APPENDIX A

Summary of the literature review of relationships of parental education, household income, and number of adults and siblings in the household on infant motor development, categorized by pattern of results

Parental Education

Reference	Significant Relationship	No Relationship	Non Linear Relationship
Shapiro (1974)	• Infants three years old (n=58) were assessed using a developmental schedule created by the Children's Diagnostic Center of the Beer-Sheva Department of Health • Finding: low levels of maternal education were found to be associated with lower boys gross motor development	• Infants three years old (n=58) were assessed using a developmental schedule created by the Children's Diagnostic Center of the Beer-Sheva Department of Health • Finding: no significant relationship between maternal education and girls gross motor development were found	
Poresky and Henderson (1982)	• Infants two years old were assessed (n=27) with the Bayley Mental Development Index • Finding: a modestly positively significant relationship was found between maternal education and infants' motor development	• Infants two years old were assessed (n=27) with the Bayley Mental Development Index • Finding: paternal education was not related to infant motor development	
Zahr (1999)	• Eight month old infants of African American (N=41) and Hispanic descent (N=82) were assessed using the Bayley scale	• Eight month old infants of African American (N=41) and Hispanic descent (N=82) were assessed using the Bayley scale	

Reference	Significant Relationship	No Relationship	Non Linear Relationship
	• Finding: maternal education was positively correlated with motor skills of African American babies	• Finding: no correlation between the mother's education and the motor skills of Hispanic infants	
Hediger et al (2002)	• Infants aged 2- 47 months (250-500 children in each 2-month age bin) (n=4621) assessed using NHANES III* Household Youth Questionnaire for infants and children under 4 years old • Finding: low parental education level was found to be associated with significant delays in motor development		
To et al (2004)	• Children aged 1-5 years (n=4987) were assessed using the PDA* via Motor and Social Developmental skills in 1-3 year olds, and the revised PPVT* in 4-5 year olds • Finding: low maternal education was a statistically significant risk factor for poor development attainment, especially in older children (children between 4-5 years old versus 1-3 years old)		
Giagazoglou et al (2007)	• Pre-school children aged between 37 and 72 months (n=800) were assessed using the gross motor subscale of the Griffiths Test No II • Finding: highly educated mothers had children with higher developmental motor skills compared to children of formally educated mothers		

Reference	Significant Relationship	No Relationship	Non Linear Relationship
Ravenscroft and Harris (2007)	• Infants aged 3-12 months (n=412) were measured by the HINT* • Finding: maternal education had a weak positive correlation with infant motor development		
Lung et al (2009)	• Infants (n=21648) were assessed at 6 and 18 months using the TBCS* • Finding: higher maternal education positively associated with children with better gross motor development at 18 months • Finding: higher paternal education resulted in children with better gross motor development at 6 months and 18 months	• Infants (n=21648) were assessed at 6 and 18 months using the TBCS* • Finding: no significant relationship between maternal education and gross motor development at 6 months	
Lung et al (2011)	• Infants (n=2048) were assessed at 8, 18, and 36 months using the TBCS* • Finding: children who had mothers with higher education had better gross motor development at 18 months, and the impact of this effect increased at 36 months • Finding: infants who had fathers with a higher education had better gross motor development at 6 months	• Infants (n=2048) were assessed at 8, 18, and 36 months using the TBCS* • Finding: mothers with a higher education showed no significant difference in gross motor development at 6 months • Finding: no relationship between paternal education and gross motor development at 18 and 36 month	
Koutra et al (2012)	• Infants 18 months old (n=612) were assessed using Bayley-III • Finding: higher maternal education was positively related to gross motor		

Reference	Significant Relationship	No Relationship	Non Linear Relationship
Yalcin et al (2012)			• Infants aged 12-23 months (n=1553) were assessed using the age of walking obtained via questionnaire (defined by the age at which the subject is able to rise from a seated position and walking at least 6 feet without support) • Finding: parental education showed an inverted U-shaped interaction with age of walking
Saccani et al (2013)	• Infants aged newborn to 18 months (n=561) were assessed using the AIMS • Finding: maternal education had a weak positive association on motor scores		

Household Income

Reference	Significant Relationship	No Relationship	Non Linear Relationship
Poresky and Henderson (1982)		• Infants two years old were assessed (n=27) with the Bayley Mental Development Index • Finding: family income not related to infants motor development	
To et al (2004)	• Children aged 1-5 years (n=4987) were assessed using the PDA* via Motor and Social Developmental skills in 1-3 year olds, and the revised PPVT* in 4-5 year olds • Finding: low household income adequacy was a statistically significant risk factor for poor development attainment		
Lung et al (2011)		• Infants (n=2048) were assessed at 8, 18, and 36 months using the TBCS* • Finding: at 18 and 36 months, with parental education controlled, parental income does not affect child development	
Koutra et al (2012)	• Infants 18 months old (n=612) were assessed using Bayley-III • Finding: infants of working mothers tended to score higher on gross motor than infants whose mothers were unemployed		
Saccani et al (2013)	• Infants aged newborn to 18 months (n=561) were assessed using the AIMS • Finding: a positive weak significant association was observed for household income and motor development during the first year of life		

Number of Adults/Siblings in the Household

Reference	Significant Relationship	No Relationship	Non Linear Relationship
Hediger et al (2002)	• Infants aged 2- 47 months (250-500 children in each 2-month age bin) (n=4621) assessed using NHANES III * Household Youth Questionnaire for infants and children under 4 years old • Finding: higher birth order found to be negatively associated with motor and social development		
Berger and Nuzzo (2008)			• Parents of a total of 51 sibling pairs were surveyed; age of crawling and walking was collected retrospectively via interview • Finding: results varied: in some families younger siblings crawled and walked earlier than their older siblings, in other families a reverse pattern was identified
Reid et al (2010)	• Participating infants were observed at 5 months and at 12 months again (41 males and 31 females) (n=72), 32 had siblings and 39 had no siblings, infants were measured using the Bayley scale • Finding: negative relationship was identified between having older siblings and ability to		

Reference	Significant Relationship	No Relationship	Non Linear Relationship
	produce goal-directed motor activities at 5 months; the relationship was reversed when infants reached 12 months.		
Koutra et al (2012)	• Infants 18 months old (n=612) were assessed using Bayley-III • Finding: presence of older siblings was associated with lower gross motor scores		
Yalcin et al (2012)		• The age of walking (obtained via questionnaire) was assessed for infants ranging from 12 to 23 months old. 37% first born, 54% children from family with > 5 household members and 46% with <5 members • Finding: no significant relationship between children's age of walking and number of siblings or household members	
Saccani et al (2013)	• Infants aged newborn to 18 months (n=561) were assessed using the AIMS, median number of children and adults living in the house was 1 and 2, respectively • Finding: negative correlation between family size and child motor development was found		

Appendix References

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