Child health and academic achievement among former head start children

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Abstract

The current study analyzed health and academic achievement in a large database of former Head Start children who participated in the National Public School-Head Start Transition Demonstration Study (NTDS) as they entered kindergarten in 1992 and progressed to third grade. Results showed most former Head Start children were in good health in both kindergarten and third grade, although there was a wide range of reported health conditions, including mental, emotional, and behavioral disorders. Analyses showed that children in poor general health had significantly lower achievement scores than children in good general health in third grade, but no differences in achievement scores in kindergarten. Multivariate analyses showed that, controlling for the effects of family income, minority status, and maternal education, measures of general and mental health status were significantly and independently associated with academic achievement scores in kindergarten and third grade. Longitudinal analysis, controlling for family socioeconomic status variables, showed that kindergarten general and mental health status independently predicted third grade achievement scores. The findings support Head Start’s emphasis on child health promotion and suggest that child health status impacts early academic achievement independent of family risk factors, as children transition to formal schooling.

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1. Introduction

From its inception, Project Head Start has recognized the important role of child health in promoting academic achievement among the low-income families and children served by Head Start preschool programs (Zigler, Piortowski, & Collins, 1994). Several studies have shown that poor health status in children is associated with deficits in academic performance (e.g., Diette et al., 2000; Halterman et al., 2001; Kleinman et al., 2002; Kramer, Allen, & Gergen, 1995). While the exact mechanisms are not well understood, it appears that illness and injury adversely affect children’s academic achievement through higher rates of absenteeism (Fowler, Davenport, & Garg, 1992), and through lack of sleep, fatigue, discomfort, and pain that reduce the child’s the ability to pay attention and concentrate on school tasks (Halterman et al., 2001; Meijer, Habekothe, & Van Den Wittenboer, 2000). Children in poor health from low-income, minority families are at even greater risk of low academic achievement and school failure (Aber, Bennett, Conley, & Li, 1997; Bradley & Corwyn, 2002; Huston, 1992; Ramey & Ramey, 1998). Disadvantaged children from low-income, minority group families have been shown to have higher rates of chronic health conditions (Newacheck & Halfon, 2000), greater severity of illness (National Heart, Lung, and Blood Institute, 1999), and poorer overall health status than advantaged children (Federal Interagency Forum on Child and Family Statistics, 2003). Asthma, for example, is particularly prevalent among low-income children, with some samples showing asthma rates as high as 35% (Ladebauche et al., 2001). A survey of 40 Head Start programs across 23 states and territories found that 30% of parents of Head Start children reported that their child had two or more serious health conditions, and 10% reported that their child had sustained serious injuries (Keane, O’Brien, Connell, & Close, 1996). This study also showed that asthma and other lower respiratory problems, ear infections, and gastrointestinal problems were the most frequently reported child health conditions. These findings suggest that Head Start children are at risk for health problems that may adversely impact their academic achievement as they transition to formal schooling.

Little is known, however, about the effects of health status on academic achievement in the important primary grades among former Head Start children. Two studies were located that examined the relationship between child health indicators and measures of academic performance in this age group, although neither study reported on the child’s Head Start status, and neither study included any measures of mental health status. Using data from the National Longitudinal Survey of Youth, Caughy (1996) analyzed the impact of low birth weight, length of hospitalization at birth, and hospitalization within a year of birth as reported by mothers on academic readiness in a sample of 867 five and six-year old children, approximately 54% of whom were from low-income families. Results showed that children hospitalized within a year of birth had lower scores on the Reading Recognition subtest of the Peabody Individual Achievement Test (PIAT) battery when they were tested at 5 or 6 years old. The negative effect of hospitalization within a year of birth on later reading performance was independent of race, family income, maternal education, and home environment. For PIAT Mathematics scores, hospitalization within a year of birth had a marginally significant negative effect, after controlling for race, family SES and home environment. Neither low birth weight nor longer than average hospitalization at birth were independently associated with reading or math scores.

The second study examined the relationship between health indicators and cognitive functioning among a nationally representative sample of 2531 children 6 to 16 years of age who participated in the third National Health and Nutrition Examination Survey (Kramer et al., 1995). Of this sample, 1686 children, ages 6 to 11, were included in one group for data analysis. Head Start participation
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