The science of when to worry

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Credit: Northwestern University

"I've always been interested in research with very young children. I'm fascinated by developmental periods of struggle—the terrible twos, for instance."

Trained in human development and mental health research, clinical-

developmental psychology professor Laurie Wakschlag understands both what is typical behavior for young children, and, importantly, what is not.

"Many clinicians will tell parents we can't identify problematic behavior before a child is six," Wakschlag says. "But there's a lot of evidence now to show that many problems assumed to emerge at later ages are actually present when children are young. And earlier identification and intervention, particularly in the first five years of life, is effective and has more lasting effects."

Soon after Wakschlag recognized the value of earlier identification, she realized the tools to assess preschool-aged children were merely tweaked versions of the instruments for older kids. To create, as she puts it, a science of "When to Worry," she and her colleagues would have to create their own tools.

The first assessment tool Wakschlag developed, the Disruptive Behavior Diagnostic Observation Schedule (DB-DOS) allows trained examiners to determine whether a child's misbehavior falls within the "normal" realm, or if it foreshadows a potential mental health issue.

"DB-DOS has made exciting strides as the only tool of its kind," Wakschlag says. "But we also realized we needed a companion tool that is less intensive and more accessible."

The tantrum tool

Based on her experience with the DB-DOS, Wakschlag devised a second assessment that could be conducted by parents at home. The Multidimensional Assessment Profile of Disruptive Behavior (MAP-DB) is a survey that asks parents about various dimensions of their child's behavior, including irritability, aggression and noncompliance.

Questions in the MAP-DB include "How often in the past week has a tantrum occurred?" and "How hard is it to calm your child down during a tantrum?"

"One thing we learned from the MAP-DB is that while most kids—girls and boys across a range of socioeconomic contexts—have tantrums regularly, less than 10 percent have tantrums daily," Wakschlag says.

The MAP-DB has also shown that it matters why and where children have tantrums—and how long they last. Tantrums at the end of playtime, or those that last just five minutes, are more typical and expected than longer or out-of-the-blue tantrums. To be sure, the occasional tantrum—regardless of location or duration—is not particularly concerning. It is when disruptive behaviors are repeated and pervasive that concern may be warranted.

"This science of 'When to Worry' is not just subjective clinical judgement," Wakschlag says. "The DB-DOS and the MAP-DB provide specific parameters that are based on what is typical and what is not, and which features of misbehavior are most likely to predict significant mental health problems."

In the next phase of MAP-DB development, Wakschlag is collaborating with pediatricians including Matthew Davis, chief of general academic pediatrics and primary care at the Feinberg School of Medicine, who can use the tool to screen for behavioral concerns in kids as young as one year old.

"Pediatrics is the port of entry for most children in America," Wakschlag says. "I think we could have the broadest impact if pediatricians can reliably identify kids and figure out who needs intervention."

An expanded direction

Equipping pediatricians with the tools to better help children is a primary goal of Northwestern's newly established Institute for Innovations in Developmental Sciences (DevSci). Directed by Wakschlag, this transdisciplinary research institute aims to bring faculty and researchers together to promote health and wellbeing from before birth onward. All working under the DevSci umbrella, psychologists, pediatricians, obstetricians, neuroscientists, data scientists and population health experts are bringing their unique skills to collaborative and path-breaking projects.

As just one example, DevSci and its partnership with the Ann and Robert H. Lurie Children's Hospital will apply Wakschlag's developmental identification tools to cardiovascular health. In addition to establishing a process for tracking cardiovascular health from birth to age 12, this project will assess developmental, social and environmental factors that influence cardiovascular health. The multi-faceted partnership will involve numerous Northwestern faculty—including principal investigator and pediatric cardiologist Bradley Marino, cardiovascular epidemiologists Norina Allen and Donald Lloyd-Jones, genetic epidemiologist Lifang Hou, nutrition scientist Linda Van Horn, and Matthew Davis—who will develop a framework and training program for identifying and addressing cardiovascular risks at earlier ages.

"The breadth of expertise within DevSci is just incredible," Wakschlag says. "It affords us a unique ability to go deep into our collaborative initiatives and work toward clinical application. We have to get these tools into real world if we want to make a difference."

Wakschlag and the other members of DevSci are confident that by focusing on the development of the youngest among us, we can see the

largest and most lasting improvements in health.

"We know that neurodevelopmental problems, ranging from autism to disruptive behavior and language disorders, have a better outlook the earlier we identify them and intervene," Wakschlag says. "But also, almost all of the common diseases of aging—diabetes, cancer, cardiovascular disease—as well as mental disorders like depression and schizophrenia, have roots or vulnerabilities that start very early in life. By improving pediatric health care and helping kids be and stay 'healthier earlier,' we're reducing the risk of those diseases for a lifetime."

Provided by Northwestern University