

2014 AWARDS CEREMONY

RESEARCH PRIZE BEST PRACTICE PRIZE



THE KLAUS J. JACOBS AWARDS

In honor of its founder, the entrepreneur Klaus J. Jacobs, who passed away in 2008, the Jacobs Foundation has awarded two annual prizes since 2009. Endowed with a total of 1.2 million Swiss francs, the awards recognize exceptional achievements in research and practice in the field of child and youth development.

The Research Prize acknowledges scientific work of high social relevance to the development of children and young people. The Jacobs Foundation attaches great importance to scientific findings from interdisciplinary research which can yield practical applications. The Klaus J. Jacobs Research Prize is endowed with one million Swiss francs.

The Best Practice Prize recognizes the exceptional commitment of institutions or individuals who put innovative solutions in the field of child and youth development into practice. The Best Practice Prize is worth 200,000 Swiss francs.

THE RIGHT APPROACH, THE RIGHT TIME, THE RIGHT CHILD

The Jacobs Foundation is dedicated to promoting innovation in the field of child and youth development. It seeks to improve the living conditions of children and youth.

In order to provide effective, long-term support for young people, it is essential to understand how young people develop and the factors, both positive and negative, that affect them as they are growing up. This is all the more important because, as this year's prize recipient Michael Meaney has shown, experiences in childhood have lifelong implications for health and achievement. Indeed, their effects can affect subsequent generations as well.

Michael Meaney was the first to show how experiences shape biology. Thanks to his work, it may also be possible to identify the children who are most at risk as well as the children who are most likely to be helped by therapeutic interventions. This, in turn, will be helpful in determining which children should be given priority for such interventions. With their needs in mind, in the future programs can be developed that promise to be highly effective and thus also more cost-effective in the long term.

The right approach, the right time, the right place and the right child – this is the gold standard for making a positive and lasting change in a child's life. This is the principle embraced by SHARPZ, the recipient of the 2014 Klaus J. Jacobs Best Practice Prize. Relying on an evidence-based approach to therapy, SHARPZ provides help for traumatized children in Zambia. Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) is a model that has been studied extensively in the United States and in Europe in an effort to determine its effectiveness. But rather than simply adopting this approach, SHARPZ – in partnership with Johns Hopkins University – has identified the needs of the local population, conducted a pilot project using this therapy, and then evaluated its effectiveness. The results are encouraging: Among the children who participated in



the program, trauma-related symptoms could be reduced nearly four times as much as among the control group.

The success of Sharpz in implementing this evidence-based intervention over an extended period of time, and in a country plagued by widespread poverty and high hiv infection rates, is an extraordinary achievement. In the light of Michael Meaney's research, its relevance is even clearer: Sharpz goes beyond offering short-term help to the children involved in the program. Successful treatment of childhood trauma has lifelong benefits for health, and thus helps not only today's young people, but generations to come.

My most sincere congratulations go to Michael Meaney and sharpz for their impressive and important work.

Dr. Joh. Christian Jacobs

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Chairman of the Board of Trustees of the Jacobs Foundation



A LEGACY OF HAPPINESS OR PAIN: CHILDHOOD EXPERIENCES HAVE A PROFOUND EFFECT ON BOTH BODY AND MIND

Michael Meaney, recipient of the 2014 Research Prize, studies how experiences in childhood affect health throughout our lives. SHARPZ, winner of the 2014 Best Practice Prize, provides therapy for traumatized children.

Experiences in childhood are the foundation for our development. Exposure to abuse, neglect or chronic stress can lead to psychological disorders. Scientists know that traumatic childhood experiences leave emotional scars. Because of the lasting effects of such experiences, researchers have long believed that they produce molecular changes in the brain. Michael Meaney was the first to demonstrate that this occurs through epigenetic mechanisms; certain genes are switched on or off as a result of traumatic experiences. What changes is not the genes themselves, but their activity. Certain aspects of an individual's genetic information are turned off; methyl groups attach to pieces of that information and prevent it from being read. This chemical change in the basic building blocks of a cell's DNA is referred to as DNA methylation.

Meaney has been able to show that childhood experiences leave biochemical marks on the DNA. Thus children's social experiences become part of their biology, with a lasting effect on their health. Remarkably, epigenetic changes can be transmitted from cell to cell, and thus also from parent to child. Along with genetics, they are a second avenue by which information can be transmitted from one generation to the next – a topic that has received much less study than genetics.

That life experiences and responses to them can be inherited has far-reaching consequences: The experiences of our ancestors – whether they were traumatic or pleasant – are reflected in our genes. Unlike classic genetic diseases, however, epigenetic changes do not leave us powerless to respond. Since they are influenced by environmental factors, they are less stable than changes in the DNA itself. Epigenetic changes are dynamic, and thus reversible. Methyl groups can be removed or added – through pharmacological as well as psychotherapeutical means.

A number of psychotherapeutical approaches are available for treating traumatized children. Trauma Focussed Cognitive Behavioral Therapy (TF-CBT), which has been shown in exhaustive studies to be effective, uses a variety of methods to help clients build on their own strengths, get involved in positive activities and banish negative thoughts. Serenity Harm Reduction Programme Zambia (SHARPZ) employs this type of therapy to help traumatized children – so that their emotional wounds can heal, rather than continuing for the rest of their lives, with implications even for subsequent generations.

It is in this spirit that this year's Klaus J. Jacobs Awards are being bestowed to these two worthy recipients.

THE BIOLOGY OF SOCIAL FORCES

* RESEARCH PRIZE 2014

Michael Meaney studies the physiological foundations of social experiences. He looks at how genes and environmental factors interact to produce individual differences in development; whether there are biological clues that reveal an individual's vulnerability to certain environmental influences; and how such vulnerabilities can be reduced or eliminated with the help of appropriate therapies.

He began by studying stressed rats. As pups, they had not received proper care from their mothers, and as a result they grew up to be anxious, sometimes hiding in a dark corner of their cages. This behavior was accompanied by a surprising change in their genetic makeup. Studying the rats' brain tissue, Meaney discovered that as a result of chemical changes, certain genes that play an important role in managing stress are switched off. Neglect had programmed the rats' brains to feel stress. Was a lack of parental attention having a lasting effect on gene function? Could the same thing happen with human beings?

Next, Meaney compared samples of brain tissue from suicide victims who had been abused in childhood with samples from accident victims who had not experienced childhood trauma. The results were the same as for the rats: A key gene in the cells of abuse victims was not functioning properly. It had not been damaged, but methylation had caused it to be switched off. In the case of the accident victims who had not been abused, that gene was not methylated and thus remained functional. For the first time, then, Meaney was able to demonstrate that children's social experiences become part of their biology and have a lasting effect on health, either positive or negative. Favorable life circumstances, social contacts and physical activity can produce positive epigenetic

8



changes, while chronic stress, abuse and neglect trigger negative responses. While these processes result in long-term and even inheritable changes in genome information, Meaney has also been able to show that they are dynamic and therefore reversible.

Evidence that childhood experiences leave biochemical marks on the DNA suggests that it is possible to find out which children are most at risk, and thus also which children should be given priority in providing therapy. Moreover, with their needs in mind, programs can be developed that promise to be highly effective and therefore also more cost-effective over the long term.

In recognition of his research on the mechanisms that help to shape a children's biology, such as parental attention and care, the Jacobs Foundation is pleased to present the 2014 Klaus J. Jacobs Research Prize to Michael Meaney.

PROVIDING EVIDENCE-BASED HELP WHERE IT IS URGENTLY NEEDED

*** BEST PRACTICE PRIZE 2014**

Childhood trauma is a widespread problem all over the world, affecting children of every age, socioeconomic background and ethnicity. Causes include abuse and neglect, life-threatening illnesses, disasters and wars, the loss of loved ones through death or separation, and violence in neighborhoods, schools and the home. A child who suffers a traumatic experience is vulnerable to developing a traumatic stress response.

Traumatic stress, in turn, can affect the ability to concentrate and learn, and it can severely compromise a child's mental and physical development. Depending on the child's age, stress can lead to a variety of mental illnesses, difficulties in school, problem behavior and drug abuse. Experiencing severe distress, young people often self-medicate with alcohol or other drugs. This is where Serenity Harm Reduction Programme Zambia (SHARPZ) comes in: Founded in Lusaka by Capuchin Franciscan friars, this organization provides comprehensive services based on evidence based public health approaches to prevent alcohol and drug abuse as well as programs specifically designed to promote mental health. SHARPZ focuses on the causes that lead to abuse of harmful substances – such as childhood trauma.

Zambia is among the countries with the highest rate of HIV infection, with devastating effects on every aspect of life and all economic sectors in a region that is already plagued by widespread poverty. It is individuals of prime working age who are most affected by HIV, and they are leaving behind many AIDS orphans – roughly 750,000 children, according to estimates. Most of them receive no formal schooling; six to ten percent live on the streets; and only one percent are able to find a home in an orphanage. A feasibility study conducted by Johns Hopkins University in 2007 concluded that trauma and grief are the greatest

challenges facing these children, and that very little support is being provided to them. Following that study, SHARPZ and Johns Hopkins University joined together to provide Trauma-Focused Cognitive Behavioral Therapy (TF-CBT) treatment, a method based on scientific evidence, in Lusaka – with impressive results. A two year Randomized Control Trial (RCT) in 2012/2013 showed that the intervention had produced a significant reduction in trauma-related symptoms among the 5- to 18-year-old clients, relative to the control group that received no therapy (reductions of 82.4 percent and 21.7 percent, respectively).

In recognition of its work offering evidence-based trauma focussed cognitive behavioral therapy to traumatized children in Zambia, the Jacobs Foundation is pleased to present the 2014 Klaus J. Jacobs Best Practice Prize to SHARPZ.



LAUREATES TO DATE

2013

Research Prize: Greg J. Duncan (University of California, Irvine) for his research on the long-term consequences of poverty in early childhood Best Practice Prize: ELTERN-AG for its prevention program to support families that have young children and find themselves in particularly difficult circumstances

2012

Research Prize: Dante Cicchetti (University of Minnesota) in recognition of his research on children's resilience and the effects of adversity on development Best Practice Prize: Off Road Kids Foundation for its nationwide efforts to help young runaways and street children in Germany

2011

Research Prize: Michael Tomasello (Max Planck Institute for Evolutionary Anthropology) for his research on the identification of uniquely human forms of collaboration, communication and cultural learning

Best Practice Prize: Christiane Daepp for developing Ideenbüro, a program for helping schoolchildren to accept

responsibility, to learn the benefits of cooperation and to consider everyday problems as challenges

2010

Research Prize: Terrie Moffitt and Avshalom Caspi (Duke University and King's College London) for their research into the interplay between genetic disposition and environmental influences in the development of children and youth

Best Practice Prize: Opstapje Deutschland e. V. and a:primo, for their sustained commitment to providing early support for socially disadvantaged children by successfully implementing a play and development program in Germany and Switzerland

2009

Research Prize: Laurence Steinberg (Temple University) for his work in the psychopathology, risk-taking and decision-making behavior of young people

Best Practice Prize: Father Johann Casutt for successfully adapting the Swiss model for the vocational training to the needs of young people in Indonesia

JURY FOR THE RESEARCH PRIZE 2014

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Professor Jere Behrman University of Pennsylvania; Philadelphia (PA), USA
Professor Francesco Billari University of Oxford; Oxford, England
Professor Monique Boekaerts University of Leiden; Leiden, the Netherlands
Professor W. Thomas Boyce University of British Columbia; Vancouver (BC), Canada
Professor Kathleen Kiernan University of York; Heslington (YO), England
Professor Meinrad Paul Perrez University of Fribourg; Fribourg, Switzerland
Professor Anne C. Petersen University of Michigan; Ann Arbor (MI), USA
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THE JACOBS FOUNDATION

The Jacobs Foundation is active worldwide in the area of child and youth development. The Zurich-based private foundation was established in 1989 by entrepreneur Klaus J. Jacobs. It is operated according to the vision of its founder, who believed that a society can only experience long-term success when as many of its members as possible are given the chance to receive quality education.

The Jacobs Foundation supports research projects, scientific institutions and intervention programs with an annual budget of approximately 40 million Swiss francs. It promotes activities that provide answers to how the living and learning conditions of young people can be designed and supported so that they will become successful members of society.

As far as its methods and approaches are concerned, the Jacobs Foundation is particularly committed to scientific excellence and evidence-based findings, and subscribes to an approach in child and youth development that emphasizes positive development opportunities for young people. This approach covers a wide spectrum of scientific disciplines and approaches that include the psychological, cognitive, emotional, intellectual, social vocational, academic, economic and physical development of children and youth.

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