For developmental scientists, the nature versus nurture debate has been settled for some time. Neither nature nor nurture alone provides the answer. It is nature and nurture in concert that shape developmental pathways and outcomes, from health to behavior to competence. This insight has moved far beyond the assertion that both nature and nurture matter, progressing into the fascinating terrain of how they interact over the course of development. In this book, students, practitioners, policy analysts, and others with a serious interest in human development will learn what is transpiring in this new paradigm from the developmental scientists working at the cutting edge, from neural mechanisms to population studies, and from basic laboratory science to clinical and community interventions. Early childhood development is the critical focus of this book, because many of the important nature-nurture interactions occur then, with significant influences on lifelong developmental trajectories.

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Nature and Nurture in Early Child Development

Edited by

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There are many individuals to thank for their help in putting this book together, beginning with the contributors, who have been willing to work diligently on various phases of this project. There is a history to this book which entails additional thanks. The idea for bringing together a group of cutting-edge scientists working the frontiers of research on early child development, but who were also able to communicate with a broad audience, originated in discussions at the University of Toronto nearly ten years ago. With the strong support of the University of Toronto, two generous Canadian funders were identified who were interested in sponsoring such an effort: the Invest in Kids Foundation (IKF), based in Toronto, Ontario; and the Lawson Foundation, based in London, Ontario. Working collaboratively with the funders, a small group at the Ontario Institute for Studies in Education at the University (OISE/UT) – notably, Jane Bertrand, Jenny Jenkins, Dona Matthews, and Anita Zijdemans, with strong support from Carol Crill Russell from IKF – identified an ideal group to participate in this initiative. We were delighted that all of our first choices for each topic agreed to participate.

A unique feature of this effort is that it was intended from the start as an educational effort with a wide variety of audiences in mind. We also wanted to make use of new media to forward this goal. The initial result was the Millennium Dialogue on Early Child Development, held at OISE/UT in 2001. A cross section of stakeholders was invited to participate in this dialogue along with the contributors, both in person at the event and internationally through a simultaneous interactive webcast. (The experimental nature of this part of the effort was described and evaluated in ePresence Interactive Media and Webforum 2001: An Accidental Case Study on the Use of Webcasting as a VLE for Early Child Development, by Anita Zijdemans, Gale Moore, Ron Baecker, and Daniel Keating, which appeared in the
The untiring efforts of many people were needed to take on the technical and logistical challenges of bringing this innovative forum together, but special thanks are owed to Jane Bertrand, Dona Matthews, and Anita Zijdemans.

One consequence of this decision, embraced by the contributors, was a conscientious effort to make the material accessible to a broad audience and to engage in dialogue with the other contributors and the larger group of participants, both in person and online. The dialogue was recorded on DVD,* and both the conference papers and the multimedia production were subsequently utilized in an educational project for early childcare students carried out by Red River College in Manitoba, Canada, under the able leadership of Janet Jamieson. Contributors were very generous with their time in supplementing and clarifying this curriculum, which has been used successfully in Canada and elsewhere. The team at OISE/UT supported these and other efforts to make educational use of the Millennium Dialogue, and that support is gratefully acknowledged, especially as it was manifested in the funding of the Atkinson Centre for Society and Child Development, which was created to enhance the work of an endowed Atkinson Chair in this field.

Recently, additional funding was made available through the University of Toronto, thanks to the efforts of two recent Chairs of the Department of Human Development and Applied Psychology at OISE/UT, Janet Wilde Astington and Esther Geva. This funding enabled us to return to the contributors with an invitation to do a thorough revision and updating of their original conference papers, and supporting them as they did so, to bring this knowledge to a broader audience. Again, all the contributors agreed, and the chapters in this book, which originated in the Millennium Dialogue of 2001, retain their original spirit but are completely revised to make the book fully up-to-date.

Over the intervening period, some contributors requested permission to use part of their efforts in other publications, and limited copyright permission to do so was granted by the University of Toronto. Some parts of the original conference paper by Charles A. Nelson III appeared in Promoting Positive Child, Adolescent, and Family Development: Handbook of Program and Policy Interventions (R. M. Lerner, F. Jacobs, and D. Wetlieb (eds.), Thousand Oaks, CA: Sage Publications), and a reciprocal permission from the editor of that book for the substantially revised Chapter 2 is appreciated. Similarly, a version of the original conference paper presented at the

* Contact keatingd@umich.edu for availability of DVD recordings of the 2001 conference.
Millennium Dialogue on Early Child Development by W. Thomas Boyce appeared (with permission) in *Developmental Psychopathology, Volume 2: Developmental Neuroscience* (2nd edition, D. Cicchetti and D. J. Cohen (eds), John Wiley & Sons). The present version in Chapter 5 draws on those prior sources but represents a distinct and contemporary contribution to the topic. Again, the consent of the editors for this arrangement is appreciated. In addition, Megan R. Gunnar acknowledges that her work was supported by the National Institute of Mental Health Research Scientist Award (MH00946), and Tom Boyce acknowledges the research support from the John T. and Catherine D. MacArthur Foundation Network on Development and Psychopathology.

An additional connection among many of the contributors runs throughout this book, and is acknowledged with great gratitude. The origins of this work reach back to the establishment of the Human Development Program (HDP) of the Canadian Institute for Advanced Research (CIFAR). The founding president of CIFAR, J. Fraser Mustard, developed the idea of a Canadian-based organization with international scope that would take on complex, interdisciplinary topics across many fields, establishing scientific networks whose members would be supported to tackle them. The Human Development Program was one of the early efforts in the human sciences, and I was privileged to be asked to lead that effort. The ongoing influence of the inspirational and scientific leadership of Fraser Mustard, and his vision of a new approach to taking on complex, multifaceted research questions, cannot be overstated.

Following the successful completion of ten years of HDP in 2003, two related programs with new mandates were established under the leadership of current CIFAR president Chaviva Hosek: the Successful Societies Program (SSP) and the Experience-Based Brain and Biological Development Program (EBBD). Contributors to this volume who have CIFAR links include: Sir Michael Rutter (Advisory Board, EBBD); Charles Nelson (Advisory Board, EBBD); Ronald G. Barr (Fellow, EBBD; Fellow, HDP); W. Thomas Boyce (Fellow and Co-Director, EBBD); Megan Gunnar (Fellow, EBBD and HDP); Richard E. Tremblay (Fellow, HDP); Clyde Hertzman (Fellow, EBBD, SSP, and HDP); and Daniel Keating (Fellow, SSP; Fellow and Director, HDP). The scientific culture of interdisciplinary collaboration and dialogue fostered and sustained by the CIFAR programs is evident throughout this volume, and I am grateful to have benefited from it.

Daniel Keating
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