

Quality of early childcare and education predicts high school STEM achievement for students from low-income backgrounds ^[1]

Author: Bustamante, A. S., Bermudez, V. N., Ochoa, K. D., Belgrave, A. B., & Vandell, D. L.

Source: Developmental Psychology

Format: Article

Publication Date: 15 Jun 2023

AVAILABILITY

Access online ^[2]

Access online [PDF] ^[3]

Abstract

High-quality early childcare and education (ECE) has demonstrated long-term associations with positive educational and life outcomes and can be particularly impactful for children from low-income backgrounds. This study extends the literature on the long-term associations between high-quality caregiver sensitivity and responsiveness and cognitive stimulation (i.e., caregiving quality) in ECE settings and success in science, technology, engineering, and mathematics (STEM) in high school. Using the 1991 National Institute of Child Health and Human Development Study of Early Child Care and Youth Development (n = 1,096; 48.6% female; 76.4% White, 11.3% African American, 5.8% Latine, 6.5% other), results demonstrated that caregiving quality in ECE was associated with reduced disparities between low- and higher-income children's STEM achievement and school performance at age 15. Disparities in STEM school performance (i.e., enrollment in advanced STEM courses and STEM grade point average) and STEM achievement (i.e., Woodcock–Johnson cognitive battery) were reduced when children from lower-income families experienced more exposure to higher caregiving quality in ECE. Further, results suggested an indirect pathway for these associations from caregiving quality in ECE to age 15 STEM success through increased STEM achievement in Grades 3 through 5 (ages 8–11 years). Findings suggest that community-based ECE is linked to meaningful improvements in STEM achievement in Grades 3 through 5 which in turn relates to STEM achievement and school performance in high school, and caregiving quality in ECE is particularly important for children from lower-income backgrounds. This work has implications for policy and practice positioning caregivers' cognitive stimulation and sensitivity in ECE settings across the first 5 years of life as a promising lever for bolstering the STEM pipeline for children from lower-income backgrounds.

Related link: High-quality child care contributes to later success in science, math ^[4]

Region: United States ^[5]

Tags: development ^[6]

quality ^[7]

Source URL (modified on 3 Sep 2024): <https://childcarecanada.org/documents/research-policy-practice/24/08/quality-early-childcare-and-education-predicts-high-school>

Links

[1] <https://childcarecanada.org/documents/research-policy-practice/24/08/quality-early-childcare-and-education-predicts-high-school> [2]

<https://psycnet.apa.org/doiLanding?doi=10.1037/dev0001546> [3] <https://www.apa.org/pubs/journals/releases/dev-dev0001546.pdf> [4]

<https://childcarecanada.org/documents/child-care-news/24/08/high-quality-child-care-contributes-later-success-science-math> [5]

<https://childcarecanada.org/taxonomy/term/7865> [6] <https://childcarecanada.org/category/tags/development> [7]

<https://childcarecanada.org/category/tags/quality>