NEWS | POSTED MARCH 24, 2026

Study Shows COVID-19 Pandemic's Disrupted Young Children's Executive Function Development

PRESS RELEASE / CHILD DEVELOPMENT: Embargoed for Release on March 24, 2026

PRESS RELEASE

Published

Tuesday, March 24, 2026 12:25pm

The impact of the COVID-19 pandemic on young children's executive function: A longitudinal, population-based study

Read the Child Development article:

OXFORD ACADEMIC

Contact:

Jessica Efstathiou, Public Relations

E-MAIL

Q&A with *Child Development* Journal Authors

How did the COVID-19 pandemic impact young children's executive function skills?

Executive function skills are a set of inter-related processes that support attention, self-control, and goal-directed behavior. Executive function has been linked to positive outcomes across multiple domains of development. The skills associated with executive function develop rapidly during childhood and promote longer-term health, academic success, and wellbeing. Researchers from Harvard University were eager to learn how the pandemic affected children's developing executive function skills across time.

Using data gathered from 2018 to 2023 as part of the Early Learning Study at Harvard (ELS@H), a longitudinal, population-based and representative study of children's development conducted in Massachusetts, the researchers analyzed a sample of over 3,100 children from age 3 to 11. Half of the sample were girls; the children were mostly white (74.6%), while 18.3% were Hispanic, 11.8% were Black, and 10.7% were Asian. Nearly half of all parents reported incomes between $75,000 - $125,000 or between $125,000 - $200,000 per year with around 20% reporting more than $200,000 and about 30% reporting less than $75,000.

Children were administered the Minnesota Executive Function Scale (MEFS), a tablet-based assessment used to measure executive function. Researchers used the data to track the development of executive function skills over six years, before, during, and after the pandemic's onset.

The researchers found the average rate at which executive function grew following the pandemic's onset was lower than is developmentally typical based on previous national norms and existing research; this pattern held across all socioeconomic subgroups. The authors suggest that this finding may help explain the systemic academic and behavioral challenges facing children since the pandemic, and they emphasize that

to mitigate the pandemic's ongoing effects, these students may need more support to develop and expand their executive function skills.

The study is featured in a new *Child Development* article, "The Impact of the COVID-19 Pandemic on Young Children's Executive Function: A Longitudinal, Population-based Study," by Stephanie M. Jones, Caitlin M. Dermody, Jen Acosta, and Nonie K. Lesaux of Harvard University and Alan F. Mozaffari of the University of California, Berkeley. The Society for Research in Child Development (SRCD) had the opportunity to speak with the author team to learn more about the research.

SRCD: Did anything in the results surprise you?

Author team: Executive function is an essential cognitive capacity that develops rapidly during early childhood and is shaped by early experiences. Therefore, we were not surprised that an extreme disruption like the pandemic affected the development of children's executive function skills. That being said, the magnitude of our findings was surprising. Children's scores in our sample were significantly below the nationally normed average scores of age-matched children measured before the pandemic, even though the children met or even exceeded age-matched scores before the pandemic's onset. The starkness of this finding sheds light on the systemic scope of the pandemic's effects on child well-being and the importance of traditional education and care experiences for all children's development. Specifically, we know that prior research has identified many of the significant and sustained challenges that children and families experienced following the pandemic's onset (e.g., parental stress, economic instability, illness, social isolation, and other disruptions to education and care) as factors that can disrupt executive function. It may well be that these pandemic-related experiences, alone or in concert, place substantial burdens on families and the broader systems that sustain and support family and child wellbeing, resulting in the pattern of findings we observed for children's executive function.

SRCD: Can you explain how this research might help families, teachers, school administrators, policymakers and researchers?

Author team: Right now, those who care for, work with, or think about today's youth continue to hear and share stories of children's struggles post-pandemic. Uniting the growing body of research on executive function with the wealth of existing information on the pandemic's impacts offers a path toward recovery. Specifically, we need more efforts to strengthen children's executive function skills and more systemic

strategies to improve the environments that support them. It is well documented that early disparities in executive function predict later challenges in health, academics, and behavior, so efforts to support children's skills today are an essential step forward. For families and educators, our findings highlight the power of environmental influences and the importance of attending to executive function as a key facet of child development. For policymakers and administrators, our research suggests that supporting executive function may be a key recommendation for pandemic recovery efforts, investments, and resources. For researchers, our study calls for further investigation into the role of executive function as an explanatory mechanism driving challenges to children's academic and behavioral struggles post-pandemic**.** We plan to continue to explore the mechanisms driving our findings in our upcoming work, and current research in our lab provides insights into the long-term challenges facing students (e.g., Fritz et al., 2026). Most importantly, our research joins others in recognizing that the systemic challenges of the pandemic require systemic solutions.

SRCD: How did family/parental income intersect with the pandemic's effects on the sample of developing children you examined?

Author team: Past research demonstrates that executive function is linked to socioeconomic status. Prior to the pandemic, the well-documented pattern of variation in executive function by income was present in our sample; however, once the pandemic began, income-based gaps appeared to narrow. The patterns in our findings held on average across all socioeconomic sub-groups, demonstrating the systemic scope of the pandemic's effects on all children's well-being and the importance of supportive experiences and environments for all children's development.

SRCD: What are some of the research's limitations?

Author team: As in many longitudinal studies, pandemic disruptions resulted in changes in the frequency and methodology of our data collection in the Early Learning Study at Harvard (ELS@H). Once the pandemic began, we were unable to directly assess the children until two years following our last pre-pandemic data collection. While this pacing could result in some missed nuances, it did allow us to examine our data in a unique time-stamped way pre- and post-pandemic. The pandemic also altered our method of data collection: the MEFS assessments were administered in person for the first three waves and virtually for the fourth and fifth waves. Although some studies have found that virtual assessments of executive function can be as reliable as in-person assessments (Ernst et al., 2024; Perry et al., 2023), it is possible this change

affected our data. That being said, multiple pilots and robustness checks suggested no differences, making us confident that our data represent children's executive function skills accurately. Other limitations include that our findings are specific to our population-based sample in Massachusetts and may not be applicable nationally. In the future, research comparing these findings to those of other longitudinal studies in different populations would be beneficial. Although we cannot make strong causal claims here about the impact of the pandemic and its related events on children's executive function, the longitudinal nature of the design, the population sample, and the external nature of the pandemic "shock" lends strong credibility to the directionality and pattern of our findings.

SRCD: How should future research further investigate the role of executive function among children who continue to struggle academically and behaviorally in a post-pandemic society?

Author team: Theory and empirical evidence show how executive function skills are related to multiple domains of development. For example, these skills are positively associated with peer acceptance, adaptive classroom behavior, and social competence, and negatively associated with internalizing and externalizing problems, as well as inattention and hyperactivity, both concurrently and longitudinally (e.g., Stuke & Doebel, 2024). Therefore, to best support children, further research will need to continue to unpack those relationships between executive function and the post-pandemic challenges related to behavior, academics, or absenteeism. In so doing, such research will be able to provide continued insight into the mechanisms that drive executive function development across time as children face new and diverse environmental experiences. Researchers will thus be able to provide evidence on policy and pedagogical solutions that best serve students' needs (e.g., support for executive function skills). Our upcoming work with the ELS@H data plans to do just that, embracing an ecological perspective as we study our population-based sample in a longitudinal way. Most importantly, we hope that researchers remain interested in learning more about the importance of executive function skills for children, as well as the impact of environmental experiences on their development.

This research was funded by the Saul Zaentz Charitable Foundation.

Summarized from an article in *Child Development*, "The Impact of the COVID-19 Pandemic on Young Children's Executive Function: A Longitudinal, Population-based Study," by Jones, S.M., Dermody, C.M., Acosta, J. Lesaux, N.K. (Harvard University) and Mozaffari, A. F. (University of California, Berkeley). Copyright 2026 The Society for Research in Child Development. All rights reserved.