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Child
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FRANK PORTER GRAHAM
CHILD DEVELOPMENT INSTITUTE

Health

the health issue



Introduction

From dieting to immunology to mindfulness, in this issue of *Early Developments* we tell the stories behind some of FPG's groundbreaking research and outreach on physical, social, emotional, and mental health. Because health is tied closely to child development and later outcomes, FPG's research and service on multiple fronts continue to enhance the lives of children and families in many ways—in some cases, still bringing health benefits decades later.

Our *Health* issue is the latest edition of *Early Developments* to address a major area of emphasis at FPG. In 2010, FPG developed a comprehensive five-year *Strategic Plan* to guide our projects and collaborations. Since then, we have dedicated issues of *Early Developments* to our major areas of emphasis from the *Strategic Plan*:

Developmental Disabilities (as the Autism issue)

<http://fpg.unc.edu/resources/early-developments-vol-13-no-1>

Public Policy & Evaluation

<http://fpg.unc.edu/resources/early-developments-vol-14-no-1>

Professional Development, Technical Assistance, and Implementation Science

<http://fpg.unc.edu/resources/early-developments-vol-14-no-2>

International Initiative

<http://fpg.unc.edu/resources/early-developments-vol-15-no-1>

And later this year FPG will publish a special issue dedicated to Diversity.

To access more issues, please visit our archive of *Early Developments*:

<http://fpg.unc.edu/resources/early-developments-archive>

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UNC's Frank Porter Graham Child Development Institute publishes *Early Developments*. FPG is one of the nation's oldest multidisciplinary centers devoted to the study of children and families. Our mission is to cultivate and share knowledge that enhances child development and family well-being.

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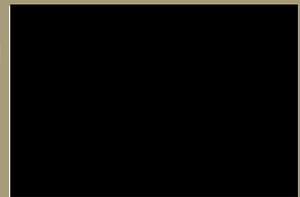


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THIS PAST YEAR, FPG'S RESEARCH AND SERVICE have addressed many aspects of the physical health of children and their families.

Below are stories and snapshots of FPG's latest research, resources, and projects on physical health. As First Lady Michelle Obama's *Let's Move!* initiative aims to solve the problem of obesity within a generation, our first story shows how FPG stands among those at the forefront of this battle. Our second story reveals how the most famous study on early education and care is leading scientists to ask a new question: is it possible that high-quality early care *in and of itself* can bring a lifetime of physical health benefits?

FPG scientists also have conducted studies and supported projects on lowering children's Body Mass Index and understanding the relationships between childhood stressors and immune outcomes, as well as providing consultation for important new health programs.

PHYSICAL HEALTH

Diet, Exercise, and More



Overcoming Childhood Obesity

FPG investigator Allison De Marco often plays a crucial role in projects designed to help children exercise. De Marco helped develop an innovative physical activities guide, for instance, to help North Carolina fight childhood obesity, and new research has shown that when teachers direct these physical activities, young children become more active and less sedentary.

“In the past twenty years, childhood obesity rates have skyrocketed,” said De Marco. “And for the first time in over a century, children’s life expectancies are declining because of increased numbers of overweight kids.”

De Marco said these statistics are especially alarming because research has long shown that being overweight during childhood is associated with health issues later in life. Obesity, coupled with a lack of physical activity, can lead to coronary heart disease, hypertension, Type II diabetes, and other chronic diseases.

“About one-third of overweight preschoolers and one-half of overweight school-age children remain overweight as adults,” she explained.

She also noted that studies have shown how physical activities can reduce the chances of developing obesity and chronic diseases, while positively influencing other areas of development. Childhood physical activity is related to better health, higher test scores, and fewer behavioral problems.

“But preschoolers engage in mostly sedentary activities,” said De Marco. “Surprisingly, children don’t just run

outside and play, and even at recess, preschoolers actually are fairly inactive.”

“Clearly, it’s important to get children up and keep them moving,” said FPG director Samuel L. Odom. He and his colleagues wanted to create a program that would include children even younger than the 3 to 5-year-olds that other physical activity programs previously tried to target.

“Child care programs can be excellent avenues for increasing children’s physical activity,” Odom said. “We designed our guide especially for children birth to age 5 in these settings.”

De Marco, FPG investigator Susan A. Zeisel, and Odom—with support from the Blue Cross Blue Shield of North Carolina Foundation—developed a guide for the foundation’s Be Active Kids program. The guide contains dozens of age-appropriate activities, such as catching bubbles and pretending to be storks, complete with teacher instructions. In addition, teachers can incorporate other aspects of learning into the activities.

After training lead child care teachers and their assistants, the FPG team provided materials—including balls, chalk, scarves, beanbags, and hula hoops—and asked teachers to incorporate activities like “Jump for the Sky” and “Inchworm Wiggle” into their lesson plans. De Marco, Zeisel, and Odom then conducted a study of the program’s effectiveness in both indoor and outdoor environments for children from six NC classrooms.

De Marco said the Be Active Kids guide works to increase activity and to decrease sedentary behaviors, and results are most striking when teachers head the activities.

“When teachers directed the activities, activity levels increased in all six classrooms,” she said. “And moderate to vigorous activity increased in five of six.”

Whether through “Tip Toe Through Puddles” or “Lily Pad Walk,” she added, results show why child care teachers must take the lead to promote high levels of physical activities for their children.

“It was fun to see how creative they could be when working from our instructions, adapting and enhancing the activities for their own kids,” she said. “Teachers are more comfortable providing activities they know are safe and developmentally appropriate.”

Be Active Kids is making the physical activity guide available at no cost to child care teachers around North Carolina and beyond, offering sample activities online (<http://beactivekids.org/pdf/BAKSsample.pdf>).

“Teachers want to promote healthier child outcomes,” De Marco said. “Our work with Be Active Kids shows just how important teachers are to that process.”

While the news about the Be Active Kids program was promising in North Carolina, far from the program De Marco’s research was revealing a different story in kindergartens in China. Collaborating with Bi Ying Hu, Kejian Li, and Yuewen Chen on a study published last year in the *International Journal of Early Childhood*, De Marco looked at 174 classrooms from 91 kindergartens in the Zhejiang Province. According to the study, children had “inadequate opportunity for outdoor play, including free play, as well as low level of physical activity.”

The research team also determined that the quality of outdoor play differed significantly across locations in urban and non-urban areas. For practitioners, they recommended increasing opportunities to use “a wide range of outdoor activities and to improve teachers’ professional competencies in organizing quality outdoor activities for children.” For policymakers in Zhejiang Province, they emphasized supporting the quality of outdoor environments so that children’s play could enhance early childhood development and learning.

Currently, De Marco heads FPG’s project to evaluate Shape NC, an initiative that assists communities and child care programs across North Carolina in promoting healthy eating and physical activity among the state’s youngest children. By analyzing secondary data and conducting new interviews, focus groups, and web-based surveys, her team will determine Shape NC’s effectiveness.



High-Quality Early Education—and Its Health Benefits 30 Years Later

While FPG continues to conduct research and outreach designed to directly enhance the physical well-being of children and their families, last year a groundbreaking study of FPG’s most famous project also determined that experiencing a high-quality early care and education setting in and of itself can bring health benefits that last for decades.

With substantial implications for health care and prevention policy, FPG scientists found that children who received high-quality early care and education in FPG’s seminal Abecedarian

Project from birth until age 5 were enjoying better physical health in their mid-30s than peers who did not attend the childcare-based program.

The findings appeared in *Science* and were the result of FPG’s collaboration with scientists from the University College London and the University of Chicago, where Nobel laureate James J. Heckman spearheaded an intricate statistical analysis of data from the Abecedarian Project. Not only did FPG and Heckman’s team determine that people who had received high-quality early care and education in the 1970s

through the project were healthier now—significant measures also indicated that better health is ahead for them.

“To our knowledge, this is the first time that actual biomarkers, as opposed to self-reports of illnesses, have been compared for adult individuals who took part in a randomized study of early childhood education,” said Frances Campbell, FPG senior scientist and principal investigator of the Abecedarian Project’s follow-up studies.

“This study breaks new ground in demonstrating the emergence of the relationship between education and



health,” added Craig Ramey, the original principal investigator on the project, who now serves as a professor of pediatrics and a distinguished research scholar at Virginia Tech. “It broadens our understanding of the power of high-quality early experience to change lives for the better.”

The study determined that people who received early care with the Abecedarian Project had lower rates of pre-hypertension in their mid-30s than those in the control group. They also had a significantly lower risk of experiencing total coronary heart disease (CHD)—defined as both stable and unstable angina, myocardial infarction, or CHD death—within the next 10 years.

Compared to the control group, males treated in the Abecedarian Project had lower incidences of hypertension in their mid-30s. In addition, treated men less frequently exhibited combinations of



Frances Campbell, FPG senior scientist and principal investigator of the Abecedarian Project

both obesity and hypertension, and none exhibited the cluster of conditions known as “metabolic syndrome,” which is associated with greater risk of heart disease, stroke, and diabetes.

From the start, the Abecedarian Project represented a revolutionary approach to early childhood education by providing care from early infancy and exposing children to a high-quality center for five years, instead of the shorter durations typical of other programs. Children in the treated group benefited from stable early childhood environments, which included on-site health care and nutritious meals.

They also attended full days, five days a week, year round, and they learned under the “Abecedarian Approach,” an innovative curriculum that began in infancy.

“It is of particular significance that an early educational intervention produced long-term health effects,” said FPG senior scientist emeritus Joseph Sparling, who co-created the Abecedarian Approach. Sparling noted the importance of the curriculum’s educational content and five-year duration, which he and colleagues are now adapting and applying in Canada, Mexico, China, and Australia.

“Good health is the bedrock upon which other lifetime accomplishments rest, and without it, other gains are compromised,” Campbell said. “Investing in early childhood programs has been shown to pay off in ways we did not anticipate forty years ago when the Abecedarian study was founded.” ▲

In Brief **More on Physical Health**

These snapshots provide a quick look at more of FPG's research, resources, and outreach on *Physical Health*.

How to Lower Children's Body Mass Index

FPG's Pan Yi (statistician), Nina E. Forestieri (researcher), and Jonathan B. Kotch (fellow) collaborated with scientists from several universities on a study that revealed the effectiveness of the Nutrition and Physical Activity Self Assessment for Child Care intervention. Nurse childcare health consultants delivered the intervention, and the researchers concluded it increased provider knowledge, improved center policies, and lowered BMI for enrollees in child care centers.

<http://fpg.unc.edu/resources/nutrition-and-physical-activity-randomized-control-trial-child-care-centers-improves-knowl>

Flame Retardants in Breast Milk?

A new study from FPG senior scientist Barbara Goldman and a team of researchers says *yes*: some flame retardants do appear in breast milk and may affect young children. Polybrominated diphenyl ethers are in the environment, household dust, and humans—and are known for their detrimental effects on neurodevelopment in animals.

<http://fpg.unc.edu/resources/brominated-flame-retardants-breast-milk-and-behavioural-and-cognitive-development-36-month>

Stress Exposure and Immune Outcomes in Children

FPG fellow Lynne Vernon-Feagans heads a new project that will examine the associations between and among economic adversity, parent-child interactions and relationships, and children's immunological functioning in middle childhood. The project will use existing data from the Family Life Project, as well as new data, from families living in poor, rural communities.

<http://fpg.unc.edu/projects/stress-exposure-and-immune-outcomes-children>

Evaluating Smart Start's Child Care Health Consultant Project

Smart Start's Race to the Top–Early Learning Challenge Child Care Health Consultant Project utilizes health professionals to provide consultation through site visits and by telephone, promoting healthy and safe environments in child care settings in North Carolina. The project is designed to increase the percentage of children with high needs who participate in ongoing health care as part of a schedule of well child health visits, as well as to increase the percentage who are up-to-date in a schedule of well-child care and developmental screenings.

<http://fpg.unc.edu/projects/evaluation-smart-starts-race-top-early-learning-challenge-child-care-health-consultant-proj>

Resources Housed at FPG's Early Childhood Technical Assistance Center

The ECTA Center posts resources and links to a vast array of materials on numerous subjects, including a new report that summarizes research on what children need for a healthy start, as well as the positive effects of nurturing relationships, safe and secure environments, access to nutrition, health-promoting behaviors, and enriching early learning experiences. The report also provides policy and practice recommendations for supporting children's lifelong health.

<http://ectacenter.org/topics/effective/effective.asp>





COURTESY OF JEFF FRYE

Children and Youth with Autism Spectrum Disorder

Never before has FPG directed such a comprehensive array of initiatives to help improve the social health of children and young adults with autism spectrum disorder (ASD). Toddlers to high school students are benefiting from research, programs, and resources that support their families, providers and educators, school administrators, and policymakers.

What follows here are two stories and many short glimpses of FPG's commitment to meeting the needs and supporting the strengths of children and youth with ASD.

Hope After High School

An innovative program from FPG and six partner universities is preparing students with autism for life after high school.

"Public high schools may be one of the last best hopes for adolescents with autism—and for their families," said FPG director Samuel L. Odom. "Many of these students will face unemployment and few social ties after school ends."

While teachers and other professionals in the schools work hard to achieve beneficial results for students with ASD, positive outcomes remain elusive, given the scarcity of specific programs for these students available in high schools. To fill this gap, Odom and other scientists formed the Center on Secondary Education for Students with Autism Spectrum Disorder (CSESA).

"We developed our approach from research in several fields," said Odom, CSESA's principal investigator. "Because of the complex educational needs of many students with ASD, it was important to develop a comprehensive program for high schools."

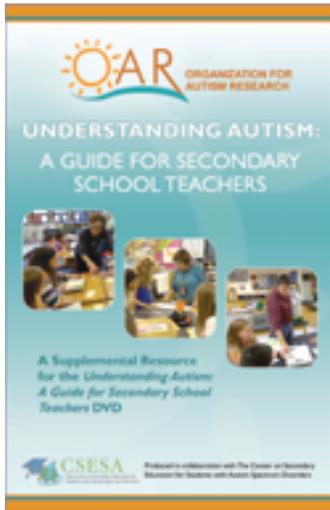
In several high schools, CSESA focuses on understanding emotions, developing friendships, and social problem-solving. Early results at a high school in the Raleigh-Durham, North Carolina, area show that student groups designed to bring together adolescents with and without ASD have helped them engage with one another more often.

"Even a simple hallway 'hello' between students with autism and their peers is more likely now," said Kara Hume, CSESA's project director and co-principal investigator.

CSESA also addresses literacy skills, which can be limited in many students with ASD. At Myers Park High School (MPHS) in Charlotte, N.C., the program helped with Christopher Stickell's inclusion in an English class.

"Not only did my son have access to a wider world than his self-contained classroom, but the students in the English class had some of their pre-conceived notions about autism shattered," said Lois Stickell. "Many were surprised when Chris read aloud a passage from *Julius Caesar*."

"We help develop basic high school survival skills," Hume said, adding that another cornerstone of the program is its emphasis on promoting responsibility, independence, and self-management.



According to Odom, many teens with ASD continue to live with their parents after high school. “Not surprisingly, parents worry about the future as they anticipate their child’s transition out of the public schools,” he said.

projects that they will be administering the program on their own within 2 ½ years.

“CSESA will expand to 60 more schools over the next 3 years,” he added. “We hope a lot more students with autism spectrum disorder will be able to leave high school better prepared for the challenges they’ll face.”

Visit: <http://csesa.fpg.unc.edu/>



Kara Hume and Samuel L. Odom

“CSESA has provided opportunities for greater collaboration and relationship building with the families who have attended ‘Transitioning Together’ sessions,” said Phyllis Alston, an exceptional children teacher at MPHS. Each week, CSESA staff and school district personnel lead these discussion groups with families.

“We became aware of resources available that without CSESA we may not have been made aware of,” said Faith Hamilton, whose teenager will be attending Central Piedmont Community College in the fall to study photography. “My son gained confidence and his grades improved this year.”

According to Odom, built into the CSESA program’s design are features that help to install it quickly and successfully, such as “autism teams,” which spearhead efforts within the schools. The program also uses coaching to provide feedback on new practices as teachers implement them.

Although most complex programs may take 5 to 7 years to put into place, Odom said schools in North Carolina and five other states began using CSESA’s approach within weeks, and he



“Tried and True” Strategies for Children with Autism

Last year, the National Professional Development Center on Autism Spectrum Disorders released its much-anticipated update on evidence-based practices for children and youth with autism. FPG scientists spearheaded the project, screening 29,000 articles about ASD to locate the soundest research on interventions for children from birth to age 22.

“More children than ever are being diagnosed with autism,” said FPG director Samuel L. Odom, who co-headed the new review. “We’re catching them earlier, with better tools, and these children need the right services.”

“Some interventions may seem cutting-edge, but we don’t yet know if they have any drawbacks or trade-offs,” said FPG investigator Connie Wong, who co-headed the new review of research. “Our report only includes what’s tried and true.”

Kristine Ganley and Karen Berlin, training and technical assistance providers at George Mason

Samuel L. Odom speaks internationally on evidence-based practices for children with ASD



University, heavily rely on the NPDC's reports on evidence-based practices to help people seeking professional development. "We don't provide training on practices not included on it," said Berlin.

According to Ganley and Berlin, before the NPDC published its comprehensive reviews of research, interventions for children with autism were much more controversial. "Internet searches returned as many different approaches as authors behind them, and mastery of any practice was rare," said Ganley.

"If there was no reliable report on evidence-based practices, intervention would be based upon myths," added Berlin.

Applying more stringent criteria, the NPDC's new report drops one evidence-based practice from the 24 identified

in its 2008 review. After considering more studies this time, scientists also renamed and broadened one category, "technology-aided instruction," and added five more, including "exercise" and "structured play groups."

"Expanding the list offers more tools to educators and service providers," said Ganley. "This improves outcomes for children with ASD."

Not only does the NPDC's report provide guidance for professionals, it also is an essential tool for families. "Parents often pay for interventions that have no evidence behind them, but this report will allow them to make the best choices," said Odom.

For Allison Smith, the Pawtucket, R.I., mother of identical twin 4-year-old boys with autism, the NPDC reports



have helped her to advocate for her sons' services.

"Knowledge is power," Smith said. "Knowing what works has given us the upper hand in acquiring appropriate therapy and tools."

According to Smith, video modeling, a longtime evidence-based practice from the NPDC's list, helped her boys learn how to blow a feather. Development of this key motor skill is often associated with the ability to speak.

"They couldn't learn how to blow a feather until they watched their older brother doing it on video," she said,



even though therapists had been working face-to-face with the boys on the task for months. “But it only took a few viewings of the short clip before the twins got it.”

“Being able to research the practices

and then try them took a lot of guess work out of the process,” said Smith. “If there was no review of evidence-based practices, a lot of children would be without the interventions and services that are most appropriate for them.” ▲

Read FPG’s report on evidence-based practices for children and youth with ASD:

<http://autismpdc.fpg.unc.edu/sites/autismpdc.fpg.unc.edu/files/2014-EBP-Report.pdf>

In Brief More on Children and Youth with Autism Spectrum Disorder

The following short descriptions of research, resources, and projects provide glimpses at more of the broad and diverse work at FPG on behalf of children and youth with ASD.

Resources on ASD through FPG’s Professional Development Center (The PDC@FPG)

In addition to intensive workshops on *Using the Autism Program Environment Rating Scale with Proficiency*, the PDC@FPG delivers free online instruction on such topics as the early identification of ASD.

<http://pdc.fpg.unc.edu/>

Family Adaptation to Fragile X Syndrome (FXS)

With former FPG director Don Bailey, FPG senior scientist Debra Skinner has helped lead research at the Fragile X Syndrome Research Center, which focuses on family adaptation to FXS—a genetic condition that causes a range of developmental problems than can include features of autism spectrum disorder.

<http://fpg.unc.edu/projects/family-adaptation-fragile-x-syndrome>

Recognition for FPG’s Study on Autism Treatments

An annual list of scientific studies that represent significant progress has named FPG’s groundbreaking research comparing the TEACCH and LEAP models as one of the field’s top 20 advances.

<http://fpg.unc.edu/news/fpg-study-autism-treatments-makes-list-top-advances>

Evaluating Parent-Mediated Interventions for Toddlers with ASD

Many novel scientific challenges confront rigorous research evaluating the effectiveness of programs for toddlers with ASD.

<http://fpg.unc.edu/resources/designing-studies-evaluate-parent-mediated-interventions-toddlers-autism-spectrumdisorder>

Joint Attention Mediated Learning Intervention for Children with ASD and their Families

This study looks at parent-child engagement during toddlers’ play sessions within their homes.

<http://fpg.unc.edu/projects/joint-attention-mediated-learning-intervention-toddlers-autism-spectrum-disorders-and-their>

Concurrent Validity of Autism Symptom Severity Measures

Several screening and diagnostic measures for preschool-aged children include an assessment of symptom severity, and this study determined three such measures to be reliable and valid.

<http://fpg.unc.edu/resources/brief-report-concurrent-validity-autism-symptom-severity-measures>

New Implications for Use of The Classroom Practice Inventory

The Classroom Practice Inventory (CPI) was developed as a tool to provide descriptive information about the practices used to address the developmental needs of children with ASD, and new findings from its use in preschools indicated the CPI produced reliable and valid assessments.

<http://fpg.unc.edu/resources/classroom-practice-inventory-psychometric-evaluation-rating-scale-intervention-practices-c>

Improving Social-Communication and Engagement of Elementary Students with ASD

Social-communication is a key area of need for children with ASD, and this new FPG project is studying the first-time application in elementary schools of an intervention designed for public preschools.

<http://fpg.unc.edu/projects/improving-social-communication-and-engagement-elementary-students-autism-spectrum-disorders>

New Implications for How Activities May Be Categorized for Children with Autism

A new study suggests that child characteristics and maternal education affect the frequency of specific activities of children with autism.

<http://fpg.unc.edu/resources/activity-participation-among-children-autism-spectrum-disorder>

A Pioneering Curriculum for Teachers of Students with ASD

To help meet students’ needs and appreciate their strengths, FPG designed ready-made, flexible resources for school districts to support professional development for teachers.

<http://fpg.unc.edu/news/pioneering-curriculum-supports-teachers-students-autism>

FPG fellow
Brian Boyd



New Guide for Teachers Facing the Spike in the Rate of ASD Diagnoses

Scientists at FPG and the Organization for Autism Research have released a multimedia manual that provides strategies for secondary school teachers whose classrooms now include students with ASD.

<http://fpg.unc.edu/news/researchers-help-teachers-facing-spike-student-autism-rate>

Strategies for Teaching Common Core to Teens with Autism

High school students with autism can learn under Common Core State Standards, boosting their prospects for college and employment.

<http://fpg.unc.edu/news/strategies-teaching-common-core-teens-autism-show-promise>

Quick Advances through Video Instruction for Teens with Autism

Difficulty with social situations hinders the relationships, schoolwork, and mental health of teens with autism, and often these students struggle with complicated interactions in high school. Scientists from FPG and Michigan State University say that iPads and video-based instruction may change all that—and save schools money.

<http://fpg.unc.edu/news/video-instruction-brings-quick-advances-teens-autism>

Promoting Social Competence and Peer Relationships for Adolescents with ASD

This two-page research snapshot examines numerous avenues that offer promise for strengthening the social

competence and peer relationships of students on the autism spectrum.

http://fpg.unc.edu/sites/fpg.unc.edu/files/resources/snapshots/FPG_Snapshot75_2014.pdf

Introducing Students with High Functioning Autism to Peer Social Networks

This FPG study examines the effects of peer social networks on social interactions, frequency of victimization, and friendship development for high school students with High Functioning Autism (HFA) or Asperger's Syndrome.

<http://fpg.unc.edu/projects/introducing-students-high-functioning-autism-peer-social-networks>

An Action Plan for High Schools: Voices from Key Stakeholders

Four critical issues have emerged, each of which research has identified as essential to address in order to promote optimal outcomes for students with ASD.

<http://fpg.unc.edu/projects/introducing-students-high-functioning-autism-peer-social-networks>

The Roles and Needs of Families of Adolescents with ASD

Supporting transition-age students with ASD and their families requires a better understanding of the unique roles and needs of families, as well as implementing practices that can best ensure family involvement and enhance post-secondary outcomes.

<http://fpg.unc.edu/resources/snapshot-76>

Keys to Independence after High School

Research shows that independence is the biggest indicator of which students with autism spectrum disorder are likely to live on their own, have a job, and participate in their communities after high school.

<http://fpg.unc.edu/news/superior-visual-thinking-may-be-key-independence-high-schoolers-autism>

Equipping Youth with ASD for Adulthood

An emphasis on promoting “rigor, relevance, and relationships” within a comprehensive transition framework for students with ASD is important for improving in-school and post-school outcomes.

http://fpg.unc.edu/sites/fpg.unc.edu/files/resources/snapshots/FPG_Snapshot77_2014.pdf

TV Journalist Dwayne Ballen's Keynote at the 2014 Inclusion Institute

When journalist Dwayne Ballen delivered his keynote address at FPG's National Early Childhood Inclusion Institute, the former network sports anchor spoke about how his son Julian's inclusion was especially important, because high-functioning autism meant Julian knew he was different.

<http://fpg.unc.edu/news/tv-journalist-dwayne-ballen-deliver-keynote-inclusion-institute>

New Case Studies on Evidence-Based Practices for High Schoolers with ASD

FPG's Center on Secondary Education for Students with Autism Spectrum Disorder developed these case studies on visual supports, self-management, and prompting to support the learning of service providers working with high school students with autism.

<http://csesa.fpg.unc.edu/high-school-case-studies>

Evidence-Based Practices for Saudi Children and Youth

Working with professionals from the Centre for Autism Research in Riyadh, Saudi Arabia, FPG is helping to establish and promote high quality programs and evidence-based practices for learners with ASD and their families.

<http://fpg.unc.edu/projects/promoting-use-evidence-based-practices-children-and-youth-autism-spectrum-disorders-and-the>

MENTAL AND EMOTIONAL HEALTH

As the practice of medicine evolves to accommodate many interrelated components of health, FPG continues to study how mental and emotional health are nested within a constellation of factors that influence outcomes.

This work is highly varied, as evidenced by the two stories we spotlight here. The first story looks at the power of mindfulness to overcome physical and emotional effects of childhood adversity. The second looks at the needs of students with one of the most common mental health disorders—in particular, at the supports enabling low achieving students with attention deficit/hyperactivity disorder (ADHD) to enhance their chances for academic success.



The content of FPG’s work also encompasses depression, substance abuse, prejudice, relationships, and much more, addressing and unlocking the critical roles mental and emotional health play in child and adult lives.

Be Well to Teach Well

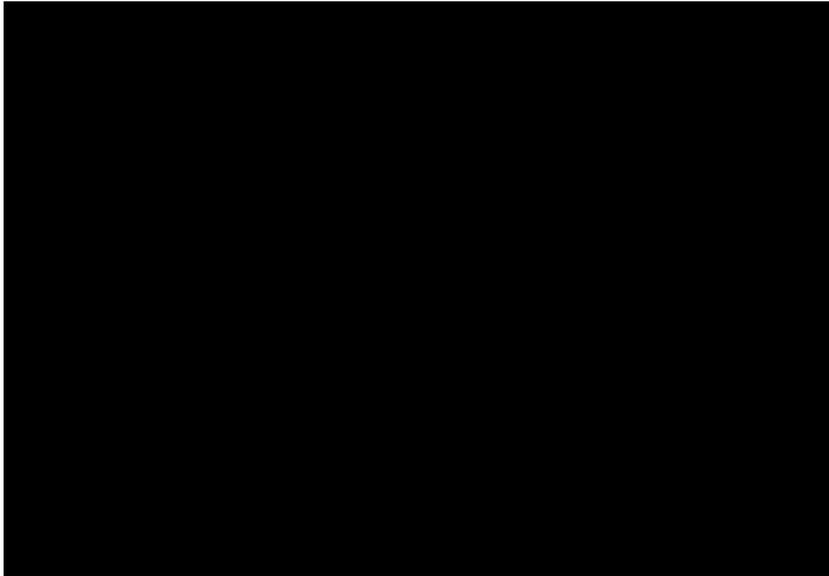
With significant implications for early childhood education, new research reveals that a mindful disposition is associated with alleviating lasting physical and emotional effects of childhood adversity. A team

of scientists from FPG, Temple University, Child Trends, and the Rockefeller University conducted the groundbreaking study—the first to examine relationships between childhood adversity, mindfulness, and adult health.

Robert Whitaker, professor of public health and pediatrics at Temple University, said the findings are especially important because adults who were abused or neglected as children typically experience poorer health.

“Previous research has shown that childhood traumas worsen adult health through changes in how the body responds to stress,” said Whitaker,





who led the new study. He added that some people might adopt poor health behaviors, like smoking, to cope with stress.

As a visiting scholar at FPG, Whitaker collaborated with FPG scientist Kathleen Gallagher on the study, which surveyed 2,160 adults working for Head Start, the nation's largest federally-funded early childhood education program. According to Gallagher, one of the study's most striking features is its focus on Head Start teachers and staff, who are responsible for teaching and caring for some of America's most vulnerable children.

"It's essential for adults working with young children to be well—physically and emotionally," said Gallagher. "Better health enables better relationships with children, and research has long demonstrated that good relationships are crucial for children's learning and social-emotional development."

Whitaker explained that when adults provide services to children who are experiencing trauma, it can reactivate in adults an unhealthy stress response to their own childhood adversity. "This can potentially worsen the health and functioning of these adult caregivers," he said.

According to Whitaker, studies have shown the health benefits of learning to be more mindful—focusing on and accepting your reactions to the

present moment. Nobody, however, had explored whether mindfulness in adulthood could offset the effects of adverse childhood experiences.

Whitaker's team surveyed 66 Head Start programs across Pennsylvania, asking staff if they experienced emotional, physical, or sexual abuse as children or if they were exposed to other adversities such as household violence, substance abuse, or mental illness. He also asked about their current health, as well as their mindfulness—their tendency in daily life to notice what happens as it happens and to be aware and accepting of their thoughts and feelings.

"Nearly one-fourth of our Head Start respondents reported three or more types of adverse childhood experiences," said Whitaker, adding that almost 30 percent reported having three or more stress-related health conditions, such as depression, headache, or back pain.

However, the risk of having multiple health conditions was nearly 50 percent lower among respondents with the highest level of mindfulness compared to those with the lowest levels, even for



FPG's new associate director of research, Desiree W. Murray

Academic Support in High School for Low Performers with ADHD

While the message from Be Well to Teach Well is clear—that healthy teachers can make better teachers—schools also must be able to match their programs and services to their students to best meet those children's needs. New research on high school students with attention-deficit/hyperactivity disorder (ADHD) provides critical clues about how schools can do this for an important subset of the student population.

The study revealed that high school students with ADHD are using an unexpectedly high rate of services for their age group, yet many low achievers with ADHD are not getting the academic supports they need. Scientists from FPG and several other universities published the findings in *School Mental Health* after examining data from the Multi-Modal Treatment Outcome Study for ADHD (MTA), a large, nationally-representative sample of students diagnosed with ADHD.

According to the National Institute of Mental Health, ADHD remains “one of the most common childhood disorders and can continue through adolescence and adulthood.” In addition to experiencing hyperactivity, people with

those with multiple types of childhood adversity. In addition, regardless of the amount of childhood adversity, Head Start workers who were more mindful also reported significantly better health behaviors (like getting enough sleep) and better functioning, including fewer days when they felt unwell mentally or physically.

“Our results suggest that mindfulness may provide some resilience against the poor adult health outcomes that often result from childhood trauma,” Whitaker said. “Mindfulness training may help adults, including those with a history of childhood trauma, to improve their own well-being—and to be more effective with children.”

The findings compelled Whitaker and Gallagher to begin developing Be Well to Teach Well, an online professional development program designed to help Head Start teachers improve their well-

being and classroom interactions.

“In-person training on mindfulness practices is difficult to implement on a large scale and very costly,” Gallagher said, explaining how the upcoming Be Well to Teach Well differs from other programs. “But by providing online training and ongoing coaching, we plan to help many more teachers to be well—and to develop the healthy relationships that are so important for positive child outcomes.”

“We need more research on delivering mindfulness training to teachers,” said Whitaker. “But there's reason to believe a program for teachers like Be Well to Teach Well will help teachers and children in their classrooms flourish.”

Read the full study:

<http://fpg.unc.edu/resources/adverse-childhood-experiences-dispositional-mindfulness-and-adult-health>

ADHD have trouble focusing, paying attention, and controlling their behavior.

Desiree W. Murray, FPG scientist and lead author of the study, said previous studies have demonstrated that children with ADHD often have difficulty completing work and performing at the level of their actual academic ability.

“Prior research has shown that students with ADHD score 10-30 points lower than their peers on achievement tests, and 30 percent repeat a grade,” explained Murray. “High school students with ADHD take lower level classes and fail more courses than their peers.”

According to Murray, high school students with ADHD also are up to eight times more likely to drop out.

Murray said the clear need for effective educational interventions for adolescent students with ADHD led her and her team to examine outcomes for these students, while looking at the high school services they use.

Her study found additional evidence revealing that students with ADHD function significantly worse than their peers on academic measures. Teachers rated high school students with ADHD as more aggressive and less academically successful, and these students’ test scores and grade point averages were lower than their peers’.

Using survey data provided by school staff, Murray’s team determined that slightly more than half of all high school students with a history of ADHD receive some type of formal school services, six times as much as students without ADHD in the study sample.

Most of the services and accommodations for students with ADHD targeted academic performance through Individualized Educational Plans (IEPs) as part of special education programs. Only half of these students received behavioral supports or were taught learning strategies.

“Although school procedures for identifying academic impairment in this population appear to be working for the most part, our results also suggest that 20 to 30 percent of students with academic impairment and ADHD have fallen through the cracks,” Murray said. “There is a need for greater or more effective academic supports for a substantial minority of the students in our sample.”

Murray said that only about one-fourth of the interventions reported in the school survey have

evidence behind them. “One of the most common supports we found, for instance, was allowing students to have extended time on tests—but there’s no clear evidence this helps improve performance among students with ADHD.”

The new findings enabled Murray’s team to make recommendations for high school support staff serving students with ADHD.

“Using more evidence-based strategies could help reduce the performance gap between students with and without ADHD,” she said. “These include teaching self-advocacy, self-management strategies, and specific study and organizational skills.”

Murray said that she and her team are generally encouraged by the “unexpectedly high rate of services” for high school students with ADHD in their study’s sample. However, if schools focused more on services backed by research, these students would be more likely to benefit.

“Evidence-based practices can help improve long-term outcomes for high school students with ADHD,” said Murray. “Providing effective services may contribute to increased graduation rates and successful transitions to adult life.”

Currently, Murray serves as FPG’s new associate director of research, as well as principal investigator on a new FPG project that is developing a semester-long health education curriculum for high schoolers to improve their health beliefs and behaviors and to enhance their academic success.

She also holds workshops at the PDC@FPG (<http://pdc.fpg.unc.edu>) for professionals who plan to train teachers in the evidence-based *Incredible Years Teacher Classroom Management Program*. The program not only strengthens teachers’ management skills in classrooms with 3-8 year-olds, it also promotes children’s social, emotional, and academic competence, as well as reducing classroom aggression and lessening disruptive behaviors. Additionally, the curriculum helps teachers effectively collaborate with parents to support their school involvement, promoting consistency between home and school. Teachers even report decreased stress levels after attending the training. ▲

Read about Desiree Murray’s projects and resources:

<http://fpg.unc.edu/profiles/desiree-w-murray>



In Brief **More on Mental and Emotional Health**

From prenatal drug exposure to teacher-student relationships, the following examples also show how FPG's focus on mental and emotional health supports children, families, providers, administrators, and policymakers.

How Low-Income Mothers Manage Depression

This look at the rural South finds that most mothers reported having depressive symptoms currently or in the past. The women reported the primary causes to be relationships, financial issues, and parenting stresses; their strategies for managing symptoms of depression varied by race.

<http://fpg.unc.edu/resources/symptoms-depression-and-their-management-among-low-income-african-american-and-white-mothe>

New Resources for the Children's Bureau

Not only do these resources from FPG's National Implementation Research Network contribute to child welfare, they also advance the field of implementation and evaluation through an extensive report, a brief offering key concepts for lay readers, and a compelling and complementary infographic.

<http://fpg.unc.edu/resources/pii-approach-building-implementation-and-evaluation-capacity-child-welfare>

Racial Discrimination and How Mothers Talk to Young Children

New research finds that mothers' perceptions of racism are a significant predictor of how they interacted with their young children during a picture-book session.

<http://fpg.unc.edu/resources/racial-discrimination-correlate-african-american-mothers-emotion-talk-young-children>

Strategies and Concerns of Successful Young African American Men

The route to early success for African American men requires adept navigation of conscious and unconscious racism, as well as capitalizing on available community and family supports, according to

a new report from FPG's Research, Policy, and Practice Alliance for Supporting Excellence in Black Children.

<http://fpg.unc.edu/news/successful-young-african-american-men-voice-strategies-and-concerns-white-house-summits>

Supporting Young Children Who Experienced Prenatal Drug Exposure

This short article offers information for early intervention professionals about the growing challenges of illicit substance abuse and provides resources to assist anyone who is supporting young children who have been prenatally exposed.

<http://fpg.unc.edu/resources/resources-within-reason-resources-supporting-young-children-who-have-been-prenatally-expos>

Improving Child Addiction and Mental Health Outcomes

FPG is working with Canada's Centre for Addiction and Mental Health (CAMH) to improve outcomes for children and youth. CAMH's Provincial System Support Program is intended to create and build the implementation capacity of regional and local implementation teams, and FPG is helping CAMH to develop the infrastructure for sustaining and scaling up interventions in children's mental health and addiction.

<http://fpg.unc.edu/news/fpg-works-improve-child-addiction-and-mental-health-outcomes-canada>

Increasing the Quality of Preschool Teachers' Interactions with Children

A new study released this year examined the impact of an effective coaching model. Teachers exposed to a greater number of cycles of coaching showed more improvement in classroom interactions over the

year, and, in particular, watching video exemplars was associated with growth in emotionally supportive behaviors—but not in classroom organization behaviors.

<http://fpg.unc.edu/resources/dose-response-relations-between-preschool-teachers-exposure-components-professional-develo>

Child Care Instability and the Social-Emotional Adjustment of Children in Prekindergarten

Changes in child care may disrupt children's emerging relationships and impede social-emotional development, especially when changes occur during infancy and toddlerhood. This study of children from rural, low-wealth families examined child provider instability before age 3 and determined it was negatively associated with teacher ratings of children's social adjustment at prekindergarten.

<http://fpg.unc.edu/resources/child-care-instability-6-36-months-and-social-adjustment-children-prekindergarten>

Conflict Levels in Teacher Relationships with Boys and African Americans

Boys and African American kindergartners experience increasing conflict with their teachers as the school year progresses, regardless of the teacher's ethnicity.

<http://fpg.unc.edu/news/conflict-increases-teacher-relationships-boys-and-african-americans>

Risk Factors and their Impact on Parenting

Parenting deteriorates when rural families face a number of risk factors at once—and, as a result, children's intellectual, emotional, and social development suffers.

<http://fpg.unc.edu/news/mounting-challenges-undermine-parenting>

Fighting Parents and Children's Difficulty Regulating Emotion

Exposure to greater levels of interparental conflict, more chaos in the household, and more time in poverty are key contributors to young children's ability to recognize and modulate negative emotion.

<http://fpg.unc.edu/resources/poverty-household-chaos-and-interparental-aggression-predict-childrens-ability-recognize-a>

The Stabilizing Influence of Success Coaches

In Catawba County, North Carolina, science and "Success Coaches" are helping to keep parents and kids together, and Hickory resident Kelley Walker is only half-joking when she says her Success Coach saved her sanity.

<http://fpg.unc.edu/news/science-and-success-coaches-keep-families-together>

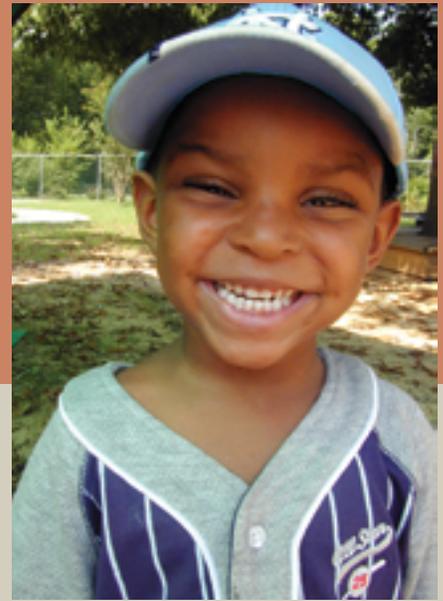
Preventing High-Risk Behaviors and Achieving Socially Significant Outcomes

This white paper from FPG's National Implementation Research Network concludes that where physical health is concerned, people are beginning to understand that healthier lifestyles lead to longer, healthier and happier lives. However, the same progress has not extended to mental, emotional, behavioral, or social health—and evidence-based solutions to improve well-being in these areas hold great potential.

http://fpg.unc.edu/sites/fpg.unc.edu/files/resources/other-resources/Fishbein_Payes_Aldridge-2013_December-Preventing-high-risk-behaviors-and-achieving-socially-sig-outcomes-for-child-families.pdf

news

NC GOVERNOR APPOINTS COUNCIL TO ENSURE “HEALTHY, HAPPY” CHILDREN



North Carolina Governor Pat McCrory has appointed 23 new members to the North Carolina Early Childhood Advisory Council (ECAC). According to the Office of the Governor, the council's charge is to develop a shared vision for young children and a comprehensive system of family strengthening services.

“The quality of care during early childhood can often determine the level of success a person achieves later in life,” said Governor McCrory in a statement after authorizing the council. “The state of North Carolina is committed to giving parents every tool they need to make sure all of North Carolina’s children start life healthy, happy and eager to learn.”

FPG director Samuel L. Odom said research supports the Governor’s statement about the long-term benefits of quality early care.

“FPG’s Abecedarian Project provided comprehensive high-quality care and education for children birth to age 5, and decades later they’re still reaping the benefits,” Odom said. “Other FPG studies have shown that even a single year of pre-k can help children while in the program and for several grades afterward.”

The ECAC’s responsibilities include advising on the \$70 million award that North Carolina received through the

federal Race to the Top–Early Learning Challenge Grant (RTT-ELC).

“North Carolina has exciting opportunities to strengthen our early childhood system through this grant,” said the ECAC’s Mary Ruth Coleman, FPG senior scientist emerita.

After the ECAC’s first meeting in early fall of 2013, Coleman praised its comprehensive approach and noted its members include a wide range of researchers, educators, and health care professionals, as well as state senator Ron Rabin and state representative Justin Burr. Joining Coleman from FPG are the Brookings Institution’s Ron Haskins, who serves on FPG’s executive leadership board, and Dick Clifford, senior scientist emeritus.

“With major reductions in funds for services during the recession, this is a critical time to make sure investments are made wisely as we seek to ensure that North Carolina has an enlightened citizenry and a competent workforce,” said Clifford. “At the same time, we have to ensure that these young children have the chance to have a happy and productive childhood.”

Coleman said the ECAC would provide the innovative and practical advice the state needs to strengthen its early childhood system. “North Carolina has been a leader in early childhood, with strong collaboration across public

and private sectors, and the council is committed to building on this,” she said.

Odom said that findings from FPG’s Abecedarian Project have shaped policy decisions around the country and have resulted in more public investments in programs for young children, which the state’s Race to the Top–Early Learning Challenge (RTT-ELC) grant exemplifies. He added that FPG now spearheads work in the grant’s “Transformation Zone”: four rural, high-need counties in North Carolina that are receiving focused programs and services.

Odom also noted the contributions of Kelly Maxwell, a member of the current RTT-ELC grant management team, in bringing such significant funding to North Carolina. Maxwell was FPG’s associate director at the time of the state’s grant application and served as its lead writer.

“With Governor McCrory’s support, funding from Race to the Top, and the Early Childhood Advisory Council’s expertise, North Carolina now has the opportunity to make significant strides forward in enhancing the lives of children and families in our state,” Odom said. ▲

FPG CO-SPONSORS 2014 NATIONAL HEALTH EQUITY RESEARCH WEBCAST

Last May, the 20th National Health Equity Research Webcast aired for thousands of viewers. This webcast, hosted on UNC's campus by FPG and several other co-sponsors, is an annual interactive, live-streamed symposium that explores the intersection of health, policy, and diversity through expert panel discussions and a question-and-answer session.

The topic was the *School to Prison Pipeline*. Nationally-known speakers included Anthony A. Peguero, assistant professor of sociology and research affiliate of the Center for Peace Studies and Violence Prevention at Virginia Tech; Thalia González, assistant professor of politics at Occidental College; and Gary Flowers, CEO of Gary Flowers and Associates.

Christopher Hill, director of the Education and Law Project at the North Carolina Justice Center, moderated the question-and-answer session with the studio audience and remote viewers.

The UNC School of Education hosted a preliminary screening of the short documentary *NC School to Prison Pipeline* the day before, addressing the impact of stringent suspensions and incarceration on the youth of North Carolina. After the screening, Durham Assistant District Attorney Shamika Rhinehart moderated a town hall meeting.

The National Health Equity Research Webcast charges no admission and requires no viewing fee. Broadcasts are available here:

http://sph.unc.edu/webcast/sph-webcasts/?webcast_id=2014-06-03_wc2000sp2014&seg=all



More news about FPG: <http://fpg.unc.edu/news>

Media coverage of FPG: <http://fpg.unc.edu/news/in-the-news-archive>

More resources from FPG: <http://fpg.unc.edu/resources>



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