



ORIGINAL ARTICLE

The association between childhood educational attainment and adult mental health and status: A thirty-year longitudinal follow up study



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Received 23 May 2017; accepted 8 January 2018

Available online 4 February 2018

KEYWORDS

NCPP;
WRAT;
Childhood education;
The Johns Hopkins
Pathways study

Abstract

Background and objectives: Prior research and theories are predicated on the assumption that childhood education has a potentially significant effect on long-term adult mental health and status achievement, but there is little empirical data to support this view. Using a longitudinal birth cohort from birth to age 30, we investigated the association between childhood educational attainment and adult status achievement, including mental health in an American inner city population.

Methods: 1820 infants (born between 1960 and 1965) were followed prospectively as part of the Collaborative Perinatal Project (CPP) and the Johns Hopkins Pathways to Adulthood Study, with multiple observations of development and an extensive adult interview. Childhood intelligence and educational ability were measured using the Wechsler Intelligence Scale for Children (WISC) and the Wide Range Achievement Test (WRAT) at age 7. Adult mental health was measured with the General Health Questionnaire (GHQ) when the infants reached age 27–33. During the adult follow up interview, status achievement data was collected including employment, personal income, and education.

Results: There were significantly negative associations between age 7 WRAT scores and all the issues regarding adult mental health, positive associations between age 7 WRAT scores and years of school completed, personal income, and employment status. There were positive associations between childhood IQ and all status achievement variables, but no association recorded between childhood IQ and adult mental health.

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Conclusions: Childhood education was significantly associated with adult mental health and status achievement more than 25 years later. Low scores of WRAT significantly predict poor outcomes as an adult, both in terms of mental health and status achievement. The study findings have potentially strong implications for the enactment of policy changes around the world.

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What's known on this subject

Prior research and theories are predicated on the assumption that childhood education has a potentially significant effect on long-term adult mental health and status achievement, but there is little empirical data to support this view.

What this study adds

Our work provides such data within the confines of a large population cohort as a part of the well-designed, prospective, and collaborative pathways to adulthood study.

Introduction

The events that occur during the developmental period of childhood have important repercussions later in life.^{1–3} Previous research showed that children who experience adversity in their early years are much more likely to experience negative sequelae as an adult including incarceration, anxiety, mood disorders, disruptive behavior, and substance abuse.¹ If childhood experiences are so important in determining adult outcomes, then certainly one of the most lengthy and important of childhood experiences, education, must play a significant role in determining adult outcomes. There have been studies indicating poor academic performance predicts subsequent alcohol and drug use, lower physical health performance, and even mortality.^{4–6}

Data collected by Brown University was used to demonstrate that those with low educational attainment (under 9 years) have a greater than fifty percent higher risk of recurrent depression.⁷ Further study revealed that educational underachievement is significantly associated with major depression in adulthood.⁸ Poor reading ability has been indicated to significantly increase the likelihood that a youth will drop out of school as well as experience suicidal ideation.⁹ Recently, in 2017, a study demonstrated the negative relationship between childhood reading problems and employment status in early adulthood.¹⁰

Is it education or intelligence?

Certainly, how students perform in the classroom during their early years has some effects on adult outcomes, but it is not completely clear what drives student performance in the classroom. While a student with very high intelligence is likely to succeed in school, a student with lower

intelligence that works hard may do just as well or even better. Whether intelligence or other factors are dominant in driving student success is the subject of much debate. Intelligence is classically measured by IQ score. Childhood IQ has been the subject of significant examination, especially in terms of its association with various childhood status measures and adult outcomes. While some researchers believe that childhood IQ is an important and accurate measure of a child's cognitive ability,^{8,11} as a whole research findings have been varied and contradictory. In a study with outcomes of career attainment, the authors compared indicators of mental ability, academic ability and career attainment in two young men groups namely low-IQ and average-IQ. The results even showed a range of differences in these groups relating to all issues mentioned, but after regression analyses, career attainment was similar in both groups.¹²

Research linking childhood IQ and adult mental disorders found that a lower childhood IQ was associated with an increased risk of schizophrenia, adult depression, and adult anxiety.¹³ Both Scottish and Danish studies had similar findings.^{14–16} More recently however, the validity of IQ as an accurate measure of cognitive ability has been questioned. Findings showed that IQ is subject to a number of confounders that made it, at best, an incomplete measure of educational ability, as well as a flawed predictor of adult status and behavior.¹⁷ IQ has been shown to be partially a product of genetics, and it runs into significant problems when it is used as a predictor of childhood educational ability due to its "focusing on the memorization of previously learned facts, and its inability to differentiate the contributions of distinctive neurocognitive systems".¹⁸

The aim of this study is to explore the relationship between educational attainment in childhood and adult mental health and status achievement by using a 30-year prospective cohort in a unique population from Baltimore, MD, USA.

Methods

The NCPP data set

Data for this analysis was taken from the Johns Hopkins branch of the National Collaborative Perinatal Project (NCPP). The NCPP was a multidisciplinary, prospective investigation across 10 University Medical Centers over 15 years, enrolling between 50,000 and 60,000 pregnant women from 1959 to 1965. Women and their surviving children were followed until their children reached age 7 or 8. The aim was to study how prenatal factors affect later events such as infant

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