

PERSPECTIVE

Four SINS in behavioural public policy

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Abstract

Viewed from the perspective of public policy, behavioural public policy (BPP) faces challenges in four main areas: Systems, Impatience, Nudging, and Scaling. To address these challenges, several suggestions are proposed. First, understanding how BPP interventions unfold in complex systems requires better diagnostics and the development of predictive and generative models of human behaviour. Second, the rapid pace of policy processes necessitates a shift towards generating timely and fit-for-purpose evidence. Third, maximising the opportunities presented by BPP, beyond merely ‘nudging’, demands the early and proactive application of behavioural science in the policy cycle. Fourth, achieving widespread impact in BPP initiatives means considering scale-up from the start. Lastly, the consistent and comprehensive integration of behavioural science into standard policy-making practices would support sustainable progress in addressing these challenges.

Keywords: behavioural science; public policy; systems thinking; scaling; nudge

In the evolving landscape of behavioural public policy (BPP), Michael Hallsworth’s 2023 monograph, ‘A Manifesto for Applying Behavioural Science’ (Hallsworth, 2023), provides an accessible synthesis of many related debates about the field’s trajectory. This accessibility has made the Manifesto a recurrent touchstone in discussions among practitioners about recent, emerging, and anticipated shifts in BPP practices.

Hallsworth’s Manifesto is ambitious in its scope, engaging honestly and openly with numerous critiques of BPP and posing potential solutions in response. We structure our commentary around four challenges that are particularly relevant for applied behavioural scientists working within governments: Systems, Impatience, Nudging, and Scaling, forming the acronym ‘SINS’. These challenges provide a framework for reflecting on Hallsworth’s proposals and for identifying new ways for applied behavioural science to achieve a more profound policy impact.

Systems: unravelling the complexity

The Manifesto emphasises the need to ‘see the system’ and understand how BPP interventions interact with and unfold within networks of social and power relations.

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Hallsworth advocates for a shift from small and temporary tweaks to a more profound exploration of the systemic implications of BPP. To avoid limiting BPP's impact to local and temporary changes, we need to focus on macro measures of impact at the systems level. We suggest that these deeper, more complex models could simultaneously help BPP practitioners to go 'beyond lists of biases' and seek answers to the fundamental 'why' questions behind human actions (Varazzani, 2017).

Primarily, 'seeing the system' necessitates enhanced diagnostics. As behavioural scientists in BPP, we often tend to jump into analysing the barriers and enablers of particular actors' behaviours without having properly diagnosed the problem within its systems (Schmidt, 2022). Such a blinkered approach risks wasted effort – by focusing on less significant actors or generating a change that is offset by a rebalance elsewhere in the system – or even unintended consequences. We should move towards a more thorough diagnosis of problems in policy, incorporating better methods. This includes consistently incorporating insights from complexity science, agent-based modelling, systems dynamics, network analysis and other methodologies that can offer valuable tools for understanding the intricate dynamics of systems. For example, employing the emerging sludge audit methods could act as a magnifying glass on government services and processes, aiding in better-diagnosing issues within a system (Sunstein, 2022).

We notice the insufficiency of our conventional methodologies – such as BASIC (OECD, 2019) or TESTS (Kettle and Persian, 2022) – particularly when behavioural scientists are called upon to contribute early to a policymaking process. When we work with policymakers trying to set their agenda or understand a problem, we cannot start by understanding why a specific actor is doing a specific behaviour. We need structured ways to appreciate broader systems, enabling a more strategic selection of where it would be effective to do that behavioural analysis in the first place. Busara's behavioural systems method is an impressive attempt to map out practical steps to integrate this systems thinking and network modelling into the practice of BPP (Del Valle *et al.*, 2024).

The challenge of understanding what Hallsworth calls 'cross-scale behaviours' – the mutual influence between individual behaviour and the cultural–historical artefacts that surround us (Stafford, 2020) – is exacerbated by the dearth of theory within behavioural science, which has often led to applied behavioural scientists leaping directly into interventions to change behaviour without thoroughly investigating the underlying reasons (Varazzani, 2017). Hallsworth identifies this gap in his Manifesto, proposing the use of 'resource rationality' as a potential 'unifying framework for a wide range of successful models of seemingly unrelated phenomena and cognitive biases' (Lieder and Griffiths, 2020).

However, we contend that this approach may not significantly contribute to the advancement of meaningful theories and models of human behaviour within the realm of BPP. The models suggested so far exhibit limited explanatory and predictive power. Associating biases with behaviours, as proposed in current models, lacks the depth necessary for comprehensive understanding. To propel BPP forward, there is a need to transition towards causal models (Pearl, 2009; Pearl and Mackenzie, 2018), providing a space where behavioural science can foster theories that are both explanatory and predictive.

In the same vein, we urge the BPP community to develop more predictive and generative models of human behaviour that go beyond descriptions of biases (Haines *et al.*, 2020). A more robust understanding of underlying mechanisms

will enable more effective intervention design, as well as more realistic and valid social network models (Gleeson *et al.*, 2014). There may be opportunities for artificial intelligence and machine learning to develop better predictions (Michie *et al.*, 2017) and modelling their implications in new contexts (An *et al.*, 2021). More work and further research is needed, however, to refine methods for developing these models and integrating them into public policy. Equally critical to the process is the training of behavioural scientists, enabling them to become well-versed in these methodologies.

Impatience: navigating fast-paced policy

A deep, thoughtful, and comprehensive engagement with complex systems is difficult to achieve for many practitioners, given the rapid pace at which governments often operate, especially during crises. The Manifesto's proposals might help behavioural science operate more effectively in a world marked by swift policy decisions and impatient policymakers.

The COVID-19 crisis, functioning as an unforeseen stress test, underscored the imperative for BPP to align with the urgency of policy decisions (OECD, 2020). The choices of individuals were fundamental to the public health measures governments sought to implement. While there were many examples of responsive, useful behavioural science evidence generation (e.g. COSMO, <https://impact.canada.ca/en/cosmo-canada>; SCRUB, <https://www.behaviourworksaustralia.org/major-projects/covid-19-scrub-study>), many practitioners felt their governments missed opportunities to adopt a behavioural lens (de Vries *et al.*, 2023). Others felt, conversely, that governments leaned too heavily on particular theories or concepts, thereby pushing behavioural science beyond its epistemic limits (Sanders *et al.*, 2021; Feitsma and Whitehead, 2022).

To produce useful evidence on emerging policy questions within the timelines of the policy cycle, BPP practitioners during the height of the pandemic were forced to reconsider their research methodologies (Conway *et al.*, 2023), alongside other evidence producers (Williams *et al.*, 2022). Hallsworth's Manifesto similarly proposes a departure from the default reliance on randomised control trials towards a more diversified research methodology. This shift towards fit-for-purpose evidence is anticipated to generate evidence more quickly, helping to address the urgency of the rapid policy landscape (Varazzani *et al.*, 2023). BPP practitioners should be confident in engaging with the trade-offs inherent in any research activity, including those between cost, time, ethics, and rigour. The best choice may be the quicker activity that delivers sufficiently useful insights to the decision-maker when they need them – while clearly conveying the researchers' level of confidence in the findings and the potential risks.

Nudging: both a blessing and a curse

Hallsworth begins his Manifesto with a proposal to refresh the guiding metaphor of behavioural science's role in public policy: from behavioural science as a 'tool' to behavioural science as a 'lens'. This is a profound and welcome correction that reflects how practitioners have increasingly conceived of their work in recent years (Ewert *et al.*, 2021). It also has major implications for our day-to-day practice.

The transformative impact witnessed in the past decade within the BPP community owes much to Thaler and Sunstein's seminal work, *Nudge* (Thaler and Sunstein, 2021), which stands as a cornerstone in integrating of behavioural sciences into public policy. While the influence of the 'nudge' idea remains significant and enduring, there is a growing acknowledgment within the BPP community that pigeonholing BPP practitioners solely as nudge makers is restrictive (Schmidt and Stenger, 2021). Behavioural science has much more to offer policymakers than tweaks to choice architectures. Hallsworth's notion of a 'lens' helps recalibrate how we conceptualise our contribution.

While we acknowledge the pivotal role of nudges – both in opening the door for BPP and as a 'tool' with continued relevance – we see a need for a more comprehensive understanding of BPP beyond the misleading dichotomy of traditional vs behavioural policy. The perception that behavioural science offers light-touch alternatives to traditional policy tools obscures many valuable BPP activities. The discourse on behavioural science should transcend the view of behavioural science as an innovative yet optional supplement, or a complementary instrument separate from traditional policy levers such as regulation, financial (dis)incentives, or communication.

Governments could maximise behavioural science's contribution to public policy by integrating it comprehensively: ensuring that all policy instruments – however 'traditional' or coercive – are informed by the best possible evidence on human behaviour (Lichand *et al.*, 2023). Policymakers should adopt a behavioural science lens wherever it is relevant, just as they would adopt an economic or legal lens (Jonkers and Tiemeijer, 2015). Policymakers would still benefit, however, from frameworks that guide them in selecting the most fitting tool for specific policy challenges (Esmark, 2023), even if all tools should be approached from a behavioural lens. Such frameworks would help instantiate Hallsworth's plea for a holistic and integrated perspective.

Another way to think about behavioural science as a lens is to consider its usefulness throughout the policy cycle. BPP's early focus on tweaks to policies during or after their implementation (nudges) has given way to a richer engagement with policymaking, including using behavioural science to identify social problems worth addressing, to better understand policy problems, to inform the design of a range of possible solutions, and to direct how policies can be effectively evaluated (Gauri, 2018; Ewert, 2020; Hopkins and Lawlor, 2023).

For a behavioural scientist most familiar with designing and testing specific interventions, these broader engagements with policymaking entail new activities, practices, and languages. As BPP practitioners have engaged with less-defined policy issues, they have quickly discovered the limits of their methodologies. Many practitioners now blend the methods and mindsets of applied behavioural science with those of related disciplines and practices, such as design thinking, data science, evaluation, structured analytic techniques, and systems thinking (e.g. Frame *et al.*, 2023).

Scaling: the latent potential

BPP practitioners often find that their interventions fail to achieve the promised impact due to obstacles during attempts at broader implementation (List, 2022). This is the problem of scaling: achieving the actual rollout of tested successful

interventions. Even the ‘best’ interventions can face scaling challenges. DellaVigna *et al.* (2022) found that statistical significance and effect size had limited effects on the subsequent adoption of communication interventions tested by the Behavioural Insights Team North America between 2015 and 2019. The strongest predictor was simply whether the tested intervention altered an existing process or required setting up something new.

The Manifesto accentuates the need for ‘replication, variation, adaptation’, urging the BPP community to transcend silos and build more solid evidence. This resonates with the scaling problem, wherein even outcomes derived from robust and scalable BPP interventions tend to remain confined to the realms of academic literature or policy reports. The challenge extends beyond the achievement of positive outcomes at a small scale, encompassing the translation of these successes into tangible policy changes capable of addressing societal challenges effectively.

Critical to the discourse on scaling is the imperative to test the efficacy of interventions and adapt them incrementally to new cohorts and target audiences (Saeri *et al.*, 2021). This adaptive approach acknowledges the dynamic nature of societal contexts and the need for tailored interventions to ensure scalability. The Manifesto, however, while emphasising the need for ‘replication, variation, adaptation’, may inadvertently perpetuate an optimistic bias towards the scalability of BPP interventions. In reality, scaling poses intricate challenges, including the contextual nuances that may render certain interventions less adaptable across diverse settings. BPP practitioners should consider eventual scale-up from the start of their involvement in a policy process, for example, by ensuring that tested interventions would be feasible to roll out. We should also maintain our advocacy for ongoing monitoring of policies during implementation (Feng *et al.*, 2021), which would enable policymakers to spot issues early, adapt where possible, or potentially even pause a programme that is not working as expected. Recommending a promising intervention need not to be the end of a behavioural scientist’s involvement in a policy process.

The Manifesto’s proposal that BPP practitioners become facilitators of social change (‘be humble, explore, and enable’) could also facilitate scaling. The vision of behavioural scientists building coalitions of changemakers to develop culturally legitimate and socially feasible interventions that effectively drive sustained behavioural change at scale is an appealing one, which builds on BPP’s strong ethical foundations (OECD, 2022) and previous suggestions to respect the agency of those whose behaviour we might seek to change, such as boosting (Hertwig and Grüne-Yanoff, 2017) or *nudge plus* (Banerjee and John, 2024). What this might look like in practice is, as yet, unclear, although some suggestions could come from the discipline of participatory design (Robertson and Simonsen, 2012) and the journeys undertaken by design thinking practitioners in recent years (Dombrowski *et al.*, 2016). We welcome critical examination of this proposed role shift, and how we might achieve an appropriate role for behavioural science insights and methods within a more inclusive practice that empowers diverse voices.

Mainstreaming BPP: the connecting thread

Threaded through all of these challenges is the opportunity to better integrate behavioural science into standard policymaking practices. To understand systems, we need

collaborations across the public sector; to adapt to impatience, we need behavioural science evidence readily accessible; to go beyond nudging, we need policymakers to adopt a behavioural lens early and creatively; and to scale interventions, we need well-targeted projects and trusting relationships.

The Manifesto's proposal to 'build behavioural science into organisations' is a useful step in this direction. But it conflates two distinct aspects: firstly, the application of behavioural science to an organisation's internal processes (such as recruitment or performance management) and, secondly, the establishment of processes that prompt the consideration of behavioural science at the right junctures (such as a requirement to publish the evidence base behind a policy proposal). The former is sometimes referred to as 'behavioural public administration': improving the operations of the public sector (Grimmelikhuisen *et al.*, 2017). The latter is about leveraging the infrastructure of the public sector to promote a people-centred, evidence-informed approach to policymaking (WHO, 2023). Both are desirable. However, an even more comprehensive approach would be required to ensure the systematic inclusion of behavioural science wherever it is relevant. Fully embedding behavioural science insights and methods into policymaking practices necessitates a multifaceted organisational change strategy involving procedural adjustments, capability building, and effective leadership (OECD, 2024).

When we recognise that human behaviour is integral to most issues that governments might seek to address and therefore that behavioural science insights and methods have very broad relevance, we quickly realise that dedicated behavioural science practitioners cannot meet this demand alone. This leads to a necessary re-focus on how government organisations as a whole can upskill in behavioural science and embed a behavioural lens as 'business as usual' for government – as an integral and indispensable feature of policymaking practice (Gauri, 2018).

A more integrated BPP – one that goes beyond specialist practitioners to involve the broader policymaking system – would enable projects to be targeted more effectively, interventions to be designed to be feasible in practice, and relationships to be fostered to facilitate the implementation of results (Curtis *et al.*, 2018). The Manifesto, therefore, could help guide governments in scrutinising their organisational structures and decision-making processes to enable appropriate engagement with the behavioural perspective from early in problem definition through to implementation.

The lack of connectivity between BPP project teams and policy implementers is a noteworthy impediment to scaling (Lecouturier *et al.*, 2024). This last-mile problem results in valuable outcomes remaining inaccessible to citizens, as policy implementers may lack the motivation or capability to implement and scale the results effectively. Overcoming such barriers requires a collaborative effort to establish stronger links between BPP practitioners and policy implementers (Contandriopolous *et al.*, 2010). By fostering a more integrated approach, BPP interventions can transition seamlessly from conception to implementation and, ultimately, to scalable impact. This collaborative ethos aligns with the overarching theme of the Manifesto, which advocates for a holistic and interconnected approach to addressing the challenges and realising the latent potential of BPP interventions at scale (Saeri *et al.*, 2021).

Finally, the contemporary focus on standalone behavioural units within government structures may need critical reconsideration. Innovative governance models

that enable swift adaptation to policy needs and integrate seamlessly into government machinery could render the conventional focus on behavioural units less prominent. The evolving landscape of government functions requires a dynamic response, and BPP should be poised to align with these changes, transcending the traditional confines of standalone units and fostering integration within broader government structures (de Vries *et al.*, 2023). This adaptation is vital for ensuring the continued relevance and impact of BPP in the face of evolving policy demands (OECD, 2024).

A compelling call to action

In summary, Hallsworth's Manifesto issues a compelling call to action for the BPP community, inviting us to embark on a transformative journey. The Manifesto's proposals go some way towards addressing the four 'SINS' in our commentary – Systems, Impatience, Nudging, and Scaling – offering a roadmap for the community to unlock its latent impact. We hope the Manifesto continues to act as a catalyst for critical reflections and discussions within the BPP community. In particular, we call for a deeper examination of systems analysis methods, generative models, research methods suited to fast-paced policy landscapes, and a diversified toolkit beyond nudges.

Within governments, we see opportunities to achieve better policy outcomes and maximise the value of public investment by bringing behavioural science into mainstream policymaking practice, building on Hallsworth's suggestion to build behavioural insights into organisations. While the Manifesto charts a path through the internal dynamics of the BPP community, it somewhat underplays the external factors shaping the policy landscapes within which BPP practitioners operate. To fully realise the potential impact of behavioural science on public policy, we need to acknowledge the messy reality of policy systems full of diverse actors and competing agendas (Feitsma, 2020) and focus more critical attention on integrating the behavioural approach into these actors' standard policymaking practices.

In conclusion, while the Manifesto provides a robust foundation for the evolution of BPP, it also invites further scrutiny and refinement. The 'SINS' identified here act as guideposts for this ongoing journey, prompting continuous reflection, adaptation, and refinement within the BPP community. As the community navigates the complexities of policy challenges, making progress on these 'SINS' will contribute to a more nuanced, impactful, and ethically grounded era for behavioural public policy.

References

- An, L., V. Grimm, A. Sullivan, B. L. Turner II, N. Malleon, A. Heppenstall, C. Vincenot, D. Robinson, X. Ye, J. Liu, E. Lindkvist, and W. Tang (2021), 'Challenges, tasks, and opportunities in modeling agent-based complex systems', *Ecological Modelling*, 457: 109685.
- Banerjee, S. and P. John (2024), 'Nudge plus: incorporating reflection into behavioral public policy', *Behavioural Public Policy*, 8(1): 69–84. doi:10.1017/bpp.2021.6.
- Contandriopoulos, D., M. Lemire, J. L. Denis and É Tremblay (2010), 'Knowledge exchange processes in organizations and policy arenas: a narrative systematic review of the literature', *The Milbank Quarterly*, 88(4): 444–483.
- Conway, L., J. Leifer and A. Whalen (2023), 'From Innovative to Imperative: Evolving the Application of Behavioral Science in the Government of Canada', in M. Sanders, S. Bhanot, and S. O' Flaherty (eds),

- Behavioral Public Policy in a Global Context*, Cham: Palgrave Macmillan, 9–23. doi:10.1007/978-3-031-31509-1_2.
- Curtis, K., E. Fulton and K. Brown (2018), ‘Factors influencing application of behavioural science evidence by public health decision-makers and practitioners, and implications for practice’, *Preventive Medicine Reports*, **12**: 106–115.
- de Vries, D., M. Stok, T. de Valk and M. de Bruin (2023), *The Organisation of Behavioural Sciences During the COVID-19 Pandemic: Lessons Learned from an International Comparative Case Study*, Bilthoven: National Institute for Public Health and the Environment.
- DellaVigna, S., W. Kim and E. Linos (2022), *Bottlenecks for Evidence Adoption*, Cambridge, MA: National Bureau of Economic Research, w30144.
- Del Valle, E. D., C. Jang and S. Wendel (2024), *Behavioral Systems: Combining Behavioral Science and Systems Analysis*, Nairobi: Busara Center for Behavioral Economics, <https://www.busara.global/our-works/behavioral-systems/>.
- Dombrowski, L., E. Harmon and S. Fox (2016), ‘Social Justice-Oriented Interaction Design: Outlining Key Design Strategies and Commitments’, in *Proceedings of the 2016 ACM Conference on Designing Interactive Systems*, New York: Association for Computing Machinery, 656–671. doi:10.1145/2901790.2901861.
- Esmark, A. (2023), ‘Is there a behavioral revolution in policy design? A new agenda and inventory of the behavioral toolbox’, *Policy and Society*, **42**(4): 441–453.
- Ewert, B. (2020), ‘Moving beyond the obsession with nudging individual behaviour: towards a broader understanding of Behavioural Public Policy’, *Public Policy and Administration*, **35**(3): 337–360. doi:10.1177/0952076719889090.
- Ewert, B., K. Loer and E. Thomann (2021), ‘Beyond nudge: advancing the state-of-the-art of behavioural public policy and administration’, *Policy & Politics*, **49**(1): 3–23, <https://doi.org/doi:10.1332/030557320X15987279194319> [25 January 2024].
- Feitsma, J. (2020), ‘“Rationalized incrementalism”. How behavior experts in government negotiate institutional logics’, *Critical Policy Studies*, **14**(2): 156–173. doi:10.1080/19460171.2018.1557067.
- Feitsma, J. and M. Whitehead (2022), ‘Bounded interdisciplinarity: critical interdisciplinary perspectives on context and evidence in behavioural public policies’, *Behavioural Public Policy*, **6**(3): 358–384. doi:10.1017/bpp.2019.30.
- Feng, B., M. Kim and D. Soman (2021), ‘Embedding Behavioral Insights in Organizations’, in D. Soman and C. Yeung (eds), *The Behaviorally Informed Organization*, Toronto: University of Toronto Press, 23–40.
- Frame, B., T. L. Milfont and H. More (2023), ‘Applying behavioural science to wicked problems: systems thinking for environmental policy in Aotearoa New Zealand’, *Frontiers in Environmental Science*, **11**: 1239966.
- Gauri, V. (2018), ‘emBeDding for impact and scale in developing contexts’, *Behavioural Public Policy*, **2**(2): 256–262.
- Gleeson, J. P., D. Cellai, J. P. Onnela, M. A. Porter and F. Reed-Tsochas (2014), ‘A simple generative model of collective online behavior’, *Proceedings of the National Academy of Sciences*, **111**(29): 10411–10415.
- Grimmelikhuijsen, S., S. Jilke, A. L. Olsen and L. Tummers (2017), ‘Behavioral public administration: combining insights from public administration and psychology’, *Public Administration Review*, **77**(1): 45–56.
- Haines, N., P. D. Kvam, L. H. Irving, C. Smith, T. P. Beauchaine, M. A. Pitt, W. Ahn, and B. Turner (2020), ‘Learning from the reliability paradox: how theoretically informed generative models can advance the social, behavioral, and brain sciences’, *PsyArXiv*. doi:10.31234/osf.io/xr7y3.
- Hallsworth, M. (2023), ‘A Manifesto for Applying Behavioural Science’, *Nature Human Behaviour*, **7**(3): 310–322.
- Hertwig, R. and T. Grüne-Yanoff (2017), ‘Nudging and boosting: steering or empowering good decisions’, *Perspectives on Psychological Science*, **12**(6): 973–986.
- Hopkins, V. and A. Lawlor (2023), ‘Behavioural insights and public policy in Canada’, *Canadian Journal of Political Science/Revue Canadienne de Science Politique*, **56**: 435–450.
- Jonkers, P. and W. Tiemeijer (2015), *Policymaking Using Behavioural Expertise: Synopsis of WRR-Report 92*, The Hague: The Netherlands Scientific Council for Government Policy.
- Kettle, S. and R. Persian (2022), *Target, Explore, Solution, Trial, Scale: An introduction to Running Simple Behavioural Insights Projects*, London: The Behavioural Insights Team, <https://www.bi.team/publications/testsguide/>.

- Lecouturier, J., I. Vlaev, P. Chadwick, A. M. Chater, M. P. Kelly, L. Goffe, C. Meyer, M. Y. Tang, V. Antonopoulou, F. Graham and F. F. Sniehotta (2024), 'The critical factors in producing high quality and policy-relevant research: insights from international behavioural science units', *Evidence & Policy*, **20**(2): 141–162.
- Lichand, G., A. P. Serdeira and B. Rizardi (2023), *Behavioral Insights for Policy Design: A New Framework for Understanding Wicked Social Problems and Designing Policies for Real Citizens*, Cham: Springer. doi:10.1007/978-3-031-33034-6.
- Lieder, F. and T. L. Griffiths (2020), 'Resource-rational analysis: understanding human cognition as the optimal use of limited computational resources', *Behavioral and Brain Sciences*, **43**: e1.
- List, J. (2022), *The Voltage Effect: How to Make Good Ideas Great and Great Ideas Scale*, New York, NY: Penguin Random House.
- Michie, S., J. Thomas, M. Johnston, P. M. Aonghusa, J. Shawe-Taylor, M. P. Kelly, L. A. Deleris, A. N. Finnerty, M. M. Marques, E. Norris, A. O'Mara-Eves and R. West (2017), 'The human behaviour-change project: harnessing the power of artificial intelligence and machine learning for evidence synthesis and interpretation', *Implementation Science*, **12**: 121. doi:10.1186/s13012-017-0641-5.
- OECD (2019), *Tools and Ethics for Applied Behavioural Insights: The BASIC Toolkit*, Paris: OECD Publishing. doi:10.1787/9ea76a8f-en.
- OECD (2020), *Regulatory Policy and COVID-19: Behavioural Insights for Fast-Paced Decision Making, OECD Policy Response to Coronavirus (COVID-19)*, Paris: OECD Publishing.
- OECD (2022), *Good Practice Principles for Ethical Behavioural Science in Public Policy*, OECD Public Governance Policy Papers, No. 20, Paris: OECD Publishing. doi:10.1787/e19a9be9-en.
- OECD (2024), *LOGIC: Good Practice Principles for Mainstreaming Behavioural Public Policy*, Paris: OECD Publishing. doi:10.1787/6cb52de2-en.
- Pearl, J. (2009), *Causality*, Cambridge: Cambridge University Press.
- Pearl, J. and D. Mackenzie (2018), *The Book of Why: The New Science of Cause and Effect*, New York: Basic Books.
- Robertson, T. and J. Simonsen (2012), 'Participatory Design: An Introduction', in J. Simonsen and T. Robertson (eds), *Routledge International Handbook of Participatory Design*, Milton Park: Routledge, 1–17.
- Saeri, A. K., P. Slattery, M. J. Tear, C. Varazzani, D. Epstein, C. Knott and J. Liao (2021), *Scale up of Behaviour Change Interventions: A Rapid Review of Evidence and Practice*, OSF Preprints. doi:10.31219/osf.io/scd3k.
- Sanders, J. G., A. Tosi, S. Obradovic, I. Miligi and L. Delaney (2021), 'Lessons from the UK's lockdown: discourse on behavioural science in times of COVID-19', *Frontiers in Psychology*, **12**: 647348.
- Schmidt, R. (2022), 'A model for choice infrastructure: looking beyond choice architecture in Behavioral Public Policy', *Behavioural Public Policy*, **8**(3): 1–26.
- Schmidt, R. and K. Stenger (2021), 'Behavioral brittleness: the case for strategic behavioral public policy', *Behavioural Public Policy*, **8**(2): 1–26.
- Stafford, C. (2020), *Economic Life in the Real World: Logic, Emotion and Ethics*, Cambridge: Cambridge University Press.
- Sunstein, C. R. (2022), 'Sludge audits', *Behavioural Public Policy*, **6**(4): 654–673.
- Thaler, R. H. and C. R. Sunstein (2021), *Nudge: The Final Edition*, New Haven: Yale University Press.
- Varazzani, C. (2017), *The Brains Behind Behavioral Science*, Washington, DC: Behavioral Scientist.
- Varazzani, C., H. Tuomaila, T. Emmerling, S. Brusoni and L. Fontanesi (2023), *Seven Routes to Experimentation in Policymaking: A Guide to Applied Behavioural Science Methods*, OECD Working Papers on Public Governance, No. 64, Paris: OECD Publishing Paris, <https://doi.org/10.1787/918b6a04-en>
- WHO (2023), *A Guide to Tailoring Health Programmes: Using Behavioural and Cultural Insights to Tailor Health Policies, Services and Communications to the Needs and Circumstances of People and Communities*, Copenhagen: WHO Regional Office for Europe.
- Williams, E., M. Gaway and D. Terrill (2022), 'Rapid evaluation of COVID-19 related service and practice changes in health and human services using tailored methods', *Frontiers in Sociology*, **7**: 149.

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