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JUNE 4, 2015

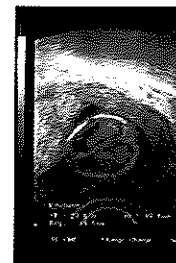
WHAT POVERTY DOES TO THE YOUNG BRAIN

BY MADELINE OSTRANDER

The brain's foundation, frame, and walls are built in the womb. As an embryo grows into a fetus, some of its dividing cells turn into neurons, arranging themselves into layers and forming the first synapses, the organ's electrical wiring. Four or five months into gestation, the brain's outermost layer, the cerebral cortex, begins to develop its characteristic wrinkles, which deepen further after birth. It isn't until a child's infant and toddler years that the structures underlying higher-level cognition—will power, emotional self-control, decision-making—begin to flourish; some of them continue to be fine-tuned throughout adolescence and into the first decade of adulthood.

For a growing child, deprivation and stress can become a kind of neurotoxin.

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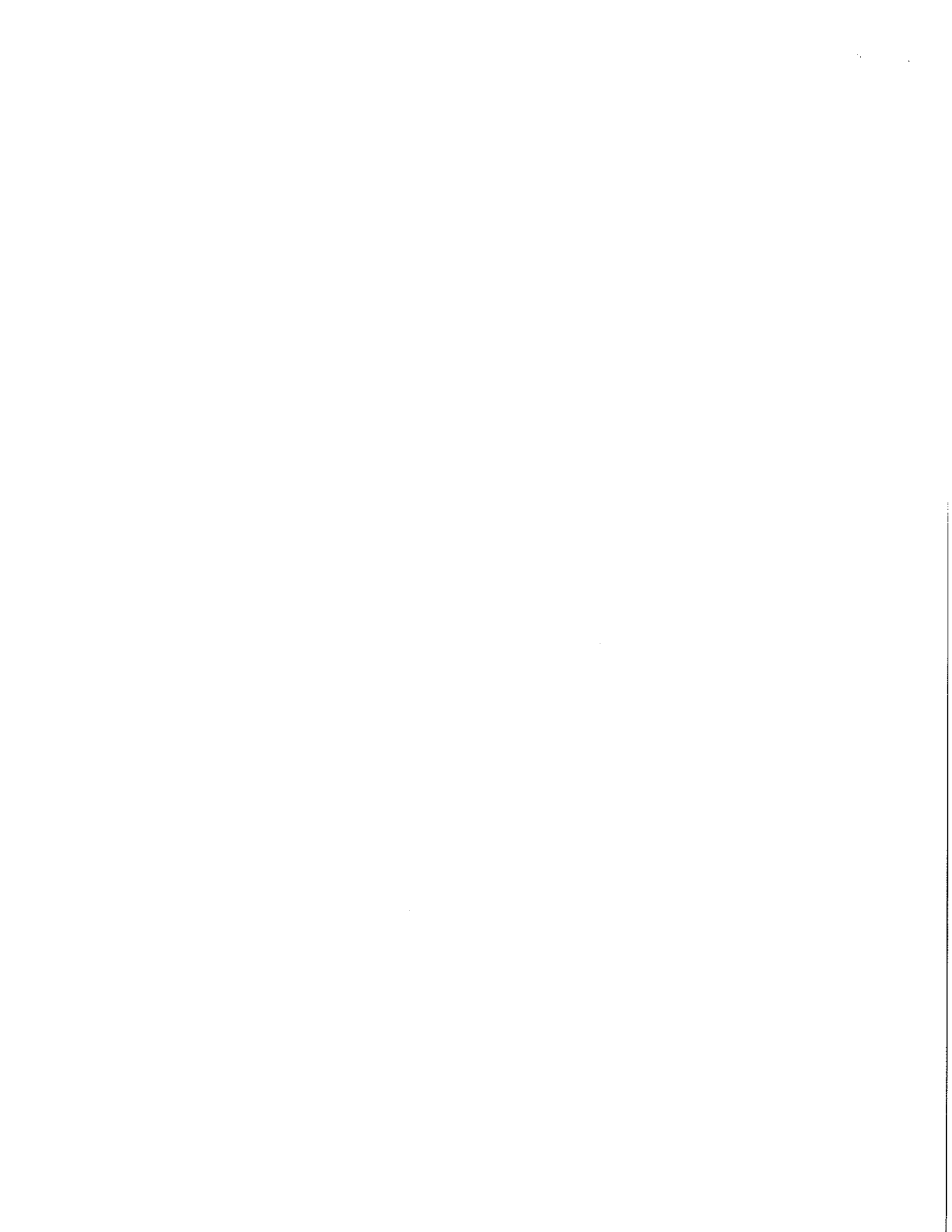
Pat Levitt, a developmental neuroscientist at Children's Hospital Los Angeles, has spent much of his career studying the setbacks and accidents that can make this construction process go awry. In the nineteen-nineties, during the media panic over "crack babies," he was among a number of scientists who questioned whether the danger of cocaine exposure in utero was being overstated. (Levitt spent two decades examining the brains of rabbit mothers and their offspring that were dosed with the drug, and says that the alarm was "an exaggeration.") More recently, as the science director of the National Scientific Council on the Developing Child, he has become interested in another sort of neurotoxin: poverty.

As it turns out, the conditions that attend poverty—what a National Scientific Council report summarized as "overcrowding, noise, substandard housing, separation from parent(s), exposure to violence, family turmoil," and other forms of extreme stress—can be toxic to the developing brain, just like drug or alcohol abuse. These conditions

provoke the body to release hormones such as cortisol, which is produced in the adrenal cortex. Brief bursts of cortisol can help a person manage difficult situations, but high stress over the long term can be disastrous. In a pregnant woman, the hormone can “get through the placenta into the fetus,” Levitt told me, potentially influencing her baby’s brain and tampering with its circuitry. Later, as the same child grows up, cortisol from his own body may continue to sabotage the development of his brain.

In March, in the journal *Nature Neuroscience*, a group of researchers from nine hospitals and universities published a major study of more than a thousand children. They took DNA samples, made MRI scans of the children’s brains, collected data on their families’ income level and educational background, and gave them a series of tests for skills like reading and memory. The DNA samples allowed the scientists to factor out the influence of genetic heritage and look more closely at how socioeconomic status affects a growing brain. The scans focussed on over-all brain surface area, determined partly from the depth of the folds on the cortex, and the size of the hippocampus, a lumpy, curled structure nestled in the middle of the brain that stores memories. As might be expected, more educated families produced children with greater brain surface area and a more voluminous hippocampus. But income had its own distinct effect: living in the lowest bracket left children with up to six per cent less brain surface area than children from high-income families. At the lowest end of the income spectrum, little increases in family earnings could mean larger differences in the brain. At the middle and upper income levels, though, the money-brain curve flattened. In other words, wealth can’t necessarily buy a better brain, but deprivation can result in a weakened one.

A person whose brain has been undermined in this way can suffer long-term behavioral and cognitive difficulties. In March, a study appeared in the journal *Acta Paediatrica* showing eerie ultrasound images of fetuses that more frequently moved their mouths and touched their faces when their mothers were either stressed out or, even more so, when they smoked cigarettes—likely a sign of delayed nervous-system development. In a longer-term study published two years ago, neuroscientists at four universities scanned the brains of a group of twenty-four-year-olds and found that, in those who had lived in poverty at age nine, the brain’s centers of negative emotion



were more frequently buzzing with activity, whereas the areas that could rein in such emotions were quieter. Elsewhere, stress in childhood has been shown to make people prone to depression, heart disease, and addiction in adulthood.

Over the past decade, the scientific consensus has become clear: poverty perpetuates poverty, generation after generation, by acting on the brain. The National Scientific Council has been working directly with policymakers to support measures that break this cycle, including better prenatal and pediatric care and more accessible preschool education. Levitt and his colleagues have also been advocating for changing laws that criminalize drug abuse during pregnancy, since, as they pointed out in a review paper, arrest and incarceration can also trigger the “maternal stress response system.” The story that science is now telling rearranges the morality of parenting and poverty, making it harder to blame problem children on problem parents. Building a healthy brain, it seems, is an act of barn raising.



Read more in our special package on the brain
(<http://www.newyorker.com/topics/on-the-brain>).

Madeline Ostrander is a freelance writer based in Seattle.

Child Specialist

The function of the Child Advocate/Specialist is to assist our families in accessing the services their children need in order to feel safe and thrive. The areas of education, including early intervention, is a primary concern, as well as our children's emotional and behavioral health.

Experience: education or social service background, experience working with children and families in the areas of parenting, school advocacy (IEP's and McKinney/Vento services) and children with special needs.

Essential Functions:

1. Identify, assess, and refer families to early intervention services when needed (Childfind, school district)
2. Provide advocacy and support to families when seeking out early intervention services
3. Collaborate with school districts to ensure smooth transition of transportation, enrollment, and other needed services (school counselor, IEP, tutoring, etc.). Work with parents on advocating for services for their children.
4. Provide individual and/or group training on parenting techniques. Engage parents in active, nurturing, developmentally appropriate parenting.
5. Provide a therapeutic environment to allow children to express themselves in a safe manner.
6. Offer individual/group support sessions to children and their families. Areas of concern may be: safety, transitions, grief/loss, stress management, family communication.
7. Coordinate appropriate activities for children and families (After school program, tutoring, mentors, recreational opportunities)
8. Knowledge of community resources
9. Follow up care with Aftercare families. Assist with children's transition into new home and school environment.
10. Support and train staff and volunteers in their work with children.

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Will Your Child be Rich or Poor? 15 Poverty Habits Parents Teach Their Children

SEPTEMBER 24, 2013 BY THOMAS C. CORLEY 397 COMMENTS



When I travel the country speaking to high school and college students about exactly what they need to do to become financially successful in life I always begin my presentation by asking three questions:

“How many want to be financially successful in life?”

“How many think they will be financially successful in life?”

Almost every time I ask the first two questions every hand rises in the air. Then I ask the magic third question:

“How many have taken a course in school on how to be financially successful in life?”

Not one hand rises in the air, ever. Clearly every student wants to be successful and thinks they will be successful but none have been taught by their parents or their school system how to be financially successful in life. Not only are there no courses on basic financial success principles but there are no structured courses teaching basic financial literacy. We are raising our children to be financially illiterate and to fail in life. Is it any wonder that most Americans live paycheck to paycheck? That most Americans accumulate more debt than assets? That many Americans lose their homes when they lose their job? Is it any wonder that most Americans cannot afford college for their children and that student loan debt is now the largest type of consumer debt?

What’s worse is what our children *are* being taught by their parents, the school system, politicians and the media. They are teaching our children that the wealthy are corrupt, greedy, have too much wealth and that this wealth needs to be redistributed. What kind of a message do you think that sends to America’s future generation? It is teaching them that seeking financial success by pursuing the American Dreams is a bad thing. The Occupy Wall Street movement was a manifestation of this “wealth is bad and needs to be redistributed” mindset.

Here are some statistics from my five-year study on the daily habits that separate the wealthy from the poor?

1. 72% of the wealthy know their credit score vs. 5% of the poor
2. 6% of the wealthy play the lottery vs. 77% of the poor
3. 80% of the wealthy are focused on at least one goal vs. 12% of the poor
4. 62% of the wealthy floss their teeth every day vs. 16% of the poor
5. 21% of the wealthy are overweight by 30 pounds or more vs. 66% of the poor

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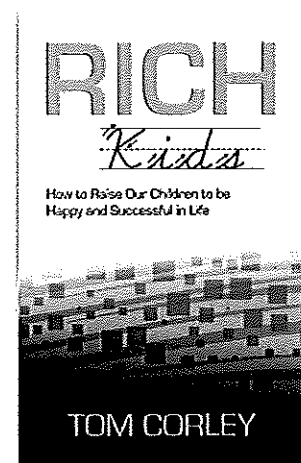
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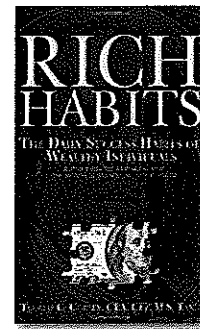
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6. 63% of the wealthy spend less than 1 hour per day on recreational Internet use vs. 26% of the poor
7. 83% of the wealthy attend/attended back to school night for their kids vs. 13% of the poor
8. 29% of the wealthy had one or more children who made the honor roll vs. 4% of the poor
9. 63% of wealthy listen to audio books during their commute vs. 5% of the poor
10. 67% of the wealthy watch 1 hour or less of T.V. per day vs 23% of the poor
11. 9% of the wealthy watch reality T.V. shows vs. 78% of the poor
12. 73% of the wealthy were taught the 80/20 rule vs. 5% of the poor (live off 80% save 20%)
13. 79% of the wealthy network 5 hours or more per month vs. 16% of the poor
14. 8% of the wealthy believe wealth comes from random good luck vs. 79% of the poor
15. 79% of the wealthy believe they are responsible for their financial condition vs. 18% of the poor

The fact is the poor are poor because they have too many Poverty Habits and too few Rich Habits. Poor parents teach their children the Poverty Habits and wealthy parents teach their children the Rich Habits. We don't have a wealth gap in this country we have a parent gap. We don't have income inequality, we have parent inequality.

Parents and our schools need to work together to instill good daily success habits as follows:

- Limit T.V., social media and cell phone use to no more than one hour a day.
- Require that children to read one to two educational books a month.
- Require children to aerobically exercise 20 – 30 minutes a day.
- Limit junk food to no more than 300 calories a day.
- Require that children set monthly, annual and 5-year goals.
- Require working age children to work or volunteer at least ten hours a week.
- Require that children save at least 25% of their earnings or gifts they receive.
- Teach children the importance of relationship building by requiring them to call friends, family, teachers, coaches etc. on their birthdays and to send thank you cards for gifts or help they received from anyone.
- Reassure children that mistakes are good not bad. Children need to understand that the very foundation of success in life is built on learning from our mistakes.
- Punish children when they lose their tempers so they understand the importance of controlling this very costly emotion.
- Teach children that seeking financial success in life is good and is a worthwhile goal. Children need to learn what the American Dream is and that it is something to be pursued in life.
- Children need to learn how to manage money. Open up a checking account or savings account for children and force them to use their savings to buy the things they want. They need to learn that they are not entitled to things like cell phones, computers, fashionable clothes, flat screen T.V.s etc.
- Require children to participate in at least two non-sports-related extracurricular activities at school or outside of school.
- Parents and children need to set aside at least an hour a day to talk to one another. Not on Facebook, or on the cell phone, but face to face. The only quality time is quantity time



Did you know 85-88% of American millionaires are self-made, first-generation rich? Learn the secrets of the wealthy and turn your luck around!

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THOMAS CORLEY

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mtaylor@familypromiseaz.org

From: ndelgado@familypromiseaz.org
Sent: Monday, June 15, 2015 4:59 PM
To: mtaylor@familypromiseaz.org; director@familypromiseaz.org
Subject: Child Advocate/Specialist

Hello Morgan,

I spoke with my sister, who is a special education teacher - who had worked in the Scottsdale School District- about the new position we are advocating for. Her feedback was that someone having a Special Education background would be a good fit because they can help with IEP's, how to work with behaviorally/emotionally challenged children, and early intervention. She thought a new special ed teacher usually starts out at \$34,000, at least in Scottsdale.

I think someone with an educational background, or social service with experience with children, would be a good fit. Bachelor's degree.

Those are some of my thoughts.

