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Policy Briefing No. 2

School Readiness Matters: Socioeconomic Inequalities in Early Childhood Skills

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The Centre for Human Development and Public Policy at the UCD Geary Institute is currently developing a research programme which integrates developmental psychology, economics, epigenetics, and bio-social sciences to create a national knowledge hub on the mechanisms underlying the intergenerational transmission of inequalities in health, poverty and education. This article highlights some of the Centre's most recent findings in the area.

The work discussed in this briefing note, supporting references and documentation, and related research are available at <http://geary.ucd.ie/>.



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■ Inequalities in cognitive, social, and emotional abilities are set early in life. The intergenerational transmission of poverty, health and education from parents to children is well documented, although the mechanism underlying this transmission is still debated. While the public provision of education was introduced as a means of reducing socioeconomic inequalities, differences in schooling outcomes continue to exist. Evidence from early childhood studies shows that socioeconomic differences in cognitive and non-cognitive skills appear early in life and persist throughout children's academic careers. This trend helps explain the inability of education alone to eradicate intergenerational disadvantage.

All children enter school with a unique set of endowments, including cognitive ability, health, and socio-emotional traits, which are determined by both genetic and environmental components. Children from low socioeconomic status (SES) backgrounds may already be at a disadvantage prior to starting school as their basic needs such as food, health care, and a stimulating learning environment may not always be met. Additionally, financial hardship can have an adverse effect on parental mental well-being and parenting practices. Children from these groups may therefore have difficulty in acquiring the skills necessary to succeed in school. Consequently, the education and life trajectories for such children are at risk even before they enter a classroom.

Being ready for school encompasses more than academic skills. Physical well being, motor development, language and literacy skills, social and emotional development, as well as cognitive abilities,

are all important components of a child's school readiness. It is not solely the child's ability to learn the ABC's, but also the ability to sit through classes, socialise with other children, and communicate needs to teachers.

This report highlights the importance of school readiness on later life outcomes and examines the factors that influence it, drawing on the parental resource model. Using data from the UK Millennium Study, it also demonstrates that inequalities in school readiness across different SES groups occur very early in the child's life. The report then discusses a series of new programmes aimed at improving school readiness in disadvantaged communities in Ireland.

■ The Importance of School Readiness

School readiness is an important concept as it can predict future academic achievement, employment, and behaviour. For example, research shows that reading ability at age 7 is related to school attendance and the staying on rate at age 16, while academic achievement tests at 8 years influence earnings at age 36. Furthermore, conduct disorders at age 10 predict male adult unemployment, and physical aggression in childhood is predictive of later aggression. These examples are only a few among the substantial evidence which shows that school readiness does matter.

*Inequalities in cognitive
and non-cognitive abilities*

Parental education, particularly the mother's, is a central factor in a child's early development

■ What Influences School Readiness?

Both the family and the early years environment can have an influential role in shaping child cognitive and non-cognitive abilities. Parental resources, specifically income and education, can have a substantial effect. Families with higher incomes are more able to purchase or produce important inputs into their child's development, such as nutritious meals, frequent doctor's visits, stimulating home environments, safe neighbourhoods, and high quality childcare or preschool. Studies show that the importance of income is strongest during the pre-school and early school years and has a greater impact on the development of cognitive skills than non-cognitive ones.

Parental education, particularly the mother's, is a central factor in a child's early development, largely because it shapes the quality of parent-child interactions. In general, parents with more years of formal education are better able to provide a stimulating environment and have a more verbal and supportive teaching style. Importantly, more educated women tend to spend more of their "nonmarket" time in child-related activities.

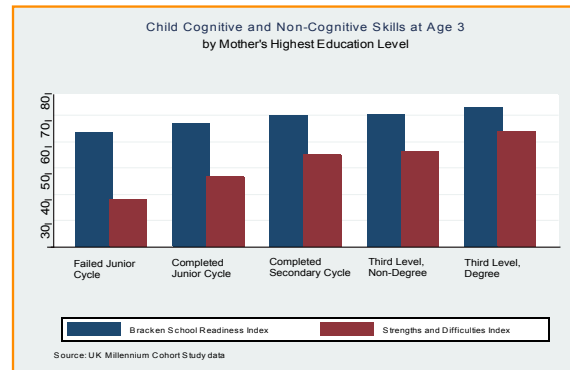
Child health, family factors, early childhood care and education, and school transitional practices are other factors that affect school readiness.

■ Socioeconomic Inequalities in School Readiness

Using data from the recent UK Millennium Cohort Study, we demonstrate significant differences in school readiness across SES groups at age 3. The Millennium Cohort Study is a prospective study of 18,819 babies who were born in the UK between 2000-2002. There have been two waves of the study to date, the first at 9 months and the second when the children were approximately 3 years old.

Controlling for a wide range of parental and child characteristics, we find that children of well educated mothers have higher levels of cognitive and non-cognitive skills than children of mothers with lower levels of education. Cognitive development is measured by the Bracken School Readiness Index, while the Strengths and Difficulties Index measures non-cognitive outcomes such as conduct problems, hyperactivity, emotional symptoms, peer problems, and antisocial behaviour.

Graph 1:



Graph 1 shows a clear positive relationship between maternal education and child outcomes. The largest difference in both child cognitive and non-cognitive skills occurs at the lower end of maternal education: children born to mothers who received low grades in their junior cycle have significantly lower levels of cognitive skills and fewer social/emotional strengths than children of mothers who completed the cycle. Though noticeable, this trend is less pronounced at the higher end of maternal education. Since roughly 11% of our sampled mothers (weighted) did poorly in their junior cycle, even a policy which targets raising the average grades within junior cycle education could greatly improve school readiness and non-cognitive levels of many children.

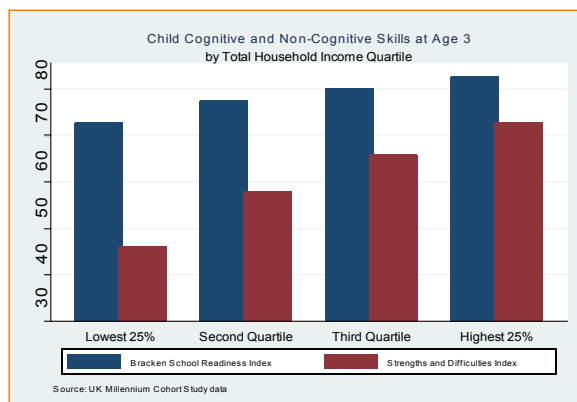
A similar pattern emerges when investigating the effect of household income on school readiness. As shown in Graph 2, children from higher income families have higher cognitive development scores and more social and emotional strengths. Given the positive correlation between maternal education and household income, as well as the greater ability for higher income households to invest in their child's development, these trends could be anticipated.



across socioeconomic groups appear early in life

Intervening early is key to narrowing the gap in school readiness inequalities

Graph 2:



This evidence demonstrates that inequalities in both cognitive and non-cognitive abilities, i.e. the skills needed to accumulate human capital, are shaped early in life. It should be noted that given the nature of the analysis, these trends indicate a correlation between parental background and child development rather than a causal relationship, though they provide important insights into the existence of socioeconomic inequalities in child outcomes. Such inequalities have prompted attention to shift towards reducing these differences with early interventions programmes.

■ The Case for Early Intervention

Since the 1960's a variety of early intervention programmes, primarily in the US, have targeted improving the school readiness levels of disadvantaged children. The most recognised include the Abecedarian Project, High/Scope Preschool Curriculum Study, the Perry Preschool Program, the Chicago Child-Parent Center, and Head Start. These programmes have demonstrated positive impacts in adulthood across a variety of domains including educational attainment, risky behaviour, earnings, welfare dependency and parenting skills, although the impacts differ across programmes and outcomes.

While the importance of school readiness in determining later academic outcomes clearly motivates early intervention programmes, there is also an economic argument - they are cost effective. Early investment on intervention and prevention programmes aimed at disadvantaged children is more cost effective than later remediation programmes which are often prohibitively costly. In addition, recent work in developmental neuroscience shows that the child's

brain can be substantially changed by experiences and that the early environment can directly affect the expression of genes. Intervening early, before large gaps in cognitive and non-cognitive skills develop, is key to addressing socioeconomic differences in school readiness.

■ School Readiness in Ireland

The need to improve the levels of school readiness amongst disadvantaged communities in Ireland, combined with the success of previous early interventions programmes, has led the Irish government along with the non-profit organisation, Atlantic Philanthropies, to invest in a series of early childhood intervention programmes. This first large scale early intervention project in Ireland is a welcomed and ambitious initiative for a country that still has large disparities in child outcomes across SES groups.

A number of sites across Ireland are currently designing interventions aimed specifically at improving school readiness. While the scale of these programmes varies in terms of the nature of the intervention, the target population, the length of service and geographical location, the primary outcomes targeted are early cognitive and non-cognitive development.

This programme offers an unprecedented opportunity to determine what works in school readiness interventions. These interventions can generate important short and long term benefits for the children, their families, and the disadvantaged communities in which the children reside. Importantly, they may also provide insights into the mechanisms which break the intergenerational transmission of inequality cycle.

