Health and Education in Early Childhood

Health and Education in Early Childhood presents conceptual issues, research findings, and program and policy implications in promoting well-being in health and education in the first five years of life. Leading researchers in the multidisciplinary fields of early learning and human capital formation explore the themes of the integration of health and education in promoting young children's well-being; the timing of influences on child development; and the focus on multiple levels of strategies to promote healthy early development. Through this, a unique framework is provided to better understand how early childhood health and education predictors and interventions contribute to well-being at individual, family, community, and societal levels and to policy development. Key topics addressed in the chapters include nutritional status, parenting, cognitive development and school readiness, conduct problems and antisocial behavior, obesity, and well-being in later childhood and adulthood.

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Health and Education in Early Childhood

Predictors, Interventions, and Policies

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CAMBRIDGE UNIVERSITY PRESS

CAMBRIDGE
UNIVERSITY PRESS

University Printing House, Cambridge CB2 8BS, United Kingdom

Cambridge University Press is part of the University of Cambridge.

It furthers the University's mission by disseminating knowledge in the pursuit of education, learning and research at the highest international levels of excellence.

www.cambridge.org
Information on this title: www.cambridge.org/9781107038349

First published 2014

Printed in the United Kingdom by Clays, St Ives plc

A catalogue record for this publication is available from the British Library

Library of Congress Cataloguing in Publication data
Health and education in early childhood : predictors, interventions, and policies / edited by Arthur J. Reynolds, Arthur J. Rolnick, Judy A. Temple.
p. ; cm.
Includes bibliographical references and index.
ISBN 978-1-107-03834-9
I. Reynolds, Arthur J., editor of compilation. II. Rolnick, Arthur J., 1944– editor of compilation. III. Temple, Judy A., editor of compilation.
[DNLM: 1. Early Intervention (Education) – United States. 2. Health Services Accessibility – United States. 3. Child – United States. 4. Child Welfare – United States. 5. Health Policy – United States. 6. Health Status – United States. 7. Socioeconomic Factors – United States. WA 320 AA1]
HQ778.5
362.7–dc23

2014002314

ISBN 978-1-107-03834-9 Hardback

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Foreword: Health, education, and early childhood development

In 2010, the Minneapolis Fed served as host in partnership with the University of Minnesota for a conference on health and early childhood development. The presentation and discussion sessions were designed to lead to a deeper understanding of the impact that early childhood health has on later education and health outcomes, as children progress through school and into adulthood. The presentations and discussions led to this volume, which features several conference participants.

The Minneapolis Fed hosts conferences on a number of topics, including economic research, community development, and economic and financial education. And this wasn't the first time it hosted a conference on early childhood issues. In 2003, researchers gathered for a one-day conference titled "The Economics of Early Childhood Development: Lessons for Economic Policy." After the Minneapolis Fed joined the University of Minnesota to form the Early Childhood Research Collaborative, the precursor to the HCRC, the Fed hosted a two-day conference in 2007 on "Critical Issues in Cost Effectiveness in Children's First Decade."

So why is the Federal Reserve interested in early childhood development issues? After all, the Fed's primary mission is to conduct monetary policy as the nation's central bank. It also regulates banks and provides fiscal services for the US Treasury. At first glance it seems that early childhood development is a bit far from the Fed's core responsibilities. However, the Federal Reserve is also charged with promoting employment and economic growth, and education is a key – if not the primary – component of growth and jobs. Here is what Federal Reserve Chairman Ben Bernanke had to say about early childhood education in a 2007 speech:

> Although education and the acquisition of skills is a lifelong process, starting early in life is crucial. Recent research – some sponsored by the Federal Reserve Bank of Minneapolis in collaboration with the University of Minnesota – has documented the high returns that early childhood programs can pay in terms of subsequent educational attainment and in lower rates of social problems, such as teenage pregnancy and welfare dependency. The most successful early childhood

programs appear to be those that cultivate both cognitive and non-cognitive skills and that engage families in stimulating learning at home.

In other words, one need look no further than the first two words in the HCRC acronym, "human capital." One of the key ingredients to sustained economic growth is the development of human capital. That is, economies with highly educated and skilled workers have higher levels of productivity, which supports economic growth, including higher earnings for workers. For example, in the US economy, the median earnings for a worker age 25 to 34 with a college degree was about 70 percent more than for a worker with only a high school diploma in 2011. Twenty years earlier, the earnings differential was 56 percent. Furthermore, during this past recession, employment deteriorated less for workers with higher levels of education than for workers with lower levels of education. Over the long run, the US economy will continue to demand more highly educated and skilled workers.

As this volume emphasizes, human capital development begins early. Research by Nobel laureate economist James Heckman reveals that skill acquisition is a cumulative process that works most effectively when a solid foundation has been provided in early childhood. As children get off to a good start, they are more likely to succeed in school and later in the workforce. Moreover, as articulated by Art Rolnick during his time as research director at the Minneapolis Fed, many of the benefits of early investments, particularly those that target at-risk children, accrue to the general public – for example, in the form of reduced crime costs.

This volume is designed to reach many audiences, including policymakers, researchers, students, practitioners, and interested citizens. The discussions inspired by the following chapters can lead to better practice and policy in early health and education and to a better quality of life for the nation's children.

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References

Baum, Sandy, Ma, Jennifer, and Payea, Kathleen (2013). *Education pays 2013: the benefits of higher education for individuals and society*. College Board. http://trends.collegeboard.org/sites/default/files/education-pays-2013-full-report.pdf.

Bernanke, Ben S. (2007). The level and distribution of economic well-being. Comments before the Greater Omaha Chamber of Commerce, Omaha, Neb., February 6, 2007. www.federalreserve.gov/newsevents/speech/bernanke20070206a.htm.

Heckman, James J., and Masterov, Dimitriy V. (2007). The productivity argument for investing in young children. *Applied Economic Perspectives and Policy*, 29(3), 446–493.

Rolnick, Arthur, and Grunewald, Rob (2003). Early childhood development: economic development with a high public return. *The Region*, 17(4) Supplement (December), 6–12.

Acknowledgements

This volume is a product of the Human Capital Research Collaborative (HCRC), a partnership of the University of Minnesota and the Federal Reserve Bank of Minneapolis devoted to understanding the determinants of well-being and the effects of social programs on improving health and well-being. Many individuals, centers, and organizations made contributions to make this volume possible. We want to thank in particular the Federal Reserve Bank of Minneapolis for their support of the work of the Human Capital Research Collaborative.