

## The Role of Maternal Cognitive Ability on Child Health

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### ABSTRACT

A stumbling block of the literature on child health determinants suggests that mothers play a central role in household and child rearing activities. As a result, mother's human capital has been commonly described as key determinant of child health. However, little is known on how important the mother's cognitive ability is in procuring her children's health. This paper investigates the role of maternal cognitive ability in enhancing her children's health as measured by the child's height. We relax the assumption of maternal cognitive ability as a predetermined variable, and investigate the mechanism through which it improves the health of her children. In particular, we analyze how the effect of maternal cognitive ability reflects her childhood background experience in the form of a) parental intra-generation transmission of knowledge; and b) mother's childhood environmental factors such as community characteristics and school quality proxies. We also explore if the mechanism through which maternal cognitive ability relates to the health of her children operates through contemporaneous child health determinants, such as maternal child rearing experience and household economic resources. Finally, we test whether returns to maternal reasoning ability on child's health are correlated to mother's unobserved characteristics other than childhood endowments by use of 2SLS methods. Our results show that maternal cognitive ability is an important factor in improving her children's height, even after controlling for child's age and gender, parental age, mother's and father's years of schooling and mother's height. We find that maternal cognitive ability estimates are robust to the inclusion of the mother's parents years of schooling, whether she lived in an urban community during her primary years, and whether she attended to an elementary public school, as opposed to a private institution. These results suggest that cognitive ability returns on child health are less likely to reflect mother's childhood background factors such as inter-generational transmission of knowledge between parents and their offspring, or local childhood community environment such as school quality factors. Alternatively, household total expenditure reduces the effect of maternal cognitive ability on child's health by 10 percent, suggesting the possibility that cognitive ability enhances child's health investment by improving maternal capability of providing wealth to the household, perhaps by means of labor productivity and or/ savings decisions. Finally, mother's fixed effects estimated compared between firstborn and not-firstborn children suggest that high maternal reasoning ability plays a more important role in improving the child's health when mothers experience motherhood for the first time, than when they have acquired experience with other children. These results hold only if we control for mother's unobserved characteristics suggesting that OLS estimates of returns to mother's cognitive ability on child health are downward biased. 2SLS that use mother's previous childhood endowment variables as identifying instruments for maternal years of schooling and cognitive ability corroborates this hypothesis. Our results are based on extremely rich information gathered in the Mexican Family Life Survey (MxFLS-1), which administered Raven's Colored Progressive Matrices --that require no literacy-- to every household member between 5 to 65 years old. Anthropometric information is also available for every household member, allowing us to focus our analysis on child height for age z-scores as long-run health outcomes for every child living in the household between 0 to 17 years of age.