Pioneers in Pediatric Psychology: Integrating Nutrition and Child Development Interventions

Maureen M. Black, PhD
Department of Pediatrics and Department of Epidemiology and Public Health, University of Maryland School of Medicine

All correspondence concerning this article should be addressed to Maureen Black, PhD, University of Maryland School of Medicine, 737 W. Lombard Street, Room 161, Baltimore, MD 21201, USA. E-mail: mblack@peds.umaryland.edu

Received August 26, 2014; revisions received November 11, 2014; accepted November 25, 2014

As part of the Pioneers in Pediatric Psychology series, this article provides a brief personal account of Maureen Black’s career as a pediatric psychologist. It traces the transition of the Society of Pediatric Psychology (SPP) from a section of the Division of Clinical Psychology of the American Psychological Association (APA) to an independent division of APA, which occurred during my presidency of SPP. The article addresses three aspects of pediatric psychology that have been central to my career: pediatric nutritional problems, global child development, and the advancement of children’s health and development through policy-related strategies. The article concludes with Lessons Learned and Recommendations for the future of pediatric psychology.

Key words Division 54 APA; nutrition; global child development.

Introduction to Pediatric Psychology

My introduction to pediatric psychology occurred through a rather nontraditional and peripatetic route. My undergraduate degree in mathematics prepared me for an exciting career as a systems analyst, which I pursued working for IBM in New York, Philadelphia, London, and Los Angeles. Although I loved my work, I had few female role models and I was concerned that my professional enthusiasm would fade over time. As the daughter of an engineer and a special education teacher who were very invested in their careers, I knew that I had to find a career that would retain my passion throughout life. I obtained a master’s degree in occupational therapy (OT), focusing on interventions among young children with disabilities. OT taught me the value of action-oriented interventions, such as learning through play, and I soon discovered that I was really interested in investigating interventions that promoted early development (Black, Freeman, & Montgomery, 1975). I entered a graduate program in psychology at Emory University with a desire to obtain a strong background in intervention research related to child health and development. Boyd McCandless, PhD, was my first graduate-school mentor. With a background in both developmental and clinical psychology and a dedication to excellence and mentoring, he embodied the perspective that I sought to acquire. Shortly after I started graduate school, my husband, who was a fellow at the Centers for Disease Control and Prevention, received a 3-month assignment in Bangladesh. My plans were to join him for the Christmas break. When I told Boyd, he encouraged me to spend the semester in Bangladesh doing independent study with Sultana Zaman, PhD, a former Emory graduate and professor in the Department of Psychology at Dhaka University. Sultana became a lifelong mentor and friend. She specialized in initiating programs for children with developmental disabilities and taught me the importance of equity in resource-poor settings (Black, 1977). My graduate school advisor, Howard Rollins, PhD, helped me learn to conduct intervention trials (Black & Rollins, 1982), a skill that I have used throughout my career. A condition of Emory’s graduate program was to write and defend a comprehensive paper on a topic that
differed from the dissertation. I chose to review how nutritional deprivation relates to learning, a topic that subsequently defined my career. I credit Boyd McCandless, Sultana Zaman, Howard Rollins, and other mentors from Emory University with the push to look beyond traditional boundaries to “discover” the linkages between nutrition and children’s health and development. Boyd McCandless’s contributions to mentoring have been recognized by the establishment of the prestigious Boyd R. McCandless Early Career Award (Palermo, 1982).

With training in developmental disabilities from an internship at the Neuropsychiatric Institute at University of California, Los Angeles, an interest in nutrition and child development, and a spirit for adventure, my husband and I moved to Bangladesh and then to Peru for several years. I worked in nutritional rehabilitation centers and learned about the devastating effects that severe nutritional deprivation has on young children’s health and development.

My formal introduction to pediatric psychology occurred when we moved to Baltimore and Tom Kenny, PhD, Chief of the Division of Pediatric Psychology at the University of Maryland School of Medicine, offered me a part-time position. Together with Rudy Bauer, PhD, Tom had developed one of the pioneering internship programs in pediatric psychology (Kenny & Bauer, 1975). Located within the Department of Pediatrics, interns were involved in many pediatric subspecialties. I became a member of the Society of Pediatric Psychology (SPP) and began to publish in the *Journal of Pediatric Psychology* (Black et al., 1988).

Tom was an early leader of SPP (Kenny, 2013) and Division 37 (Society for Child and Family Policy and Practice). He encouraged me to take an active role in both organizations and recommended me to be the membership chair for Division 37. I enjoyed serving on the Executive Board, embraced the value of policy-related work for the advancement of children’s issues, and in 1993, I was elected President. I was interested in professional issues and conducted two surveys: (1) a 15-year survey of the interns who had trained at the University of Maryland (Black, 1991) and (2) a national survey of psychologists in medical schools conducted with Wayne Holden, PhD (Black & Holden, 1998; Holden & Black, 1996). In 1997, I was elected President of SPP.

The Birth of the Division of Pediatric Psychology

By the end of the 1990s, the SPP leadership was interested in becoming a division of the American Psychological Association (APA). Since 1980, SPP had been a section (Section 5) of Division 12, Clinical Psychology, following the lead of Clinical Child Psychology (Section 1). As sections of Division 12, Clinical Child Psychology and SPP maintained a very close relationship. Executive Board meetings were often scheduled together, many psychologists were members of both sections, there were overlapping members of the Editorial Boards, and the two sections often collaborated on APA Convention programming as a strategy to maximize hours. Both sections thrived by increasing membership, improving the quality and distribution of their journals (*Journal of Clinical Child Psychology* and *Journal of Pediatric Psychology*), and focusing attention on children’s issues. As a section, 50% of the members were expected to hold membership in the Division of Clinical Psychology and although the section had autonomy of governance, it was under the leadership of Division 12. By the end of the 1990s, the leadership of both Sections 1 and 5 believed that they were ready to “grow up” and pursue independent division status. For SPP, becoming an independent division would focus attention on the application of psychological science and practice to children’s health and illness, remove SPP from under the umbrella and partial control of the Division of Clinical Psychology, provide more hours at the annual APA Convention, and give SPP a “seat at the table” on APA’s Council of Representatives. Although Division 12 was not initially enthusiastic about losing the sections, and potentially many members, after many discussions, the Division 12 leadership agreed that Clinical Child Psychology and SPP could seek division status. The response to independent ballots sent to the memberships of Sections 1 and 5 was overwhelming endorsement of the pending move to division status. In 1998, Marilyn Erickson, as President of Section 1, and I, as President of Section 5, were tasked with organizing the move to division status.

Maureen M. Black, PhD, 2014

The two sections faced the critical question of joint versus independent division status. Members of the two sections who were in favor of a joint division argued that there would be more strength in a larger division as
compared with two smaller divisions and that many psychologists and colleagues outside of psychology could not differentiate between clinical child and pediatric psychology. Members who were in favor of separate divisions argued that there were fundamental differences in the philosophy and focus of the two fields that would be lost if they joined into a single division, and that two divisions would provide visibility to the unique aspects of clinical child and pediatric psychology and a double emphasis on children’s issues within APA. After multiple, and sometimes heated, discussions within and across the two sections, and with the support of the membership of both sections, the decision was made to pursue two divisions. Marilyn and I worked closely to secure the necessary support for both divisions, to present the petitions to the Council of Representatives, and to ensure that there was no confusion or divisiveness regarding the decision to seek two divisions. We spent many hours plotting together and in 1998, we approached the Council of Representatives in unison. In 1999, both sections were granted division status. Clinical Child Psychology became Division 53 (renamed to the Society of Clinical Child and Adolescent Psychology in 2001) and SPP became Division 54. The two divisions have continued close collaborations, with many joint members, a shared Executive Secretary, co-sponsored APA Convention programming, and many mutual interests and initiatives. Both have thrived, with increases in membership, strong journals (Journal of Pediatric Psychology, Clinical Practice in Pediatric Psychology, and Journal of Clinical Child and Adolescent Psychology), and enthusiastic support for evidence-based assessments and practice. SPP has formed alliances with the leadership of pediatric professional organizations, including the American Academy of Pediatrics and the Society of Developmental and Behavioral Pediatrics, and has continued to focus on the behavioral and developmental aspects of children’s health and illness.

### Nutrition as a Component of Pediatric Psychology

At the University of Maryland, my initial role involved strategies to promote the health and development of children and adults with developmental disabilities. I was searching for a way to incorporate nutrition into my career and teamed up with a like-minded pediatrician, Howard Dubowitz, MD. Using failure-to-thrive as a marker of vulnerability in young children, in 1988, we successfully competed for a grant from the federal bureau of Maternal and Child Health (MCH) to conduct a randomized trial of home visitation among children with failure-to-thrive. The project officer, Dr Gortran Lamberty, was a wonderful mentor who frequently reminded me that children’s health and development should be integrated, a message that I continue to promote today (Black & Dewey, 2014). Howard and I recruited a cohort of children and families, implemented the intervention, and found that home intervention benefitted children’s home environment (Black, Dubowitz, Hutcheson, Berenson-Howard, & Starr, 1995), and led to enhancements in their school performance that continued through adolescence (Black, Dubowitz, Krishnakumar, & Starr, 2007; Black, Dubowitz, Wang, & Magder, 2015).

Through the interdisciplinary Growth and Nutrition Clinic that was developed as part of our initial MCH grant, colleagues and I continue to provide clinical services to children with growth faltering; to offer interdisciplinary training to students in psychology, medicine, and dietetics; and to conduct research that examines the determinants of successful growth recovery (Black, Tilton, Bento, Cureton, & Feigelman, 2015). We make a video recording of each family having a meal and use the videos for diagnostic and therapeutic purposes, helping families to identify strengths in their interactions, as well as areas to change (Black, Berenson-Howard, & Cureton, 1999; Black, Feigelman, & Cureton, 1999). The clinic continues to be funded through clinical billing, along with research and foundation grants.

At a conference in the late 1990s hosted by Share Our Strength, an anti-hunger organization in Washington DC, I met several other directors of Growth and Nutrition Clinics. Welfare reform, the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA), had recently been implemented, and Temporary Assistance to Needy Families replaced Aid to Families with Dependent Children. We were concerned that the metrics of success for PRWORA focused on reductions in the number of welfare recipients, with no attention to the health and well-being of their children. We feared that rates of food insecurity among families with young children would surge, with corresponding increases in the number of children failing to thrive. In response, we formed Children’s HealthWatch (originally Children’s Sentinel Nutrition Assistance Program) to monitor the health and well-being of children aged <3 years recruited from waiting rooms of emergency departments and primary care clinics in urban medical centers across the country. By centering our work in sites with Growth and Nutrition Clinics, we could not only monitor children’s health and well-being but also provide clinical services when needed. Children’s HealthWatch (www.childrenshealthwatch.org) has continued to thrive through the Great Recession and other threats to children’s health. In addition to publishing our findings in peer-reviewed journals (Cook et al., 2002),
we use the evidence to publish policy briefs and advocate nationally for better services. Two Children’s HealthWatch representatives have been appointed to the National Commission on Hunger, illustrating our focus on national policy. I have led the publications that evaluated how participation in the WIC Program (Special Supplementary Nutrition Services for Women, Infants, and Children) relates to food insecurity and children’s health and development (Black, Cutts, et al., 2004; Black et al., 2012), testified and published several commentaries and editorials related to funding for WIC (Black & Paige, 2010, 2011; Fox, Cheng, & Black, 2014) and Supplementary Nutrition Assistance Program, formerly the Food Stamp Program (Frank, de Cuba, Sandel, & Black, 2013), and in 2013, I received the “Friend of WIC” Award from the National WIC Association.

As the obesity epidemic emerged as a national problem, I recognized the similarities between families of underweight and overweight children, and my interests expanded to obesity prevention. Together with Deborah Young-Hyman, PhD, we organized a special issue of the Journal of Pediatric Psychology on pediatric obesity (2007). With support from the National Institute on Child Health and Human Development, our research team has conducted several prevention trials, including a trial among toddlers in collaboration with the WIC Program and a trial among adolescent girls in collaboration with the Baltimore City Public School System (Black et al., 2010). Our current work, in collaboration with the Maryland State Department of Education and the Maryland Department of Health and Mental Hygiene, examines the implementation of school wellness policies as mandated by the Child Nutrition Reauthorization Act of 2004 and the Healthy Hunger-Free Kids Act of 2010 (Hager et al., 2014). As we have recognized the mental health consequences associated with obesity (Witherspoon, Latta, Wang, & Black, 2013) and the futility of relying exclusively on messages related to diet and physical activity, we have turned to systems science (Black & Hager, 2013) and the need to incorporate multiple levels and a policy focus into obesity prevention.

I have also been involved with other topics integrating children’s health and development, including a longitudinal investigation of children who experienced prenatal drug exposure. In 2006, Claire Coles, PhD, and I organized a special issue of the Journal of Pediatric Psychology on prenatal drug exposure. With funding from the National Institute on Drug Abuse and talented postdoctoral fellows, we have demonstrated that the long-term consequences of prenatal drug exposure on the health and development of children and adolescents are not as dire as initially projected (Ackerman, Riggins, & Black, 2010; Buckingham-Howes, Berger, Scaletti, & Black, 2013). We have also followed a cohort of children prenatally exposed to cocaine and heroin into adolescence and examined whether stress reactivity (measured through salivary cortisol) and brain connectivity (measured through brain imaging) explain relations between prenatal drug exposure and brain and behavioral functioning (Buckingham-Howes et al., 2014; Riggins et al., 2012).

My greatest honor as a pediatric psychologist was receiving the John A Scholl MD and Mary Louise Scholl MD Endowed Professorship. The Scholls obtained their MD degrees from the University of Maryland School of Medicine in 1941 and 1942, respectively. Mary Louise maintained an active practice in pediatric neurology well into her 80s. She established the professorship to honor John and to emphasize an ongoing commitment to child health and development. I visited her in San Diego several times and admired her dedication to children, her passion for her own work, and her generosity in establishing an endowment.

A Global Perspective of Pediatric Psychology

Throughout my career I have been interested in global child development. In an effort to organize our work, several colleagues and I formed the Global Child Development Group (www.globalchilddevelopment.org) with a mission to use scientific evidence to promote global child development. The group is headquartered at the University of the West Indies in Jamaica and spearheaded two series of papers on global child development, published in The Lancet in 2007 and 2011. A third series on scaling up evidence-based interventions on child development is in progress, led by the World Health Organization. Although there have been dramatic improvements in the survival and health of children throughout the world during the past 3 decades, our research has shown that >200 million young children in low- and middle-income countries do
not reach their developmental potential, largely owing to nutritional deficiencies and lack of early learning opportunities (Engle et al., 2007; Grantham-McGregor et al., 2007; Walker et al., 2007). With the recognition that many children in low- and middle-income countries are experiencing micronutrient deficiencies that could undermine their health and development (Black, 2003), I have conducted micronutrient intervention trials in Bangladesh, India, and Guatemala focusing on strategies to promote child development among young children (Black, Baqui, et al., 2004; Black, Sazawal, et al., 2004; Fernandez-Rao et al., 2014). We also found that rates of maternal depressive symptoms are often very high in low- and middle-income countries and can interfere with children’s growth (Surkan, Kennedy, Hurley, & Black, 2011) and development (Black, Baqui, Zaman, Arifeen, & Black, 2009; Wachs, Black, & Engle, 2009).

I have had many mentors for the global work; one of the strongest was Patrice Engle, PhD. Pat was dedicated to the integration of nutrition and child development, and spent her life encouraging others to recognize that the health and well-being of nations begin with the assurance that young children receive the necessary support to promote both their health/nutrition and early child development. After her death, we established the Patrice L. Engle Dissertation Award in Global Child Development for doctoral students conducting research in low- and middle-income countries, hosted by the Society for Research in Child Development (SRCD; http://www.srcd.org/advancing-field/srcd-awards-research-grants/patrice-l-engle-grant).

One of my goals has been to ensure that pediatric psychology has a strong presence in domestic and global child health and development (Engle & Black, 2008). I organized a special issue of the Journal of Pediatric Psychology on international child health (2000), a special issue of the European Journal of Nutrition on nutrition and children’s cognition (2008), and, together with colleagues in nutrition, special issues on maternal and child mental health and nutrition (with Usha Ramakishnan, PhD, 2009, American Journal of Clinical Nutrition), responsive feeding (with Kristen Hurley, PhD, 2011, Journal of Nutrition), and integrated child development and nutrition interventions (with Kay Dewey, PhD, 2014, Annals of the New York Academy of Sciences). I have also advocated for more attention to global child development through commentaries associated with nutritional interventions (Black & Hurley, 2014) and tobacco control (Black, Nair, & Spanier, 2014) and through service on the Committee on International Relations in Psychology of the APA, the Committee on Policy and Communications of the SRCD, the Institute of Medicine (IOM), and on committees of international organizations, including UNICEF, the World Health Organization, the World Bank, the IOM, and the U.S. Agency for International Development.

**Lessons Learned and Recommendations for the Future of Pediatric Psychology**

The following lessons learned and recommendations for young pediatric psychologists are based on my career and involvement with SPP:

1. **Maintain a balance in life.** I began my career with a part-time position, which allowed me to spend time with our two young daughters. As they got older, my professional involvement increased.

2. **Maintain a balance in financial support.** Throughout my career, I have been fortunate in being able to attract grant support, which has given me the autonomy to pursue projects of my interest. Funding is a competitive process, but pediatric psychologists are well-trained to compete.

3. **Maintain a scientific perspective to your work and look for opportunities to write and publish what you have learned.**

4. **Most of the mentors who helped me develop my career as a pediatric psychologist were not pediatric psychologists themselves. Recognize that you can learn from colleagues with diverse backgrounds.**

5. **Pay forward.** Serve as a role model to others and include junior colleagues in your projects and publications.

6. **Maintain SPP’s clear emphasis on how aspects of health and illness relate to children’s behavior and development.** SPP has been a strong philosophical home for me. I take pride in referring to myself as a pediatric psychologist and in emphasizing the inherent interdisciplinary collaboration associated with the profession.

7. **Continue ongoing clinical involvement.** Remaining embedded within clinical practice through weekly contact with children and families in our interdisciplinary Growth and Nutrition Clinic has kept me “honest” and informed regarding the issues facing children and families, as well as the issues facing the health-care system.

8. **Incorporate research into clinical practice.** Both research and practice are enhanced through the

---

1 Micronutrients are small quantities of vitamins and minerals that are required for specific physiological functions and not made by the body.
scientist-practitioner model. For example, in our Growth and Nutrition Clinic, we learned that our interventions are most effective among the families with the greatest number of risks; they have the most to learn (Black, Tilton, et al., 2015).

9. Listen to participants in research and clinical practice. As we learned from families participating in a micronutrient and responsive parenting trial in India, parents want their children to be healthy and smart, thus the origin of our project name, “Grow Smart” (Fernandez-Rao et al., 2014).

10. Use a systems perspective to consider the interconnections among children, families, health care, schools, and policies. Just as the move from section to division for SPP provided independence within APA and enabled the organization to adopt a broader focus, understanding how systems impact children and families and advocating for evidence-based services broadens the impact of pediatric psychology from individual families to communities and populations.

11. Translate research into practice through collaborations with state agencies and health-care systems. Agency collaboration and policy reform extend the boundaries of pediatric psychology and enhance the likelihood of broad implementation and sustainability (Black, Knolhoff, Hurley, & Dallavalle, 2008; Hager et al., 2015).

12. Implement bold and innovative strategies to train the next generation of pediatric psychologists. Health care is undergoing significant reform and pediatric psychologists in the future are likely to need to think broadly about their role in promoting the health and development of children threatened by illnesses or vulnerabilities.

13. Celebrate the diversity of interests within pediatric psychology, continue to reach out to interdisciplinary colleagues, focus on the pending changes to the health-care system, and prepare to look for areas of involvement beyond the health-care system.

Conclusion

Advances in science have shown that the building blocks of adult health and well-being are formed by strong health and development early in life (Shonkoff, 2012). Convincing evidence has shown that early interventions can alter the course of children’s health and development (Campbell et al., 2014; Gertler et al., 2014) and are wise investments. With a clear focus on the linkages between health and development, and the maturity and courage to push the traditional boundaries of clinical service toward innovative programs, policies, and ideas, pediatric psychology is well positioned to ensure a critical role in promoting the health and development of children of the future.

Funding

Preparation of this paper was partially supported by grants from the U.S. Department of Health and Human Services, Maternal and Child Health Research Grant No. MCJ-240568, Home intervention for infants with failure to thrive and the National Institute of Child Health and Human Development Grant No. R01 HD 056099, Toddler Feeding Styles.

Conflicts of interest: None declared.

References


