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## Gender Differences in the IQ And Behavior at 5 and 10 Years Old Rural Bangladeshi Children

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**Background:** Cognitive development and behavior of children at an early age provide important information about productivity of the individual at adulthood. Little is known about cognitive development, behavior and home environment of children by gender, which plays a vital role in life trajectories. We aimed to study these differences at 5 and 10 year-old children in rural Bangladesh.

**Methods:** We collected information from two follow-up studies of a randomized controlled trial; maternal and infant nutrition intervention in Matlab (MINIMat) where pregnant women were supplemented with food and micronutrient. Information on children's development was collected using Wechsler tests at 5 (WPPSI-III) and 10 (WISC-IV) years. We assessed children's behavior using strengths and difficulties questionnaire (SDQ) and home stimulation using Home Observation for Measurement of Environment (HOME). We conducted student's t-test to assess gender differences.

**Results:** At 5-years 2260 (girls 48.3%) and at 10-years 1530 children (girls 47.5%) participated in the follow-up studies. The performance, vocabulary and working memory scores were significantly higher in boys at 10-years ( $p < 0.001$  for all), but no such differences at 5-years. However, girls had significantly more pro-social and less difficult behavior than boys across the ages ( $p < 0.001$  for all). Girls also received more home stimulation in total HOME score ( $p = 0.041$ ) than the boys at 10 years. Subscales of HOME were different for boys and girls, where the latter had higher scores in emotional regulation ( $p < 0.001$ ), maturity ( $p < 0.001$ ) and responsibility ( $p < 0.001$ ) subscales while the former received more opportunities ( $p = 0.041$ ) and companionship ( $p < 0.001$ ) than girls.

**Conclusion:** Despite more home stimulation for girls there is still a deficit in their IQ at 10 years. Integration of psychosocial stimulation programmes into health, nutrition and social protection services at an early age might be helpful in reducing deficit in IQ of Bangladeshi girls and reducing difficult behaviors in boys.