



## **Karen Cadigan: Educator**

King Tut has nothing on *From Neurons to Neighborhoods: The Science of Early Childhood Development* — at least not in Minnesota.

When the popular traveling show of the boy King's treasures, *Tutankhamun and the Golden Age of the Pharaohs*, opens in early 2011 at the Science Museum of Minnesota, its competition will be an exhibit inspired by *From Neurons to Neighborhoods*--a creative look at the infants and toddlers called *Wonder Years: The Science of Early Childhood Development*.

*Wonder Years* is "an interactive, scientifically accurate distillation of the science of birth to 5," said Karen Cadigan, research fellow at the Center for Early Education and Development at the University of Minnesota. With a three-year \$2.3 million grant from the National Science Foundation, Cadigan and her colleagues are working with the museum and the civic engagement agency, Public Agenda, to incorporate recent findings from neurobiology, early development, and early learning research into the exhibit and to develop the outreach programming that will go with it.

The team worked with a national advisory group that included research scientists, community providers, museum evaluation specialists, and communications experts to develop key messages. In the end, Cadigan says, the key messages that rose to the top were those from *Neurons*, as well as those found in working papers on science and public policy from Harvard's Center on the Developing Child. These messages, which drive the *Wonder Years* exhibit, include:

- The years from birth to age 5 matter.
- Relationships are the active ingredient in early learning.
- Stable relationships set the stage for a child's future.
- The human brain is malleable throughout life, but especially in people's early years.

*Wonder Years* will be a permanent part of the *Human Body* gallery at the Science Museum of Minnesota, positioned where it is sure to be noticed. Or, as Cadigan said, "Right where the flashy exhibits are." In fact, while King Tut is in residence, the exhibits will be neighbors.

But the *Wonder Years* exhibit will last longer than King Tut's, and its message will be heard beyond the walls of the 1,600-square-foot space it will call home. A part of the *Wonder Years* objective, Cadigan says, is to help the public better understand the role society can play in providing strong foundations for a healthy and productive



**"The bulk of my work involves having one foot in science and one in public policy. *Neurons* is why that happened."**

**Karen Cadigan is director of outreach and policy for the University of Minnesota's Center for Early Education and Development and is working with the Minnesota Science Museum on *Wonder Years*.**

life. “We want to engage visitors in thinking beyond the level of individual behavior [such as parental or caregiver behavior] to thinking about how collective decisions, how neighborhoods, foundations, policy makers, and others all have something to contribute to early development.”

So, in addition to the exhibition — aimed at adult visitors who are not necessarily parents — there will be programs to engage people around Minnesota in conversations about many aspects of children’s earliest years, including babies’ brains, developmental milestones, early childhood education, and child care.

As Cadigan explains it, these conversations will bring Minnesota citizens together with legislators, educators, and other stakeholders. The plan is for about 100 small group conversations in the science museum for visitors who have seen the exhibit. “Some we will convene intentionally,” Cadigan said, but others will happen spontaneously. Also scheduled in the museum’s auditorium will be a series of public lectures on child development from birth to age 5.

And the science of *Wonder Years* will reach an even broader public. The museum will sponsor five “Citizen Conferences” throughout Minnesota, led by Public Agenda, a nonpartisan research agency with experience at convening groups to find common ground on important social issues. The *Wonder Years* Citizen Conferences, which will be moderated, will include stakeholder groups in health, education, and law and will explore how societal choices and community actions affect early childhood development.

State policy makers will participate in the groups in fishbowl format, as listeners only. Cadigan’s research will examine how policy-makers’ thinking responds to their experience in listening to citizens discuss the implications of the science.

*Wonder Years* may be about children, but the exhibit is designed for adults. “It’s informal science education. We will be teaching people about developmental science and how it’s conducted, how we figure it out,” Cadigan said. “There are parts that will help people think:

‘Here’s how I can change my parenting,’ or ‘here’s how I can change how I can interact with kids in my classroom or in my care.’ But that doesn’t mean children and youth won’t find some parts of interest.”

There will be hands-on activities, and the exhibit will have a quiz show on “societal implications,” with a booth where visitor contestants can answer questions on-line. The questions are designed to provoke thinking about babies and children, as well as to provide descriptive information.

Cadigan, whose career was influenced by her exposure to *Neurons*, says she keeps a print version of the book handy (if her current copy hasn’t been given away). She frequently refers to its findings and recommendations on the Internet in preparing the research for the *Wonder Years* exhibit.

Though there are no plans for *Wonder Years* to travel, Cadigan would love to find a way to take all or some part of it on the road some day. “It would get it to so many more people,” she said. “I think that young kids are in many ways invisible in our society, or the ways in which they are visible are focused around fear, not around how you do the everyday but magical work of providing healthy environments.”

In the meantime, she is focused on the impending deadline of opening day, President’s Day weekend in 2011. And when that day comes? “We are definitely having a party.”

---

### For More Information

Copies of the report, *From Neurons to Neighborhoods: The Science of Early Childhood Development*, are available for sale from the National Academies Press at (888) 624-8373 or (202) 334-3313 (in the Washington, DC metropolitan area) or via the IOM website <http://www.iom.edu/neuronstoneighborhoods>. Full text of the report and a free pdf copy of the Summary are also available at <http://www.iom.edu/neuronstoneighborhoods>.

Permission is granted to reproduce this document in its entirety, with no additions or alterations.

*From Neurons to Neighborhoods: The Science of Early Childhood Development* is a report from the Board on Children, Youth, and Families in the Institute of Medicine and National Research Council.  
[www.bocycf.org](http://www.bocycf.org) 202-334-1935

INSTITUTE OF MEDICINE AND  
NATIONAL RESEARCH COUNCIL  
OF THE NATIONAL ACADEMIES