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University - Based Child and Family Policy Consortium Newsletter

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Future Directions in Child Development Research: Where Will 2018 Take Us?

By Angela Fenoglio, Doctoral Student, University of Minnesota

When it comes to scientific writing, many researchers can breeze through the methods and results sections in their sleep. We often hit a stumbling block, however, when it comes time to discuss the future directions and implications of our research. It can feel as if we're being asked to predict what is to come, when we've only just begun to grapple with the data at hand. But much as an introduction serves to set the groundwork for a study, such a coda plays a critical role in situating a study in the broader scientific context. In this opening newsletter of 2018, it only feels appropriate to reflect on recent trends in developmental science and hypothesize about its future directions in the coming year. A brief review of the work published last year in several major developmental journals, lists of projects funded by major government agencies, and issues discussed in editorials and academic settings points to a number of ideas that have come to the fore; I will pinpoint just a few here.

It's no coincidence that the advent of precision medicine has arrived hand-in-hand with the era of big data. "Precision medicine" pushes for the characterization of individual differences and the identification of biomarkers to guide individualized prevention and treatment (National Research <u>Council, 2011</u>), while "big data" is typified by varying combinations of large sample sizes, frequent sampling, and multiple levels of analysis (Gilmore, 2016). Neither of these approaches emerged de novo in 2017; nor is either theory new to the study of child development (Gilmore provides examples of numerous large-scale government-funded studies initiated in recent decades.) However, the past year has seen several promising manifestations of these ideas. One avenue of interest has been the use of neuroimaging to identify biomarkers of later impairment or response to treatment. In autism, for example, research has suggested that brain differences may occur prior to the emergence of atypical behavior. In one study (<u>Hazlett et al., 2017</u>) infants who would go on to be diagnosed with autism showed more rapid growth in brain surface area between 6 and 12 months of age. By comparison, we cannot reliably diagnose autism based on a child's behavior until 18 to 24 months of age. When the research team gave computers access to this brain data, a machine learning algorithm was able to classify infants who would go on to be diagnosed with autism with 80% accuracy. A second study from the same group (Emerson et al., <u>2017</u>) used a similar machine learning process, this time based on functional connectivity maps: here, they were able to predict with a stunning 96% accuracy whether a 6-month-old would be diagnosed with autism by 2 years of age. Recent federal initiatives have pushed for further largescale studies of early brain development, such as the **Baby Connectome Project** -- which will collect brain imaging data from 500 young children -- and the Adolescent Brain Cognitive <u>Development study</u>, which will follow the development of more than 10,000 children through adolescence. We know that early intervention is critical for positive mental, emotional, and behavioral outcomes, and all of these studies suggest the potential to extract meaningful insights from large datasets to guide treatment.

Psychologists have long emphasized the importance of sensitive periods for development, but recent work has triggered a paradigm shift: it's no longer sufficient to behave as if this development begins at birth. In 2017, a burst of research has informed our knowledge of the fetal origins of later health and well-being. Some of these studies were triggered by the 2015-2016 Zika outbreak, as there was a sudden rush to understand its causes and impacts, from its mode and speed of transmission (Metsky et al., 2017; Winkler et al., 2017) to the mechanisms of pathology (<u>Hirsch et al., 2017</u>) and additional risks posed by co-infection with HIV. There was also rapid advancement in vaccine development (Gaudinski et al., 2017). Despite the progress made over the past year, critical questions remain, such as what sets Zika apart from other similar viruses, how we will support the families of infants affected by Zika, and how our experience with this epidemic might influence responses to future infectious disease outbreaks. Another body of work was motivated by the opioid crisis in the United States. The National Institutes of Health has funded a study called Advancing Clinical Trials in Neonatal Opioid Withdrawal Syndrome (ACT NOW), which aims to assess treatments for newborns with opioid withdrawal syndrome, as well as a <u>workshop on the topic of opioid abuse during pregnancy</u>. A third hot research topic was the role of prenatal nutrition. Much of this work focused on fetal growth, but one particularly intriguing study found that children of mothers who took folic acid and/or multivitamins during pregnancy were 73% less likely to be diagnosed with autism (Levine et al., 2018). All of this work points to the influence of both maternal and fetal health on later developmental outcomes.

Finally, 2017 was a time when the relationship between science and politics was more visible (and perhaps more tenuous) than ever. Heated debates about topics such as the federal budget, the availability and affordability of healthcare, and the government's role in education have shone a spotlight on developmental science. Scientists have most often collected their data, written up their papers for specialized audiences, and left the heavy interpretive lifting to others. In the current political climate, this is no longer enough. Our growing understanding of the effects of trauma and chronic stress, the importance of early intervention, and the links between physical and mental health means that we know more than ever about how to support healthy child development. Our methodological training often fails to prepare us to explain the broader impacts of our work, but in a time when resources are at risk of being directed away from evidence-based practices it is imperative that we put in the work to translate and communicate our expert knowledge in order to leverage science to improve child health and wellbeing.

Consortium Member Spotlight: Social Science Research Institute, Pennsylvania State University

By Sarah Patterson, Postdoctoral Fellow, University of Western Ontario

To learn more about Consortium member, The Pennsylvania State University's <u>Social Science</u> <u>Research Institute (SSRI</u>), I spoke with director, <u>Dr. Susan McHale</u>, and Human Development and Family Studies professor, <u>Dr. Daniel Max Crowley</u>. McHale noted that, "Children and families have always been a strong focus of research and engagement at Penn State."

SSRI is one of seven cross-university research institutes within the <u>Office of the Vice President of</u> <u>Research</u> at Penn State, whose shared mission is to promote interdisciplinary research. McHale notes, "SSRI units encompass a range of substantive areas, from neuroscience to population research, but the overarching goal is to promote interdisciplinary research that addresses human and social problems. We also have a strong interest in translational research--from basic science to programs and policies." The SSRI supports faculty through its shared infrastructure and resources including seed funds to launch novel interdisciplinary research.

One area of focus has been on translational research on child maltreatment. The SSRI worked with six colleges to conduct a cluster hire of 12 new faculty colleagues with a broad range of expertise who now provide the foundation for the <u>University's Network on Child Maltreatment</u> <u>Solutions</u>. Led by Network Director Jennie Noll, a professor of Human Development and Family Studies, faculty members in the Network were recently awarded a highly competitive NICHD P-50 grant to create the Center for Healthy Children (CHC). A central activity of the new Center is the largest-ever longitudinal cohort study of children with substantiated child abuse. The study will include measurements ranging from assessments of physiological processes to family and physical environmental factors and will follow children over time to illuminate mechanisms through which early trauma leads to negative health outcomes. Another goal of the CHC project is to better understand the real costs of child abuse as a means of informing social policy and programs that promote health in children who have experienced maltreatment.

SSRI also has promoted Dr. Crowley's evidence to policy efforts. Dr. Crowley noted that, "SSRI has been supporting our efforts for policymaker-researcher connections, including in areas ranging from child abuse and neglect to substance misuse. The 'Research to Policy Collaboration model' (RPC) is designed to help researchers translate scientific evidence for legislators," as described in articles published in *Prevention Sciences* and *Public Administration Review*. This includes training researchers on how to communicate and collaborate with legislative staffers both to help legislators better understand how research can inform policy and to help researchers understand the evidence needs of policymakers. In November, for instance, the RPC team held a congressional briefing on sex trafficking; the team previously held briefings on mitigating and preventing opioid misuse and home visiting as a child abuse prevention approach. Crowley noted, "The idea is to be responsive to legislative offices and work closely with them to understand their needs." As a next step to build the RPC model, Crowley and his team are testing a manualized curriculum for researchers to promote effective collaboration with state and federal policymakers.

The SSRI has many other initiatives of potential interest to Consortium members and through its weekly newsletter encourages Penn State faculty, students, and research staff to learn about the

activities of the Consortium and its members. Crowley notes: "We are eager to serve as a Consortium hub and exchange information about our resources and our faculty's activities."

Upcoming Consortium Webinars

Register Now: Environmental Influences on Children's Health and Development

This Consortium webinar will take place on Wednesday, February 14 from 3:00-4:00 pm Eastern.

Every day, children are exposed to substances in their environment that can negatively impact their lifetime trajectory of health. During this webinar you will learn why children are more vulnerable to these exposures than adults due to differences in behavior and biology; unique windows of susceptibility during development; sources of exposure, including in early care and education settings; and health outcomes that may result from these exposures. Particular emphasis will be given to child care settings and early growth and development.

This webinar will feature presentations by Dr. Barbara Fiese and Brenda Koester of the Family Resiliency Center at the University of Illinois, and Dr. Susan Buchanan of the University of Illinois at Chicago.

To register for this webinar, <u>click here</u>.

Past Consortium Webinars

A recent Consortium webinar, entitled "Harnessing Behavioral Economic Insights to Optimize the Impact of Early Childhood Interventions," was held on October 26th. The webinar featured a presentation by Zoelene Hill and Michelle Spiegel of the beELL initiative at New York University's Institute of Human Development and Social Change.

Watch here

Submit a Webinar Idea

We are still looking to schedule a few more Consortium webinars for spring 2018. If you or your colleagues might be interested in presenting a webinar in the coming months, <u>click here</u> to learn more.

Consortium Membership

The CFP Consortium invites new university-based programs to join.

Consortium membership is available at the institutional level and includes, but is not limited to, university-based centers and programs that represent the social, behavioral, and health sciences fields, including anthropology, economics, education, human development, psychology, public health, public policy, and social work. All persons affiliated with a member institution (e.g., faculty, staff, students) benefit from Consortium membership. Please share this information with colleagues who might be interested in having their institution join the Consortium.

For more information on how to join, please contact <u>Patricia Barton</u> or visit the <u>membership</u> <u>information</u> page of the Consortium website.

Announcements

Share Your Center's Work With the Consortium!

Calling all Consortium member directors! Would you like to highlight the work of your center, institute, department, or program in an upcoming Consortium newsletter? We are looking for Consortium members whose leader(s) are willing to do a brief interview with one of our columnists to share the work of your center in a future newsletter. We hope this new feature will help Consortium members learn more about one another and open up new avenues for collaboration. If you would like your center to be featured in an upcoming spotlight column in the newsletter, please contact <u>Patricia Barton</u>.

Coming Soon: Consortium Director Survey

If you are the director or primary contact for your Consortium member entity, keep an eye out in the next month for a director survey. This brief survey seeks to gauge how Consortium center directors use Consortium resources, and how we can better serve your center, institute, department, or program. We expect the survey to go out within the next two weeks. Questions? Contact <u>Patricia Barton</u>.

Member News & Resources

The following news items were submitted by Consortium members for inclusion in the newsletter. If you have announcements, news, or resources that you would like included in the next Consortium newsletter, please send them to <u>Patricia Barton</u>.

Georgia has taken a multidisciplinary approach, under the Georgia Shape umbrella, to address childhood obesity through changes in the policies, systems, and environments that influence food and physical activity opportunities for children. The <u>Georgia Health Policy Center</u> and its partners developed a childhood obesity systems model that simulates how quality physical education (K-12) and integrating physical activity into elementary classrooms may have the biggest impact on reducing childhood obesity. Findings from the <u>obesity simulation model</u> and the <u>state's progress</u> and lessons learned are highlighted in the November/December supplemental issue of *Public Health Reports*.

The online consultation on the <u>Nurturing Care Framework</u> is now open! The Framework provides a roadmap for action, to support early childhood development with special attention to the first 1,000 days. It builds on state-of-the-art evidence of effective interventions and recognizes the critical importance of an enabling environment, with policies, information and services in a range of sectors including health, nutrition, education, social welfare and child protection. Join the consultation and help give every child the best start in life. The first <u>online consultation</u> on the framework is open until **February 6, 2018**.

Ms. Emma Goodman, a graduate student in Lifespan Developmental Psychology Program at the University of Alabama at Birmingham, has been awarded a <u>Dwight D. Eisenhower Federal</u> <u>Highway Administration Fellowship</u> to study racial disparities in child passenger safety among rural and urban families.

Conferences

Open Calls for Conference Submissions (listed by submission deadline)

Now Accepting Submissions: Society for Research in Child Development 2018 Special Topic Meetings

DEVSEC: Conference on the Use of Secondary and Open Source Data in Developmental Science

October 4-6, 2018 in Phoenix, AZ Now accepting submissions – submission deadline February 15,

Now accepting submissions – submission deadline February 15, 2018. <u>Click here</u> for more information.

Promoting Character Development Among Diverse Children and Adolescents: The Roles of Families, Schools, and Out-Of-School-Time Youth Development Programs October 18-20, 2018 in Philadelphia, PA

Now accepting submissions – submission deadline March 27, 2018. <u>Click here</u> for more information.

Now Accepting Submissions: National Council on Family Relations: November 7-10, 2018 in San Diego, CA

Submissions are now being accepted for the 2018 National Council on Family Relations annual conference. Proposals are due March 1, 2018. <u>Click here</u> for more information.

Additional conference listings are available on the <u>conferences page</u> and <u>events</u> <u>calendar</u> on the Consortium website.

Internships, Fellowships, & Job Postings

Postdoctoral Positions and Fellowships

Postdoctoral Fellowships, Population Research Center, University of Texas at Austin

Job Opportunities Visiting Scholar, Sanford School of Public Policy, Duke University

Research Analyst, Child Welfare, Child Trends

Associate Program Director, AAAS Science and Technology Policy Fellowships, American Association for the Advancement of Science

Submit to the Newsletter!

We are always accepting member news, resources, event and job listings, and other relevant material to highlight in the newsletter. Newsletters are published quarterly.

Please send suggestions and submissions to <u>Patricia Barton</u>.

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