

## **Human Capital Research Collaborative**

University of Minnesota/Federal Reserve Bank of Minneapolis

### **Overview**

The Human Capital Research Collaborative (HCRC) is a unique partnership between the University of Minnesota and the Federal Reserve Bank of Minneapolis to promote effective public policies and programs for young people through multidisciplinary research on human development and learning. Well-being is determined within the contexts of family, school, community, workplace, and socio-structural institutions.

Human capital is defined as the knowledge, skills, competencies, and attitudes that are required to be successful in today's advancing technological society. Not only does human capital have a long history in economic thought, but is an increasingly used framework in education, psychology, and human development for understanding and promoting well-being.

The overarching goal of HCRC is integrative and representative of the university-wide and public interest in advancing knowledge focused on the identification and dissemination of cost-effective programs and policies from birth to early adulthood as well as the determinants of health and well-being. In an age of renewed accountability at all levels of society, attention to achieving the highest returns and benefits from investments in young people is needed more than ever.

The HCRC brings together researchers and faculty members at the University with economists at the Federal Reserve to develop and synthesize research on cost-effective investments in young people and to conduct research on prominent policy and social issues ranging from the prevention of school failure and delinquency to promoting mental health and economic well-being. The multidisciplinary focus includes evaluation and policy analysis of early learning programs, family, school, economic, and community influences as well as biological and psychological foundations of health and well-being.

### **Structure and Activities**

Established in 2006 as the Early Childhood Research Collaborative, the Co-Directors of the HCRC are Arthur Reynolds of the Institute of Child Development and Art Rolnick, former director of research at the Federal Reserve Bank of Minneapolis. Among the many collaborators and partners are faculty and researchers from the Humphrey Institute of Public Affairs, Center for Early Education and Development, College of Education and Human Development, Carlson School of Management, Department of Applied Economics, Center for Excellence in Children's Mental Health, Consortium for Children, Youth and Families, and the School of Public Health.

To support HCRC's mission to advance knowledge on the identification, understanding, and use of cost-effective programs, policies, and practices from prenatal development to early adulthood, the Collaborative will:

- conduct research on the determinants of well-being into adulthood
- investigate the effectiveness and cost-effectiveness of a variety of social programs
- synthesize and integrate knowledge on socially significant programs and topics
- disseminate research through discussion papers and research reports
- convene forums and conferences
- lead a discussion paper series
- develop longitudinal data archives
- provide technical assistance and web resources

- help coordinate research activities at the University and in the community
- convey research to policymakers and the community

## **Research Projects and Priorities**

*A. Assessing the Benefits and Costs of Social Programs from Prenatal Development to Young Adulthood.* In the past decade, economic analyses of early prevention and intervention programs have grown dramatically. Surprisingly, relatively few programs have been assessed for cost-effectiveness. The level of evidence for programs implemented over the first decade of life is sparse. A major contribution of the HCRC will be to more systematically assess this knowledge base as well as the cost-effectiveness of adolescent programs in order to determine the impact over the life course.

*B. Identifying Principles and Practices of Effective Programs and Practices.* The HCRC will identify, through analysis of new data and re-analysis of existing data, key elements of effective prevention and intervention childhood programs. Once identified and better understood, these “active ingredients” can be used as a framework to develop more effective programs and improve existing practices.

*C. Investigating Predictors and Processes of Well-Being.* Studies of the broader determinants of well-being over the life course are another key focus. These would include, among others, the cognitive, family, and social predictors of school readiness and achievement, degree attainment, antisocial behavior, substance use, and workplace and economic success. The early determinants of health status and behavior also are examined such as nutrition and income supports.

*D. Longitudinal Analysis of Life-Course Studies of Intervention.* In collaboration with the University of Chicago and project directors of key longitudinal studies (e.g., the High Scope Perry Preschool Study, the Chicago Longitudinal Study, the Nurse Family Partnership, Infant Health and Development Program), the Consortium on Early Childhood Development was formed to assess unanswered and policy relevant questions. As a major collaborator in this group, the HCRC will conduct joint projects assessing the causal mechanisms of effects, identifying principles of effective intervention, and identifying early cognitive and non-cognitive predictors of adult well-being.

*E. Methodology and Data Analysis.* There are many challenges to assessing the internal and external validity of evidence to determine predictors of adult outcomes. These include group equivalence, measurement reliability and validity, documentation of post-program experiences, length of follow-up, and statistical power. Using data from on-going projects and collaborations with on- and off-campus researchers in the fields of statistics, epidemiology, public health, economics, sociology, psychology, educational psychology, and child development, the HCRC will investigate and adapt approaches for reducing bias and improving validity.

*F. Evaluation and Policy Analysis.* The HCRC will collaborate with state and local agencies to provide technical assistance and research expertise for planning evaluations of existing prevention and intervention programs. For example, the group provided technical assistance to the Minnesota Visiting Nurse Agency as they planned and implemented an evaluation of their family public health nursing visiting program for pregnant and parenting teens.

Recent completed projects include (1) a comparative analysis of economic benefits of social programs from birth to age 10, (2) research syntheses on the prevention of child maltreatment and the effectiveness of preschool-to-third grade programs, (3) causal mechanisms of long-term effects of preschool programs, and (4) volume on the impacts of influential model and large-

scale educational interventions from prenatal development to age 10.

See Addendum A for a listing of sponsored conferences and meetings, discussion papers, and research projects.

### **Organization and Partners**

On-going initiatives of the Collaborative will be determined by the Steering Committee in conjunction with University and community partners/affiliates. Collaborating units at the University include the Humphrey Institute of Public Affairs, Institute of Child Development, College of Education and Human Development, and the Center for Early Education and Development. Affiliated centers and units at the University include: Center for Excellence in Children's Mental Health; Children, Youth and Family Consortium; Department of Applied Economics; and the Industrial Relations Center (Carlson School of Management). In addition the HCRC is a major collaborator in the Consortium on Early Childhood Development, conducting joint projects assessing the casual mechanisms of effects, identifying principles of effective intervention, and identifying early cognitive and non-cognitive predictors of adult well-being.

A Steering Committee provides the leadership to develop and coordinate the on-going work of the Collaborative. A national advisory committee of distinguished researchers provides on-going feedback on project and strategic directions. See Addendum B for a listing of Steering Committee members, Affiliate University faculty and Federal Reserve staff, and the National Advisory Committee.

HCRC's work is supported by grants from the McKnight Foundation, Consortium on Early Childhood Development, Graduate School Interdisciplinary Initiatives, and the National Institute of Child Health and Human Development.

For additional information and examples of research and discussion papers, visit the HCRC website at <http://humancapitalrc.org>.

**Human Capital Research Collaborative**  
**Addendum A**  
**Conferences, Discussion Papers, and Research Projects**

**Conferences and Round Tables:**

*“Health and Early Childhood Development: The Impact of Health on School Readiness and Other Education Outcomes”*

Conference on October 14-15, 2010

*“Promoting Child Health and Well-Being, Birth to Age 5”*

Conference on April 27, 2009

*“Critical Issues in Cost Effectiveness in Children’s First Decade”*

Conference on December 7-8, 2007

*“Risk, Resilience and Race in Early Childhood: Issues for Research and Action”*

Round Table on April 24, 2007

*“Inaugural Conference of the Early Childhood Research Collaborative”*

Conference on October 13, 2006

**Faculty Research Brown Bag Seminar Series, 2009-2010:**

See the web site <http://humancapitalrc.org> for details.

**Published Volumes:**

*Childhood Programs and Practices in the First Decade of Life*

Reynolds, A., Rolnick, A., Englund, M., Temple, J., eds. October, 2010

**Discussion Papers:**

*“The Public Returns to Public Educational Investments in African American Males”*

Levin, H. April, 2007

*“Child Interventions that May Lead to Increased Economic Growth”*

Wolfe, B., Tefft, N. February, 2007

*“Multiple Inference and Gender Differences in the Effects of Preschool: A Reevaluation of the Abecedarian Perry Preschool and Early Training Projects”*

Anderson, M. February, 2007

*“Head Start Participation and Childhood Obesity”*

Frisvold, D. February, 2007

*“What Works, Wisconsin: What Science Tells Us About Cost-Effective Programs for Juvenile Delinquency Prevention”*

Small S., Reynolds, A., O’Connor, C., Cooney, S. January, 2007

*“Preschool Education, Educational Attainment, and Crime Prevention: Contributions of Cognitive and Non-Cognitive Skills”*

Temple, J., Reynolds, A., Ou, S. October, 2006

*“PK-3 Education: Programs and Practices that Work in Children’s First Decade”*

Reynolds, A., Magnuson, K., Ou, S. August, 2006

*“The Productivity Argument for Investing in Young Children”*

Pianta, R. August, 2006

*“Standardized Classroom Observations From Pre-K to 3rd Grade: A Mechanism For Improving Access To Consistently High Quality Classroom Experiences and Practices During the P-3 Years”*

Heckman, J., Masterov, D. August, 2006

*“Effects of a School-Based, Early Childhood Intervention on Adult Health and Well Being: A 20-Year Follow Up of Low-Income Families”*

Reynolds, A., Temple, J., Ou, S., Robertson, D., Mersky, J., Topitzes, J., Niles, M.  
August, 2006

*“Dominance in Preschool Classrooms: Change Across A School Year”*

Pellegrini, A., Roseth, C., Milner, S., Bohn, C., Ryzin, M., Vance, N., et al. January, 2006

## **Key Projects:**

### ***Short-term***

- Early correlates of adult outcomes
  - Three studies analysis of health outcomes (e.g. substance use/abuse, smoking)
  - Employment/economic well-being
- Path analysis SES project
- Documentation of cost benefit analysis studies
- Determinants of health and well-being
- Survey of adult well-being
- Contribution of nutrition and physical health on school readiness

### ***Long-term***

- Gender differences in effects across programs
- State pre-kindergarten studies
- Cornell Consortium Study of Early Intervention
- College persistence
- Contributing factors to program effects and fading effects
- Other shared data projects

## **Research Projects and Data:**

- Carolina Abecedarian Project
- Chicago Longitudinal Study
- Consortium on Early Childhood Development
- Early Childhood Longitudinal Study, Kindergarten Class of 1998-99
- Early Childhood Longitudinal Study, Birth Cohort
- Head Start Impact Study
- Infant Health and Development Program
- Early Head Start Research Project
- Federal Programs of the Administration for Children & Families, U.S. Department of Health and Human Services
- High/Scope Perry Preschool Project
- Nurse-Family Partnership

**Human Capital Research Collaborative**  
**Addendum B**  
**Steering Committee, Affiliates, Advisory Committee**

**Steering Committee:**

**Arthur Reynolds**, Institute of Child Development, University of Minnesota  
(Co-director)  
**Art Rolnick**, Humphrey Institute of Public Affairs, University of Minnesota  
(Co-director)  
**Laurie Davis**, Minnesota Early Learning Foundation (MELF)  
**Michelle Englund**, Institute of Child Development  
**Rob Grunewald**, Public Affairs, Federal Reserve Bank of Minneapolis  
**Suh-Ruu Ou**, Institute of Child Development  
**Cheri Rolnick**, Health Partners  
**Judy Temple**, Humphrey Institute of Public Affairs and Applied Economics,  
University of Minnesota  
**Colleen Manchester**, Carlson School of Management  
**Morris Kleiner**, Humphrey Institute of Public Affairs  
**Aaron Sojourner**, Carlson School of Management  
**Connie Wanberg**, Carlson School of Management

**Affiliated University Faculty and Federal Reserve Staff:**

***Minneapolis Federal Reserve Bank***

**Richard Todd**, Vice President  
**Terry Fitzgerald**, Staff Economist

***University of Minnesota***

**Gerald August**, Department of Psychiatry  
**Karen Cadigan**, Center for Early Education and Development  
**Dante Cichetti**, Institute of Child Development  
**Nicki Crick**, Institute of Child Development  
**Elizabeth Davis**, Department of Applied Economics  
**Michael Georgieff**, Department of Pediatrics and Institute of Child Development  
**Jeff Long**, Department of Educational Psychology  
**Ann Masten**, Institute of Child Development  
**Scott McConnell**, Department of Educational Psychology  
**Elton Mykerezzi**, Department of Applied Economics  
**Susie Nanney**, Department of Family Medicine & Community Health  
**Anthony Pellegrini**, Department of Educational Psychology  
**Amy Susman-Stillman**, Center for Early Education and Development

**National Advisory Committee:**

**Jeanne Brooks-Gunn**, Child Development, Columbia University  
**V.V. Chari**, Economics, University of Minnesota  
**Greg Duncan**, Economics, University of California, Irvine  
**Megan Gunnar**, Child Development, University of Minnesota  
**James Heckman**, Economics, University of Chicago  
**Robert Pianta**, Educational Psychology, University of Virginia

**Sharon Ramey**, Developmental Psychology, Georgetown University  
**Jack Shonkoff**, Pediatrics, Harvard University  
**Deborah Vandell**, Educational Psychology, University of California  
**Kenneth Wolpin**, Economics, University of Pennsylvania  
**Edward Zigler**, Psychology, Yale University

**Affiliated University of MN Colleges, Centers and Departments:**

**College of Education and Human Development**  
**Children, Youth and Family Consortium**  
**Center for Excellence in Children's Mental Health**  
**Department of Applied Economics**  
**Center for Human Resources and Labor Studies**, Carlson School of Management  
**School of Public Health**  
**Institute of Child Development**  
**Department of Educational Psychology**  
**Hubert Humphrey Institute**  
**Center for Early Education and Development (CEED)**

**National Affiliated Colleges and Centers:**

**Consortium on Chicago School Readiness**  
**North Carolina University**  
**Harvard University**