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Kids whose time is less structured are better able to meet their own goals

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Children who spend more time in less structured activities—from playing outside to reading books to visiting the zoo—are better able to set their own goals and take actions to meet those goals without prodding from adults, according to a new study by the University of Colorado Boulder.

The study, published online in the journal *Frontiers in Psychology*, also found that children who participate in more structured activities—including soccer practice, piano lessons and homework—had poorer "self-directed executive function," a measure of the ability to set and reach goals independently.

"Executive function is extremely important for children," said CU-Boulder psychology and neuroscience Professor Yuko Munakata, senior author of the new study. "It helps them in all kinds of ways throughout their daily lives, from flexibly switching between different activities rather than getting stuck on one thing, to stopping themselves from yelling when angry, to delaying gratification. Executive function during childhood also predicts important outcomes, like academic performance, health, wealth and criminality, years and even decades later."

The study is one of the first to try to scientifically grapple with the question of how an increase in scheduled, formal activities may affect the way children's brains develop.

Munakata said a debate about parenting philosophy—with extremely

rigid "tiger moms" on one side and more elastic "free-range" parents on the other—has played out in the media and on parenting blogs in recent years. But there is little scientific evidence to support claims on either side of the discussion.

Jane Barker, a CU-Boulder doctoral student working with Munakata and lead author of the study, said, "These are societally important questions that come up quite often in social commentary and casual conversations among parents. So it's important to conduct research in this area, even if the questions are messy and not easy to investigate."

For the study, parents of 70 6-year-olds recorded their children's daily activities for a week. The scientists then categorized those activities as either more structured or less structured, relying on existing time-use classifications already used in scientific literature by economists.

"These were the best and the most rigorous classifications we could find," Barker said. "They still fail to capture the degree of structure within specific activities, but we thought that was the best starting point because we wanted to connect this with prior work."

In that classification system, structured activities include chores, physical lessons, non-physical lessons and religious activities. Less-structured activities include free play alone and with others, social outings, sightseeing, reading and media time. Activities that did not count in either category include sleeping, eating meals, going to school and commuting.

The children also were evaluated for self-directed executive function with a commonly used verbal fluency test.

The results showed that the more time children spent in less structured activities, the better their self-directed executive function. Conversely,

the more time children spent in more structured activities the poorer their self-directed executive function.

Because some of the existing time-use categories might not reflect the real amount of structure involved in an activity, the researchers also did several rounds of recalculation after removing categories that were questionable. In each case the findings still held. For example, the time-use categories classify media screen time as unstructured, but the degree of structure depends on whether a child is watching a movie or playing a video game. However, when media time was removed from the data, the results were the same.

"This isn't perfect, but it's a first step," said Munakata. "Our results are really suggestive and intriguing. Now we'll see if it holds up as we push forward and try to get more information."

The researchers emphasize that their results show a correlation between time use and self-directed executive function, but they don't prove that the change in self-directed executive function was caused by the amount of structured or unstructured time. The team is already considering a longitudinal study, which would follow participants over time, to begin to answer the question of cause.

More information: journal.frontiersin.org/Journa … .2014.00593/abstract

Provided by University of Colorado at Boulder