in the Sociology of Deviance*, London: Free Press of Glencoe.
- Bovens, L. (this issue), ‘The ethics of boost’, *Behavioral Public Policy*, xx.
- Christensen-Szalanski, J. J. and L. R. Beach (1984), ‘The citation bias: fad and fashion in the judgment and decision literature’, *American Psychologist*, **39**(1): 75.
- Esserman, L. J., I. M. Thompson, Jr and B. Reid (2013), ‘Overdiagnosis and overtreatment in cancer: an opportunity for improvement’, *JAMA*, **310**(8): 797–798.
- Gigerenzer, G., R. Hertwig and T. Pachur (Eds.) (2011), *Heuristics: The Foundations of Adaptive Behavior*, Oxford, England: Oxford University Press.
- Griffiths, T. L., N. Chater, C. Kemp, A. Perfors and J. B. Tenenbaum (2010), ‘Probabilistic models of cognition: exploring representations and inductive biases’, *Trends in Cognitive Sciences*, **14**(8): 357–364.
- Hertwig, R. and T. Grüne-Yanoff (2017), ‘Nudging and boosting: steering or empowering good decisions’, *Perspectives on Psychological Science*, **12**(6): 973–986.
- Herzog, S. M. and R. Hertwig (2025), ‘Boosting: empowering citizens with behavioral science’, *Annual Review of Psychology*, **76**: 851–881.
- Kerr, J. R., C. R. Schneider, A. L. J. Freeman, T. Marteau, and S. van der Linden (2022), ‘Transparent communication of evidence does not undermine public trust in evidence’, *PNAS Nexus*, **1**(5): pgac280.
- Klein, G. (1999), *Sources of Power: How People Make Decisions*, Cambridge, MA: MIT Press.
- Kozyreva, A., S. Lewandowsky and R. Hertwig (2020), ‘Citizens versus the internet: confronting digital challenges with cognitive tools’, *Psychological Science in the Public Interest*, **21**(3): 103–156.
- Lejarraga, T. and R. Hertwig (2021), ‘How experimental methods shaped views on human competence and rationality’, *Psychological Bulletin*, **147**(6): 535–564.
- Lopes, L. L. (1991), ‘The rhetoric of irrationality’, *Theory & Psychology*, **1**(1): 65–82.
- Lutz, W., R. Muttarak and E. Striessnig (2014), ‘Universal education is key to enhanced climate adaptation’, *Science*, **346**(6213): 1061–1062.
- Michie, S., M. M. van Stralen and R. West (2011), ‘The behaviour change wheel: a new method for characterising and designing behaviour change interventions’, *Implementation Science*, **6**: 42.

Peterson, C. R. and L. R. Beach (1967), 'Man as an intuitive statistician', *Psychological Bulletin*, **68**(1): 29–46.
Reicher, S. and L. Bauld (2021), 'From the 'fragile rationalist' to 'collective resilience': what human psychology has taught us about the COVID-19 pandemic and what the COVID-19 pandemic has taught us about human psychology', *Journal of the Royal College of Physicians of Edinburgh*, **51**(1_suppl): S12–S19.

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