

The Handbook of DOHaD and Society

Research in the field of the Developmental Origins of Health and Disease (DOHaD) has had a fundamental impact on our understanding of how environmental experiences and contexts influence the development of health and disease over the entire lifecourse. This book provides a comprehensive overview of this research and provides models and tools for the future. Covering a wide range of geographic regions, this volume includes an overview of the field, key concepts, and cutting-edge examples of interdisciplinary collaboration. The first reference text covering the interdisciplinary work of DOHaD, this book has a broad list of contents: it maps the history of DOHaD, showcases examples of biosocial collaboration in action, offers a conceptual toolkit for interdisciplinary research, and maps future directions for the field. This definitive volume on biosocial collaborations in DOHaD will be indispensable for scholars working at the intersections of public health, lifecourse epidemiology, and the social science of DOHaD. This title is also available as Open Access on Cambridge Core.

Michelle Pentecost is a physician-anthropologist based in the Department of Global Health and Social Medicine at King's College London and in the School of Clinical Medicine at the University of the Witwatersrand. She is the author of *The Politics of Potential: Global Health and Gendered Futures in South Africa* (Rutgers University Press, 2024).

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This magnificent collection crosses disciplines and continents in its synthesis of exciting scholarship around the past, present, and future of DOHaD. It is a singular achievement, and its readers will be multiple.

Martyn Pickersgill, Professor of the Sociology of Science and
Medicine, Edinburgh Medical School

The clearest and most comprehensive account of DOHaD in society ever. Framing the field in terms of its history and with a biosocial lens, the many distinguished authors of this Handbook offer, in combination, a very thorough and erudite reading of DOHaD in its strength (and sometimes weakness). Understanding child health from this perspective queries and questions approaches in public health, clinical practice and policy. A book that sets the standard in this field; a book to cherish and keep close to hand by all those interested and involved in child health, from any perspective.

Stanley Ulijaszek, Emeritus Professor of Human
Ecology, University of Oxford

In a masterful manner, this Handbook weaves together a rich tapestry of perspectives from across the globe and various disciplines, offering a nuanced yet concise overview of the state of the art of research on DOHaD. Irrespective of your own field—whether you're a medical researcher, a nurse, social scientist, or a policy maker—prepare to see your work in a new light after reading this book.

Barbara Prainsack, Department of Political Science,
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The Handbook of DOHaD and Society

Past, Present, and Future Directions of
Biosocial Collaboration

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Foreword

Mark Hanson, Peter Gluckman, and Lucilla Poston

The title of this book – *The Handbook of DOHaD and Society* – suggests the need for a greater integration between two broad fields: one an area of biomedicine and the other in social studies. But linking them also indicates a synthesis of these areas. The nature of a handbook is to provide a go-to source of information on a particular subject or, in this case, on convergent fields. It should give a guide to underlying concepts and current methodologies and offer insights into new ideas and research possibilities. It is therefore far more ambitious than a multi-author book comprising disparate chapters, perhaps resulting from a symposium where diverse topics were presented but not synthesised. As past and current presidents of the International DOHaD Society and researchers and advocates for Developmental Origins of Health and Disease (DOHaD) who have worked with colleagues in the social sciences for some time, we believe that this volume does indeed meet the expectations raised by its title. The chapters have been carefully considered and commissioned by thought leaders in their subject areas, and they have been written to avoid unnecessary overlap whilst demonstrating linkages. The authors have shared drafts and engaged in discussions, and all chapters have been reviewed by the editors and others and modified appropriately. It has been a huge task, and we congratulate the editors on their achievement.

Why is this handbook so timely? When the term DOHaD was developed to supersede Fetal Origins of Adult Disease (FOAD) two decades ago, it was seen as a burgeoning field that would need to encompass the social as well as the biomedical sciences. This was because ‘development’ was clearly a broad term that described life from conception to maturity and the environments in which it takes place, as opposed to the phase of mammalian life in utero. It recognised the importance of a range of comparative studies and insights from developmental biology and evolutionary biology. Moreover, by extending consideration to include health as well as disease and considering health and disease across the lifecourse rather than just in adulthood, DOHaD recognised the importance of much broader contexts. This included integrating growing understandings of developmental plasticity as well as what are now termed the social determinants of health. Of course, this broader conceptualisation of development in itself was far from new; Hippocrates, for instance, expounded on the connection between public health and the environment and indeed the importance of the early environment for the development of the individual. Nonetheless, as social science studies of DOHaD have shown, the concept of environment tends to be overly simplified in DOHaD research, a tension grappled with across many of this handbook’s chapters.

DOHaD had to confront a growing imbalance in biomedical sciences that privileged the reductionism of genetics, which dominated the last decades of the twentieth century and led to the claims that the Human Genome Project would reveal the primary causes of common traits and diseases. Against this background, the drivers of global health issues

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were becoming clear, with particular emphasis on inequalities and social justice between high- and low-income countries, and the formulation of the Millennium Development Goals led to a renewed focus on maternal and child health. It was during this period that the global importance of non-communicable diseases (NCDs) was, belatedly, recognised, alongside the realisation that NCD risk at the population level was not substantially attributable to fixed genetic factors. By late 2011, global bodies such as the United Nations and the World Health Organization (WHO) had recognised the importance of wider environmental influences acting on human development to increase NCD risk. Laboratory sciences had moved on from genetics to epigenetics to account for such processes. By 2015, when the Sustainable Development Goals (SDGs) were announced, DOHaD researchers were actively engaged with colleagues in many other disciplines, especially in the social sciences. At around the halfway mark for the SDGs, it is appropriate to take stock of these collaborations and stress the need to expand them. This handbook is the resource essential to this endeavour.

The handbook illustrates the benefits and new insights gained from interdisciplinarity, but also its challenges. As with other truly interdisciplinary explorations, what might be seen as ‘biosocial DOHaD’ does more than cross disciplines to benefit from different perspectives whilst leaving the field of exploration the same. Rather, it integrates the disciplines, recognising the value and understanding of the concepts, methodologies, and working practices of each discipline. This is easily said but hard to undertake. It requires a deep understanding of the epistemology of the contributing disciplines, going beyond just the language used (although misunderstandings here often create barriers to interdisciplinarity in themselves), and a respect for the insights that very different academic traditions might bring. As with all sciences, the evidence base for both biomedical and social sciences changes, being at best only provisional: studies once seen as the ‘gold standard’ are no longer as pivotal or relevant today. Thus, an understanding of disciplinary histories is also critical to interdisciplinary conversations. The handbook demonstrates the value of such informed interdisciplinary interactions, and it gestures towards future opportunities for collaboratively exploring human development and the impact of early life factors on later life and indeed across generations.

Acknowledgements

This is a book about developmental origins and, as such, a book about how people and things grow in networks that provide nourishment and care. Similarly, this book is the product of the care, support, and commitment that many have provided. We are especially grateful for the generous support of our mentors, who offered encouragement and guidance on this mammoth undertaking. We offer special thanks to Mark Hanson, Lucilla Poston, Shane Norris, Maurizio Meloni, Megan Warin, Emma Kowal, Ruth Müller, and Fiona Ross. We also gratefully acknowledge the time and commitment of all of the handbook contributors, a diverse group of scholars who span six continents and who have all thoroughly engaged in the generous intellectual exchanges that have brought this handbook to fruition. Holding the space together have been four early-career scholars who have navigated the challenges of the contemporary academy alongside the challenges wrought by the COVID-19 pandemic and their own reproductive and kinship commitments. (Two babies were born in the intervening three years since the inauguration of this project, alongside other kin who were cared for and nurtured as we created this book.) From formative meetings in 2021 to writing this in 2023, this handbook is a product of imagination and planning, some good luck, and a deliberate collaborative and critical stocktaking of the DOHaD landscape.

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