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Arts Programming May Help Lower Stress in Economically Disadvantaged Preschoolers

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Can the Arts Get Under the Skin? Arts Classes and Cortisol Levels for Economically Disadvantaged Preschool Children

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Previous research has determined that poverty can harm children's educational, socialemotional, and physical health, in part by damaging the bodily systems that respond to the chronically high levels of stress that children in poverty are more likely to experience. A new study has found that intensive arts programs—music, dance, and visual arts—may address this phenomenon by lowering the stress levels of economically disadvantaged preschoolers, as measured through cortisol.

The study, by scientists at West Chester University and the University of Delaware, appears in the journal *Child Development*.

"Our study is the first we know of that demonstrates that the arts may help alleviate the impact of poverty on children's physiological functioning," notes Eleanor Brown, professor of psychology and director of the Early Childhood Cognition and Emotions Lab (ECCEL) at West Chester University, who was the study's primary investigator.

Researchers looked at 310 economically disadvantaged 3- to 5-year-olds attending a Head Start preschool program in Philadelphia that serves children from a range of racial and ethnic backgrounds. While all Head Start programs have some arts programming, this program—Settlement Music School's Kaleidoscope Preschool Arts Enrichment Program—is unique in that it fully incorporates arts into the curriculum. Children have multiple arts classes each day and these are taught in fully equipped studios by credentialed artteachers. The arts classes are used not only to develop children's artistic skills but also to promote learning in core early childhood domains like language, literacy, and math.

The study randomly assigned preschoolers by classroom to different types and numbers of arts classes. Researchers measured cortisol levels by analyzing 7,000 samples of children's saliva; samples were collected at morning baseline, and after arts and homeroom classes on two different days at the start, middle, and end of the school year.

The researchers found that cortisol levels were lower after arts classes than after homeroom, suggesting that taking part in arts programming helped reduce the stress levels of these children.

“The study has important implications,” says Brown. “In an ideal world, no child would grow up in poverty. Working toward this ideal requires attention to not only economic inequities but also to the many related inequities that harm children who grow up poor and to the opportunities for disrupting the strong predictive relationship between poverty and negative outcomes. This study demonstrates that a nonmonetary intervention can reduce cortisol levels. In this case, the intervention is the arts.”

Researchers saw these positive effects at the middle and end of the year, but not at the start of the school year. “The physiological benefits of arts programming may not be seen when children are first exposed,” explains Mallory Garnett, research coordinator at ECCEL, who also worked on the study. “The benefits may depend on children adjusting to the classes and accumulating skills from the programming.”

Adds Dr. Brown: “Our study is notable in rigorously demonstrating that arts programs of high intensity can reduce cortisol levels. This study sets the stage for further investigation regarding the arts as a vehicle for promoting well-being among children from disadvantaged families.”

The study was funded by the Research: Art Works program at the National Endowment for the Arts.

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Summarized from *Child Development*, Can the Arts Get Under the Skin? Arts Classes and Cortisol Levels for Economically Disadvantaged Preschool Children by Brown, ED, Garnett, ML, Anderson, KE (West Chester University), and Laurenceau, J-P (University of Delaware). Copyright 2016 The Society for Research in Child Development, Inc. All rights reserved.