EUNEC SEMINAR
'Bildung' in a lifelong learning perspective
Budapest, 9-10 May 2011

Life-long consequences of early years learning

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BILDUNG

Bildung stands for development of the human being.

Bildung is based on a humanistic ideal concept of the human being. It sets forward the development of human qualities such as general knowledge, creativity and a general appreciation of art and culture, moral judgments and critical thinking.

Bildung is the result of a life-long education process.

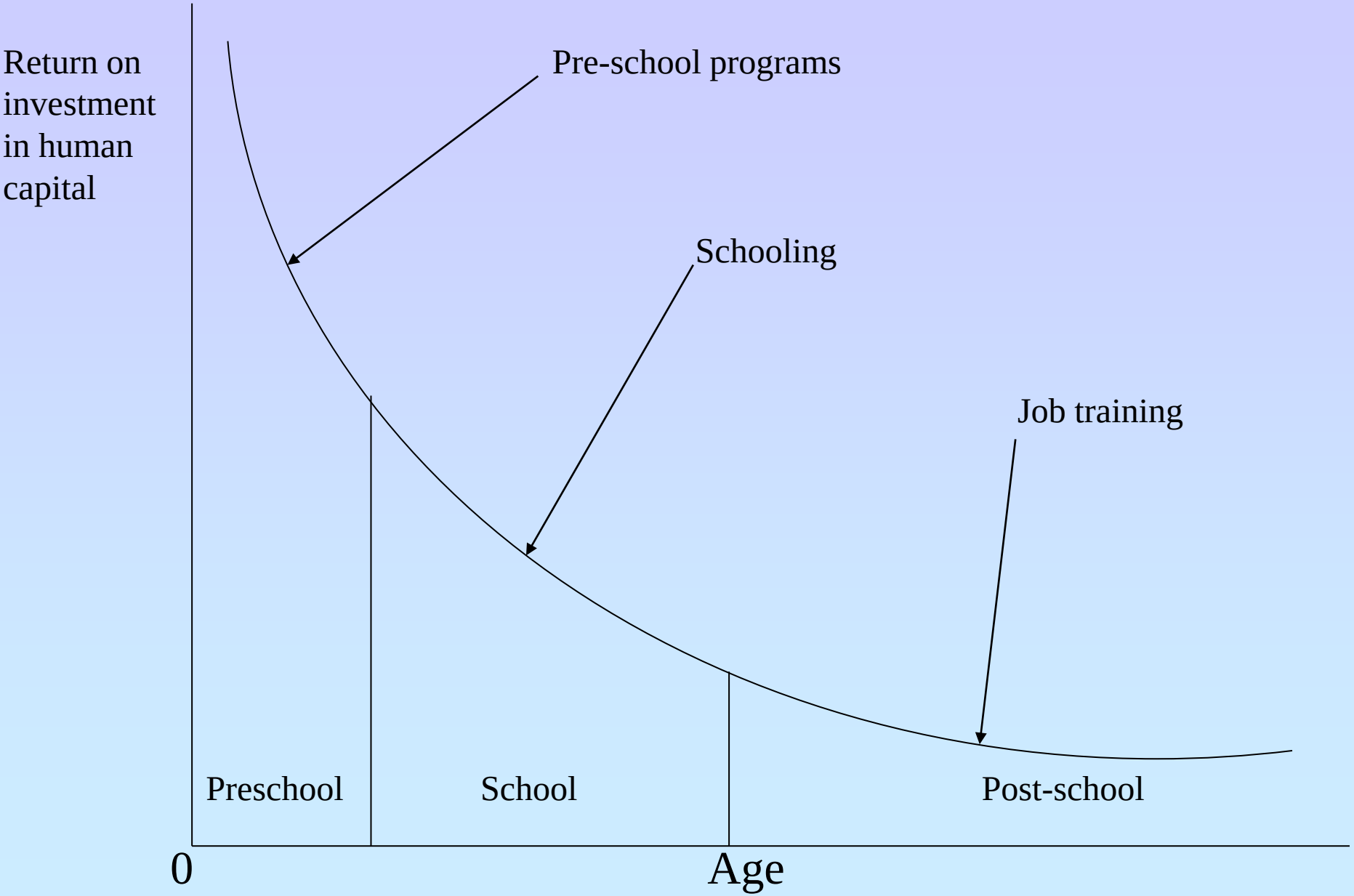
The early years are very important for *Bildung.*

Why the early years?

" If the race is already halfway run even before children begin school, then we clearly need to examine what happens in the earliest years." (Esping-Andersen, 2005)

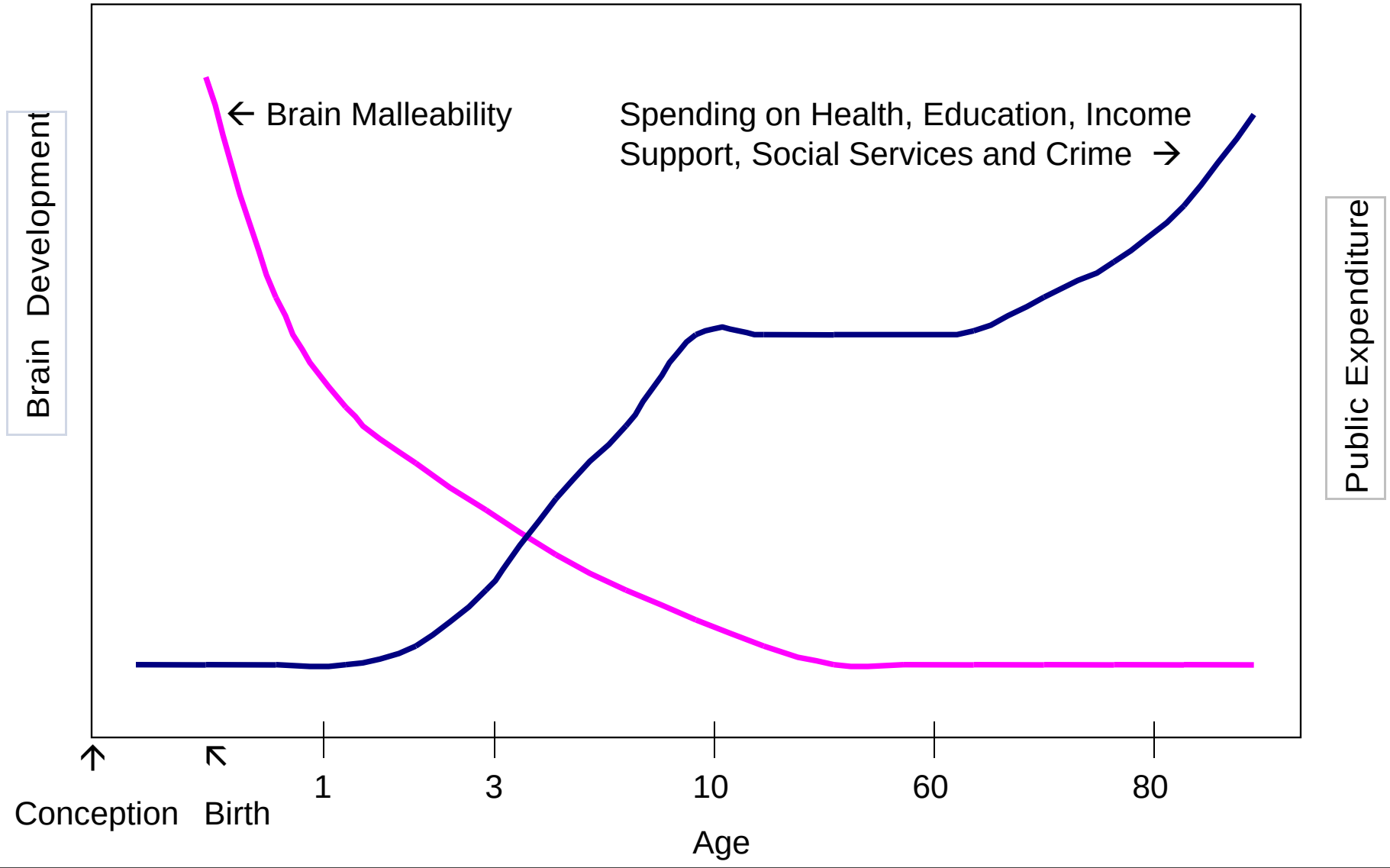
" Like it or not, the most important mental and behavioural patterns, once established, are difficult to change once children enter school." (Heckman & Wax, 2004).

Rates of return to human capital investment (Heckman 2000)

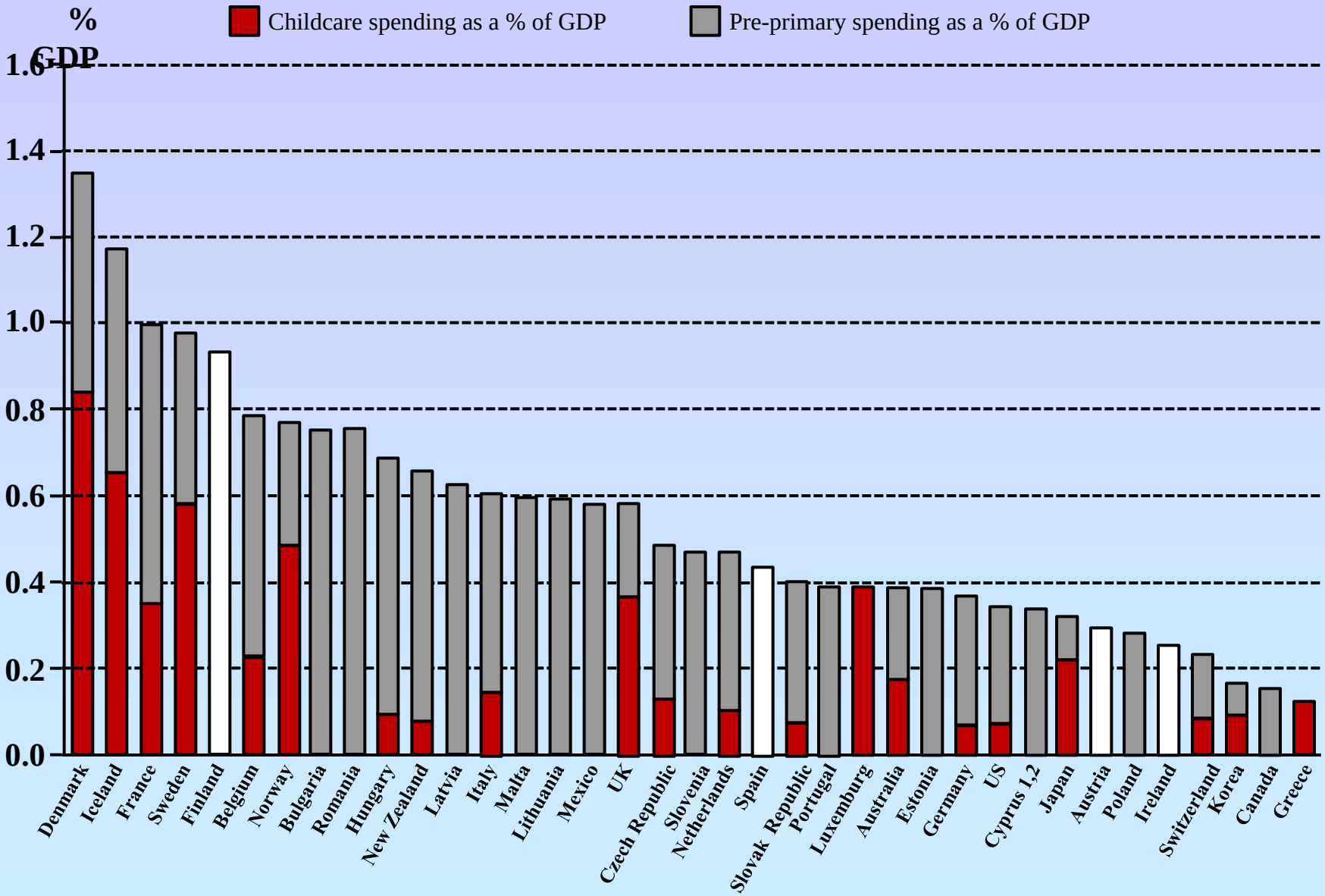


Brain Development – Opportunity and Investment

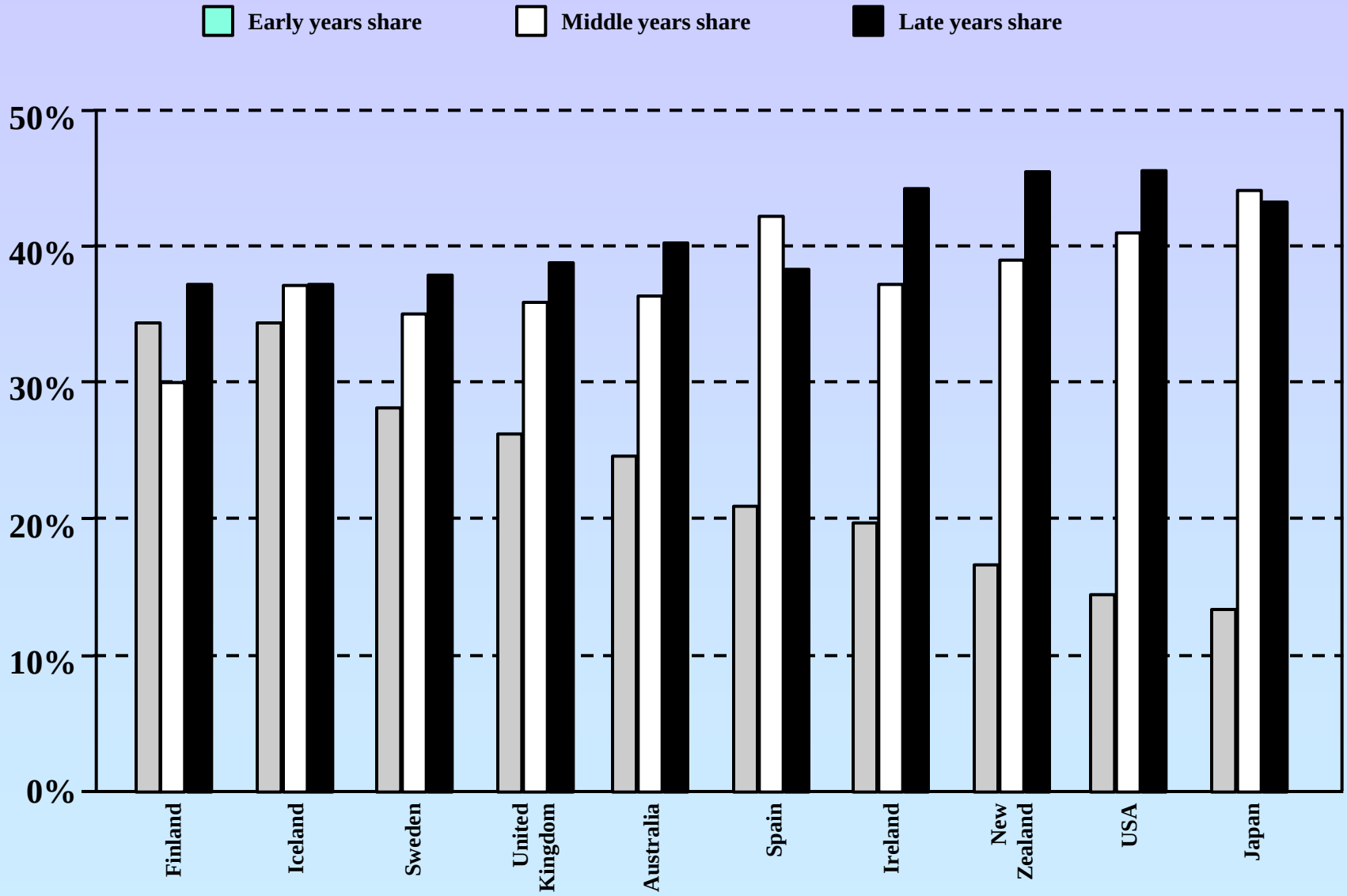
From van der Gaag 2004 – presentation on World Bank - The Benefits of Early Child development programs



Public spending on childcare and pre-primary education, 2005



Countries in the OECD tend to prioritise spending on older children



Experience affects Brain Development

Conditions in early life affect the differentiation of billions of neurons and trillions of synapses in the brain

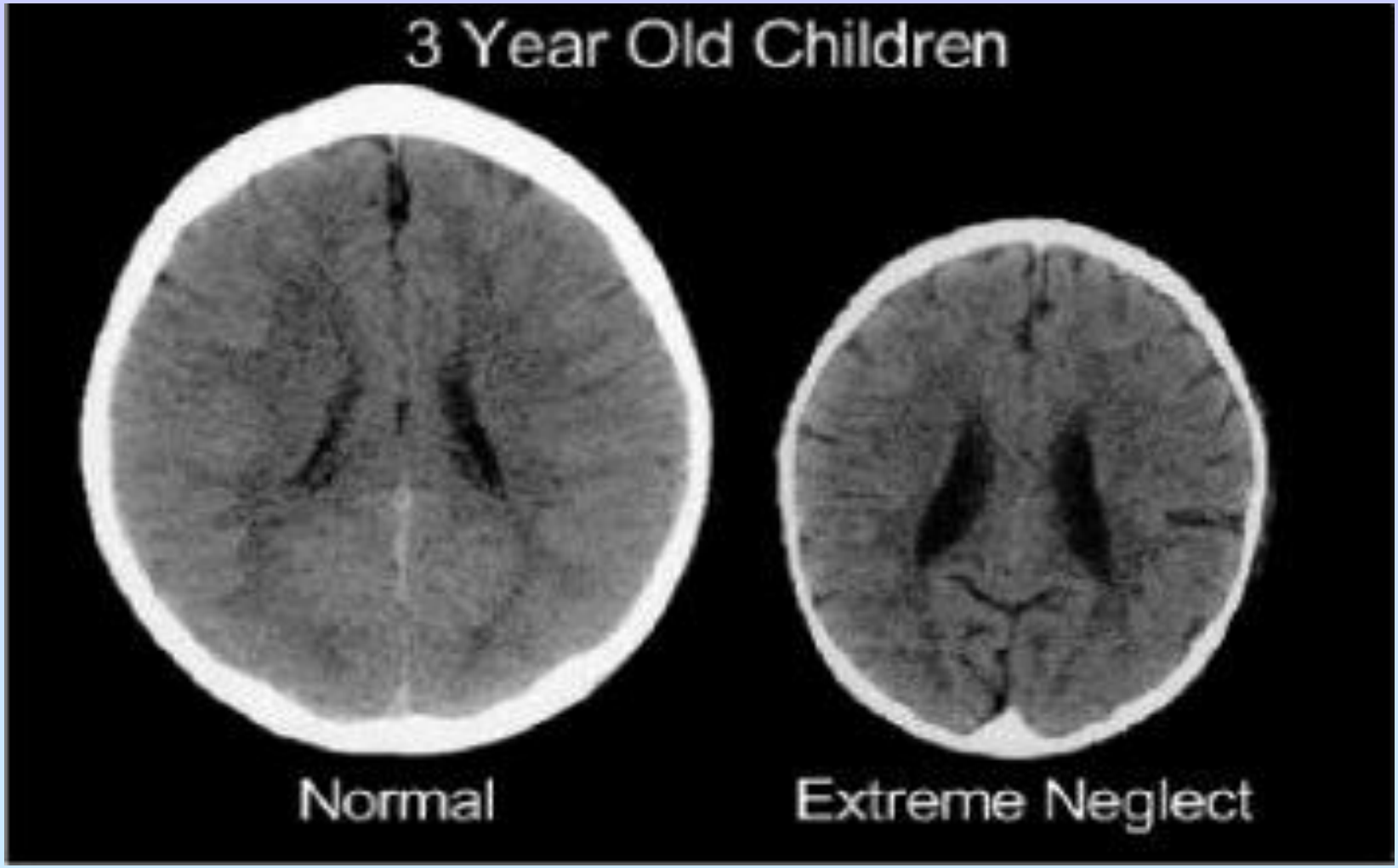
Early experience sets up neurological pathways in the brain affecting:

health

learning

behaviour

Front cover of "Early intervention: the next step" Allen 2011, HM Government



Perry, 2003

Wealth of data from life course studies linking adversity in early life to:

- poor literacy and educational attainment
- anti-social and criminal behaviour
- substance abuse
- poor mental and physical health
- adult mortality

Early Years research

We can distinguish 2 major strategies

1. Intervention with disadvantaged groups
2. For general population

Intervention strategy

If people keep falling off a cliff, don't worry about where you put the ambulance at the bottom. Build a fence at the top and stop them falling off in the first place.

Source: Allen & Duncan-Smith, 2010

Examples

Perry Preschool Project – preschool 3-6 years

Abecedarian Project – childcare/preschool 0-6

Early Head Start – childcare/ home visit 0-3

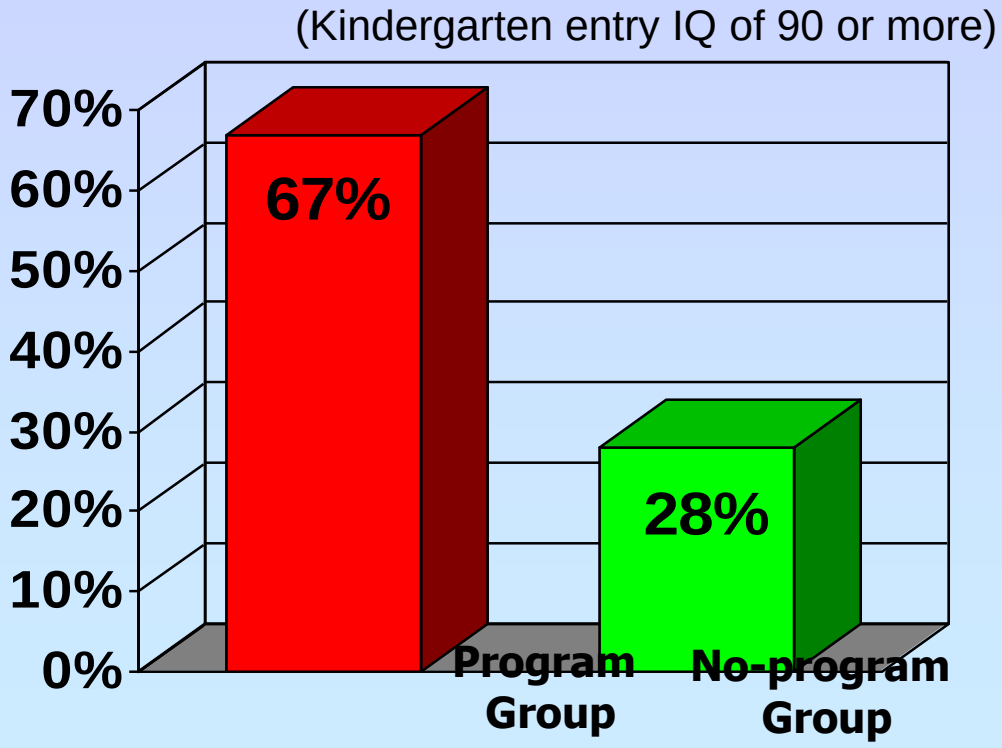
Perry Preschool Study

(Schweinhart, Barnes & Weikart, 1993)

- 123 young African-American children, living in extreme poverty and at risk of school failure
- Randomly assigned at ages 3 and 4 to program and no-program groups
- Daily High/Scope classes with planned learning activities and weekly home visits to families

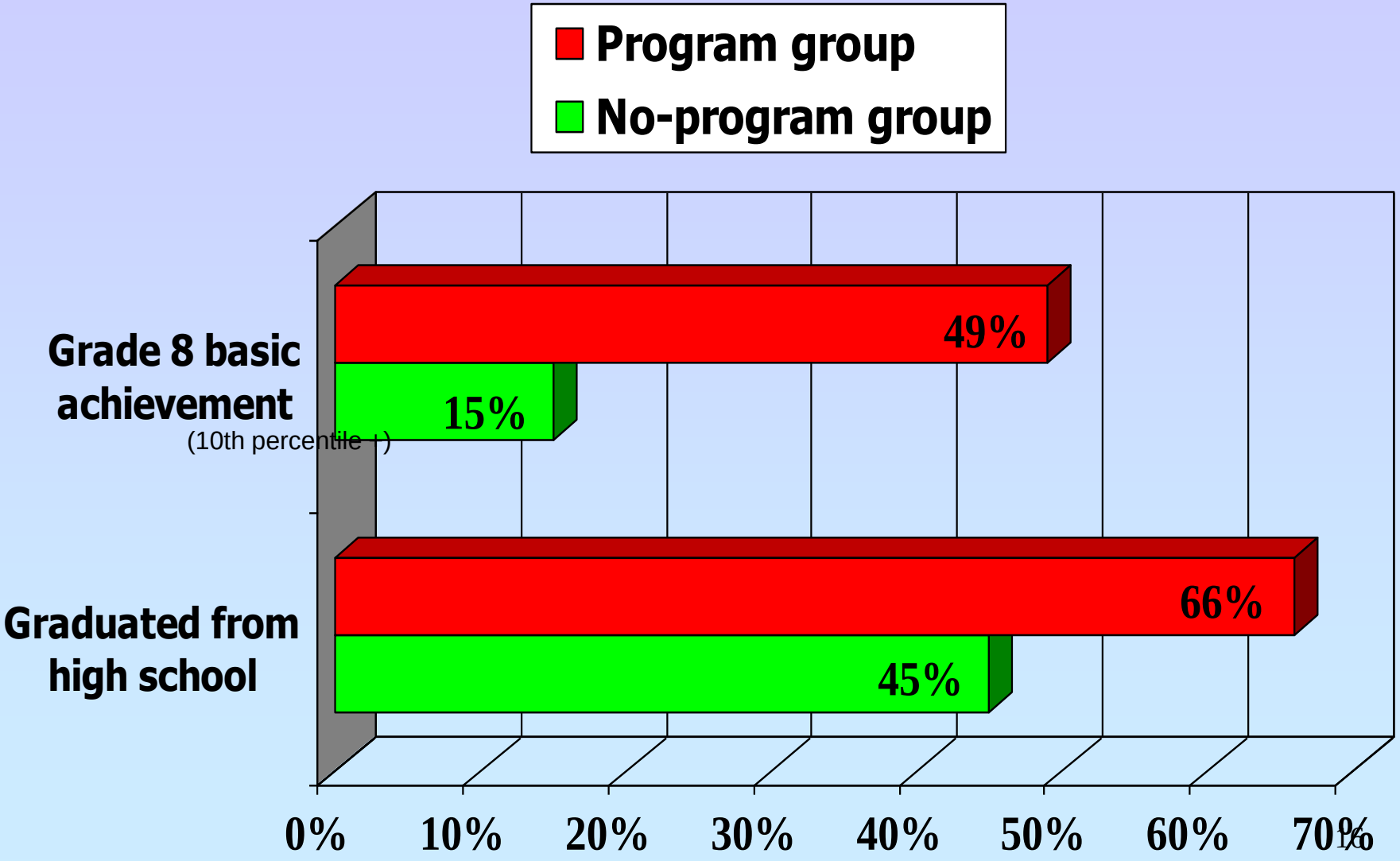
More children intellectually ready to learn

Ready to Learn



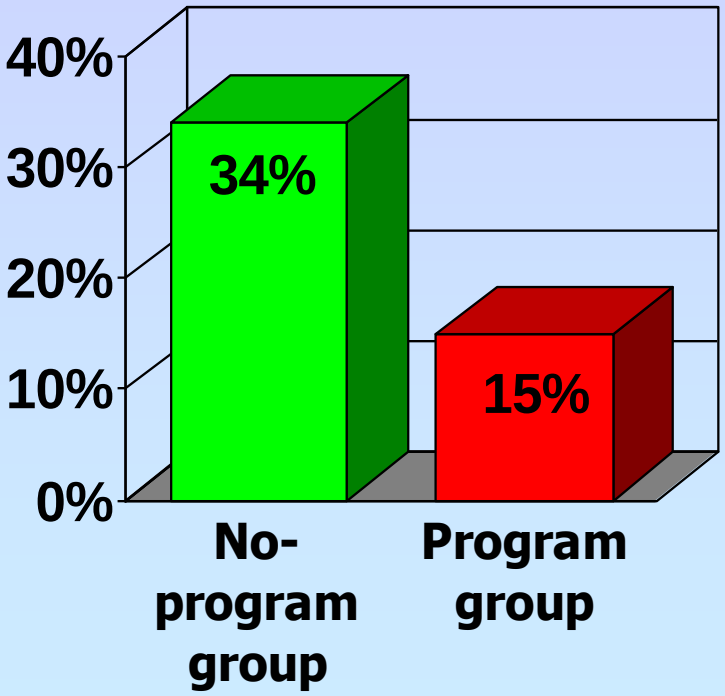
Only 1 out of 3 of these poor children would have been ready for school intellectually; high-quality preschool made 2 out of 3 ready.

Higher achievement, more finishing school



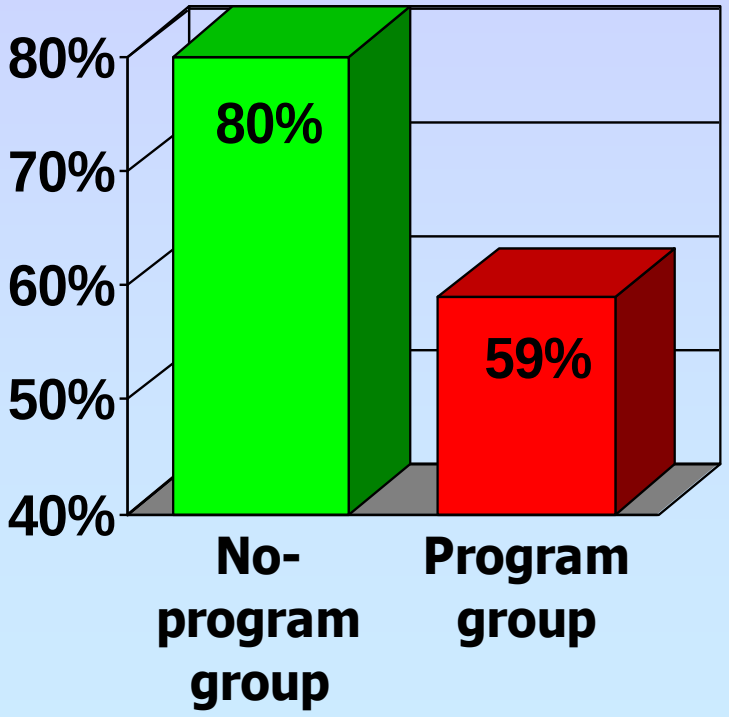
Special education savings

% Treated for Mental Impairment

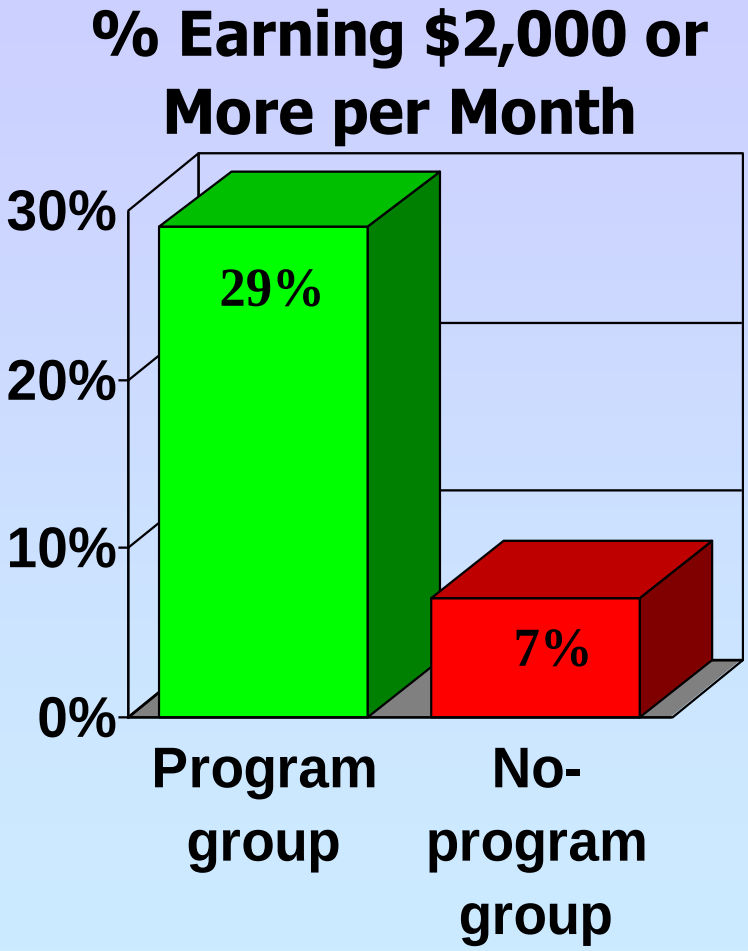


Welfare savings

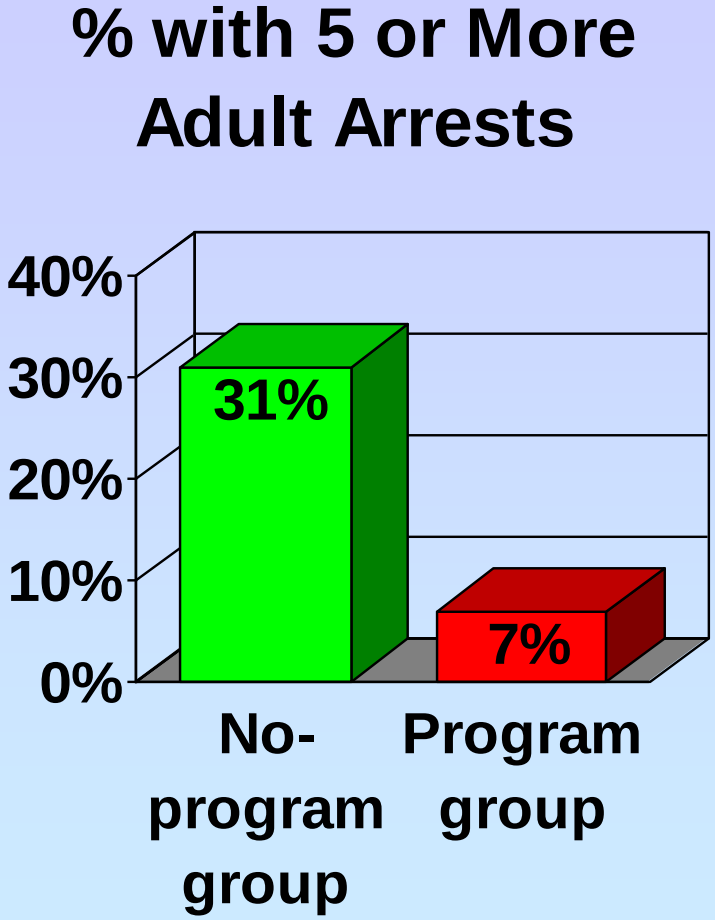
% Receiving Welfare as Adults



Additional tax revenues

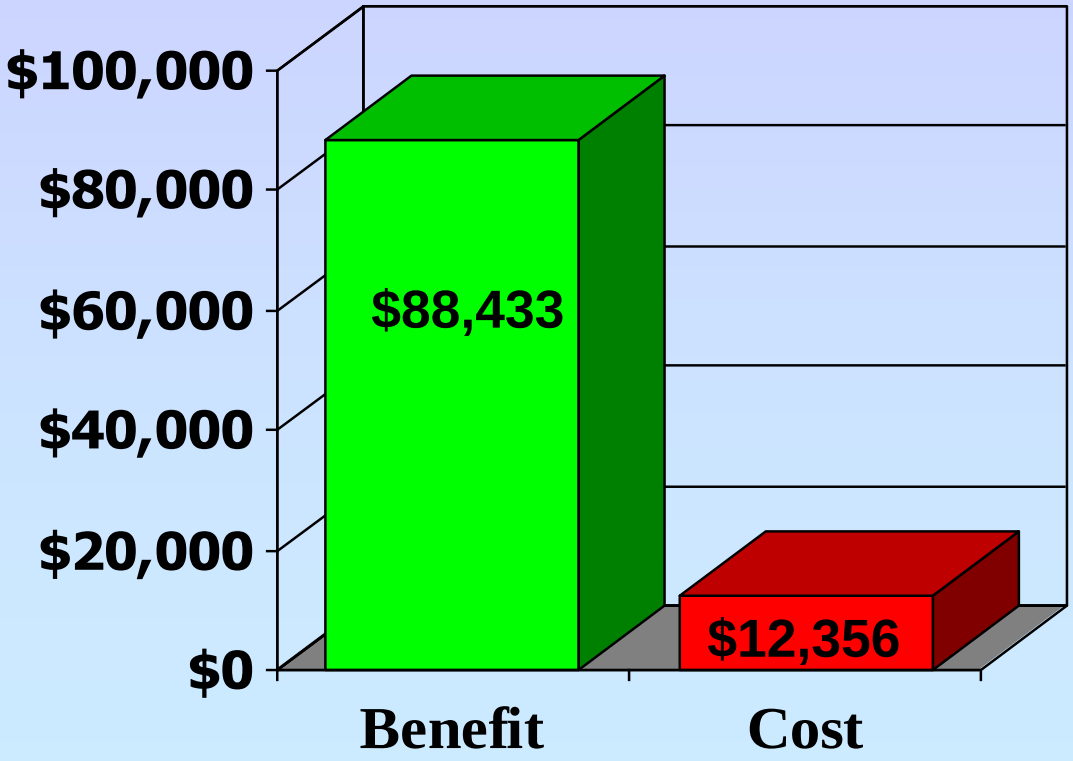


Justice system savings



Return on investment

Program Benefits Versus Cost



1992 dollars, 3% annual discount rate

Return on the dollar invested

$7.16

Abecedarian Project

111 African-American disadvantaged children randomly assigned at age 3 months to:

- High quality centre-based provision

  (day-care and preschool)

- Control group:

  - Both groups followed into adulthood

Abecedarian Project

Results up to age 21 years

- Intervention group showed

- Higher cognitive development from 18 months on
- Greater social competence in preschool
- Better school achievement
- More college attendance
- Delayed child bearing
- Better employment
- Less smoking and drug use
- **Cost – benefit - Savings 2.5 times costs**

Early Head Start --- 0-3year olds

3000 disadvantaged families studied from birth – randomly assigned:

- Home-based programme
- Centre-based programme
- Centre and home visits
- Control group

At age 3 intervention improved Cognitive and Language Development,

sustained attention and reduced aggression

Also:

- Improved parent-child interaction
- Improved home environment (more reading – less spanking)

Centre and home > centre > > home-based

Also – better implementation overall ➞ better effects

What about the general population?

Are the early years important for all?

Non-intervention studies – General population

Day Care Project – London 1980's

Effective Preschool & Primary Education – EPPE

3000 children followed from age 3

Effective Preschool Provision in Northern Ireland - EPPNI

London Day Care Project - 1980's

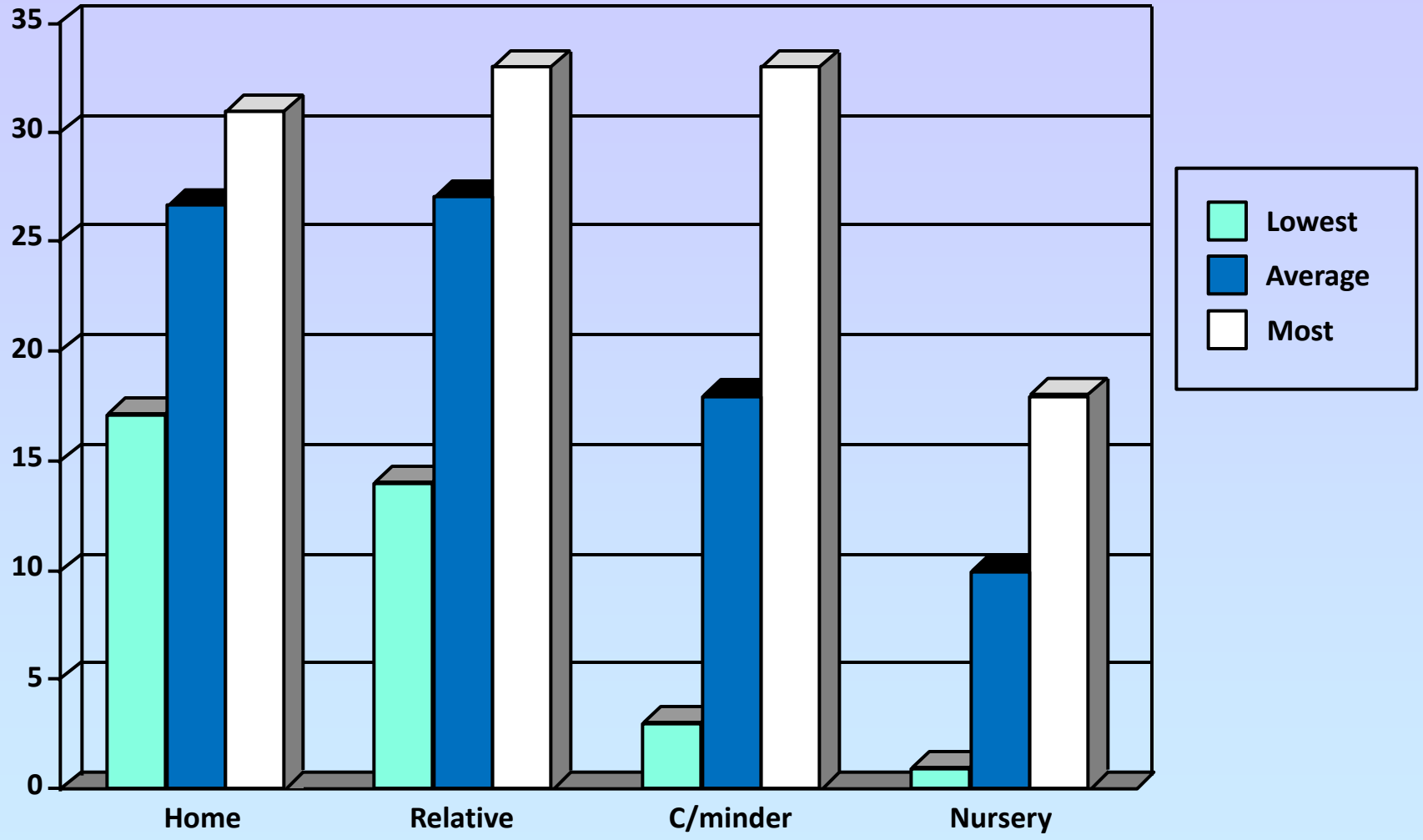
(Melhuish et al., 1990)

255 children studied 0-6 years

4 groups

1. Home - no non-parental care
2. Relative day care - grandmother etc.
3. Childminder – individual carer
4. Nursery – Group day care

Childcare Quality



MAJOR RESULTS

After controlling for family background factors

1. Language development related to quality of care in first 3 years
   – particularly communication and responsiveness

2. These effects persisted to 6 years of age

3. Stability of care associated with quality of care.

Results from this study informed the childcare regulations in the 1989 Children Act

Similar results found in several countries:

- Quality of childcare affects development.
- The biggest effects in first 3 years for language development.
- Those children with good language development then do better on literacy and most educational outcomes.

NICHD Study of Early Child Care in USA

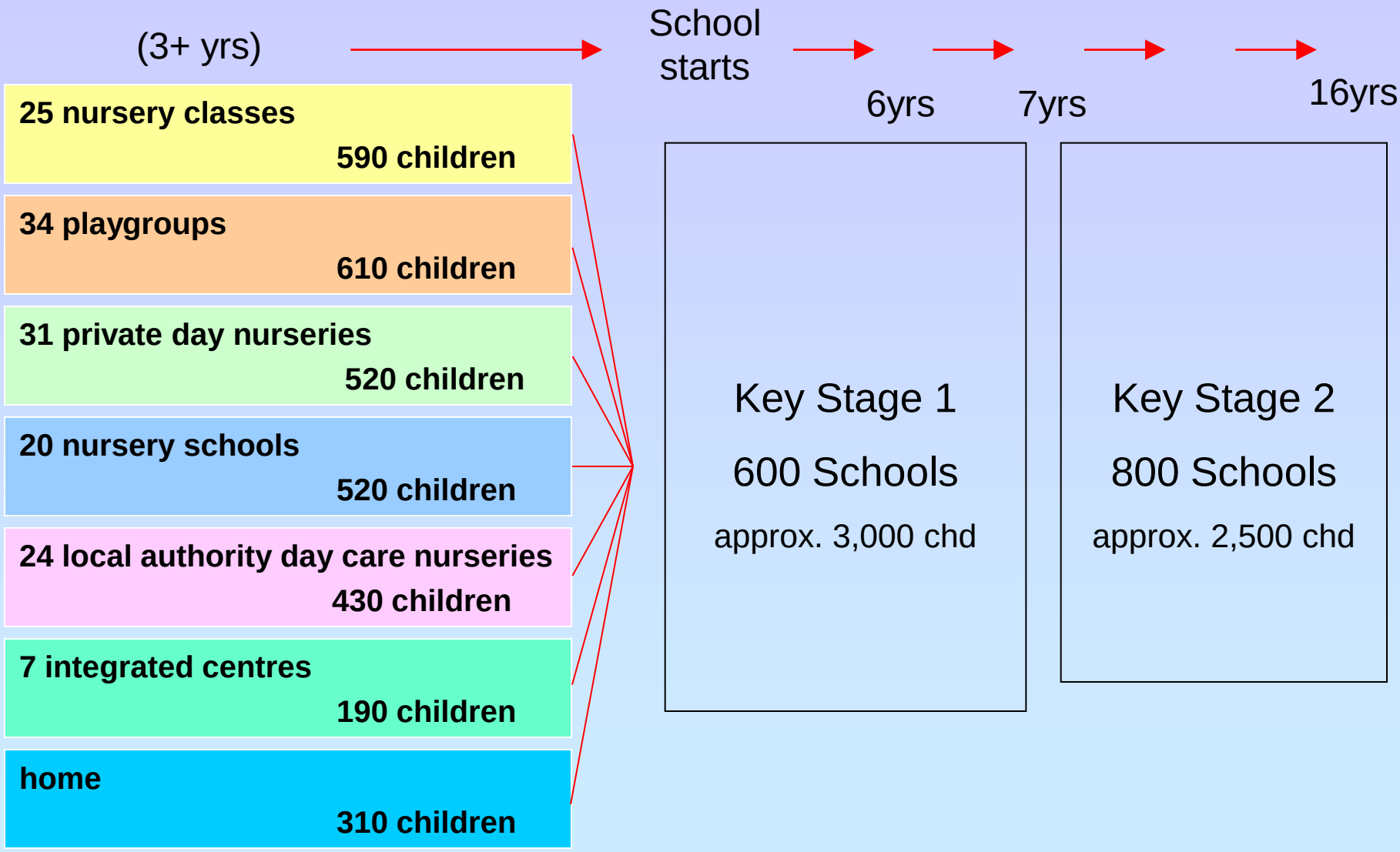
Early Child Care has Benefits and Risks

- **Higher quality child care linked to**
  - better pre-academic skills
  - better language skills
- **Experience in child care centres linked to**
  - better language skills
  - more problem behaviors
- **More hours in child care centres linked to**
  - more problem behaviors—aggression, disobedience

Effective Pre-School and Primary Education EPPE

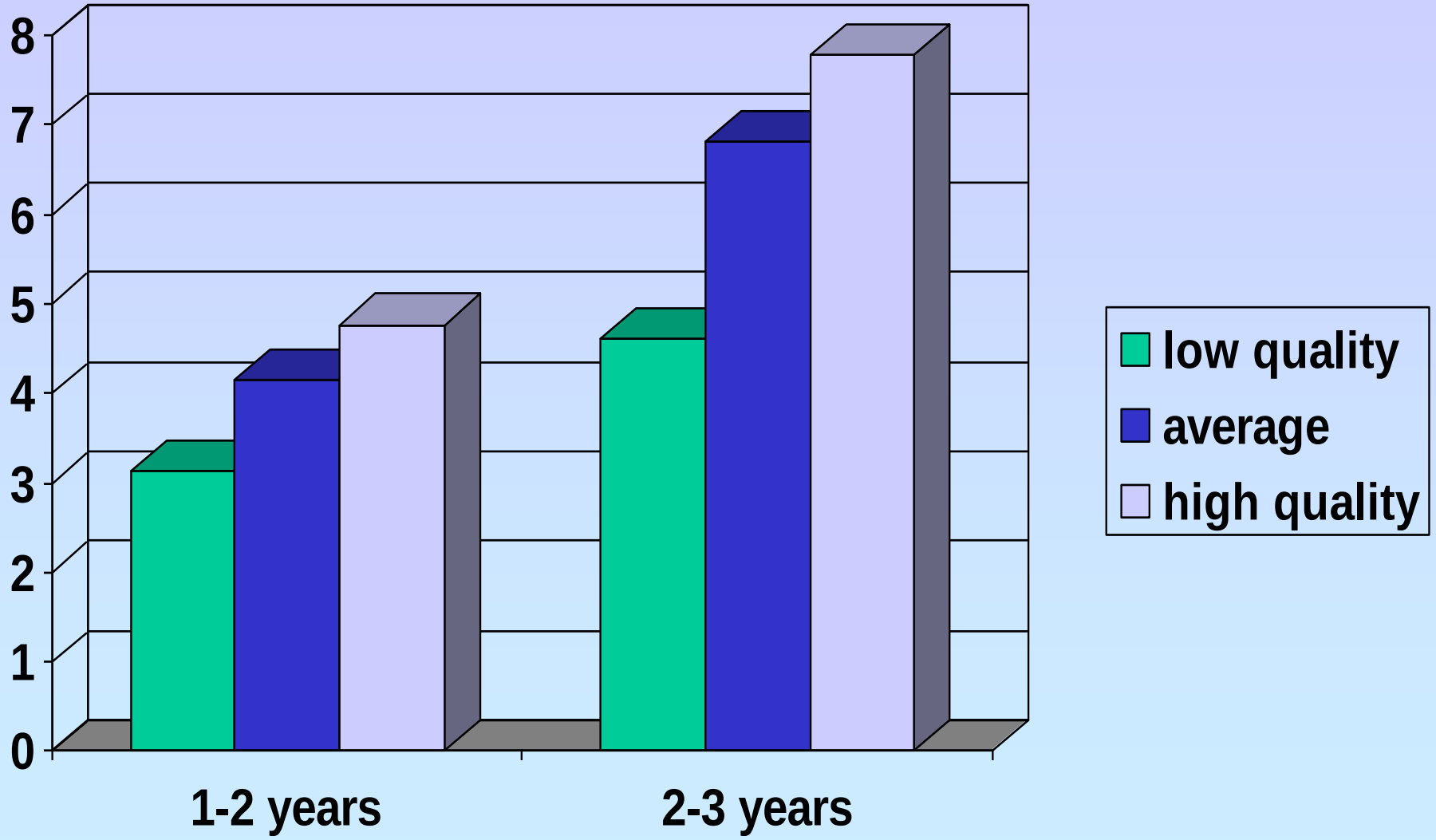
Kathy Sylva – University of Oxford
Pam Sammons – University of Oxford
Iram Siraj-Blatchford – Institute of Education, University of London
Brenda Taggart – Institute of Education, University of London
Edward Melhuish – Birkbeck, University of London

EPPE STUDY

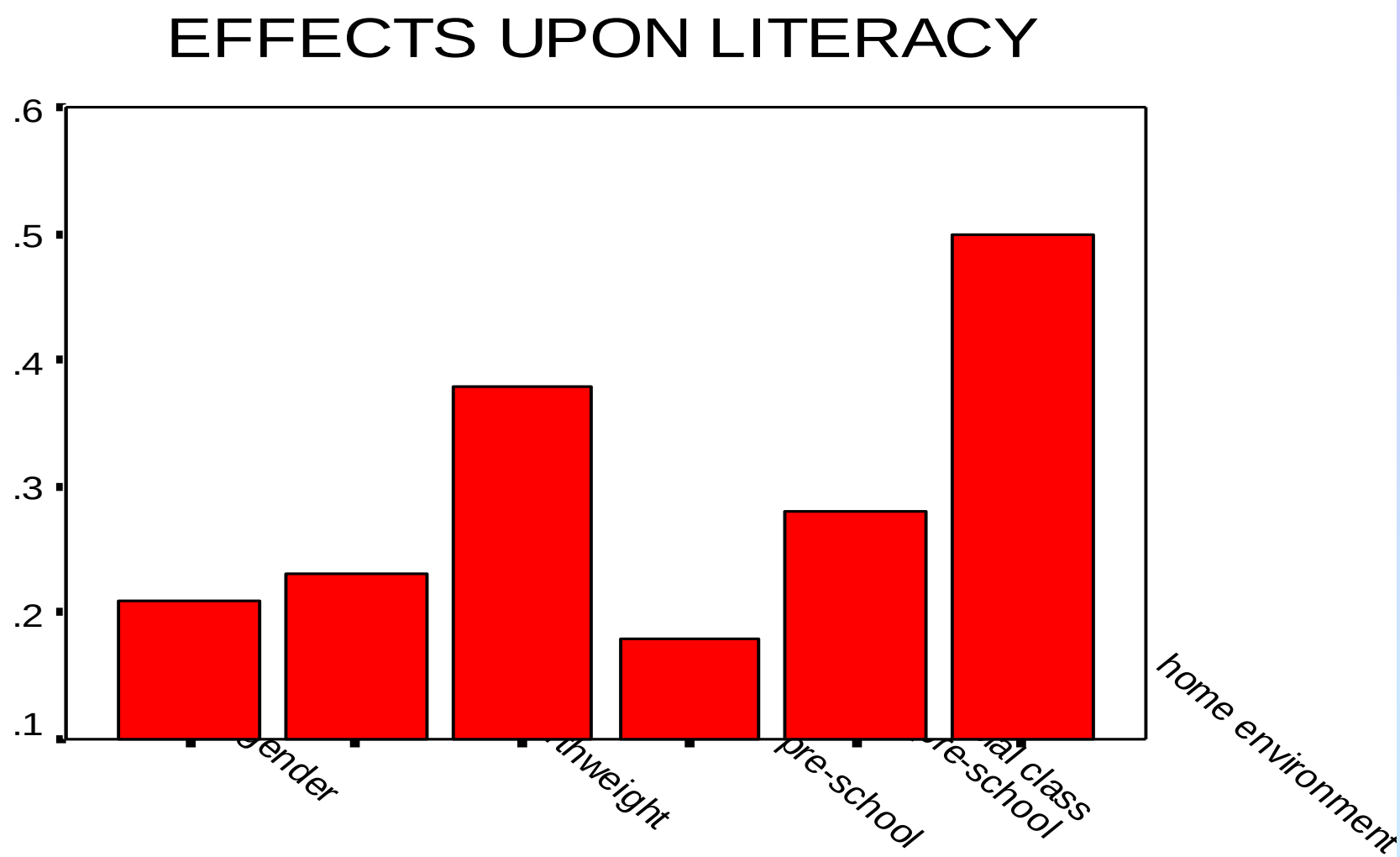

(3+ yrs)
School starts
6yrs
7yrs
16yrs
25 nursery classes
590 children
34 playgroups
610 children
31 private day nurseries
520 children
20 nursery schools
520 children
24 local authority day care nurseries
430 children
7 integrated centres
190 children
home
310 children
Key Stage 1
600 Schools
approx. 3,000 chd
Key Stage 2
800 Schools
approx. 2,500 chd

Quality and Duration matter

(months of developmental advantage on literacy)



Effects of child, home, and pre-school compared



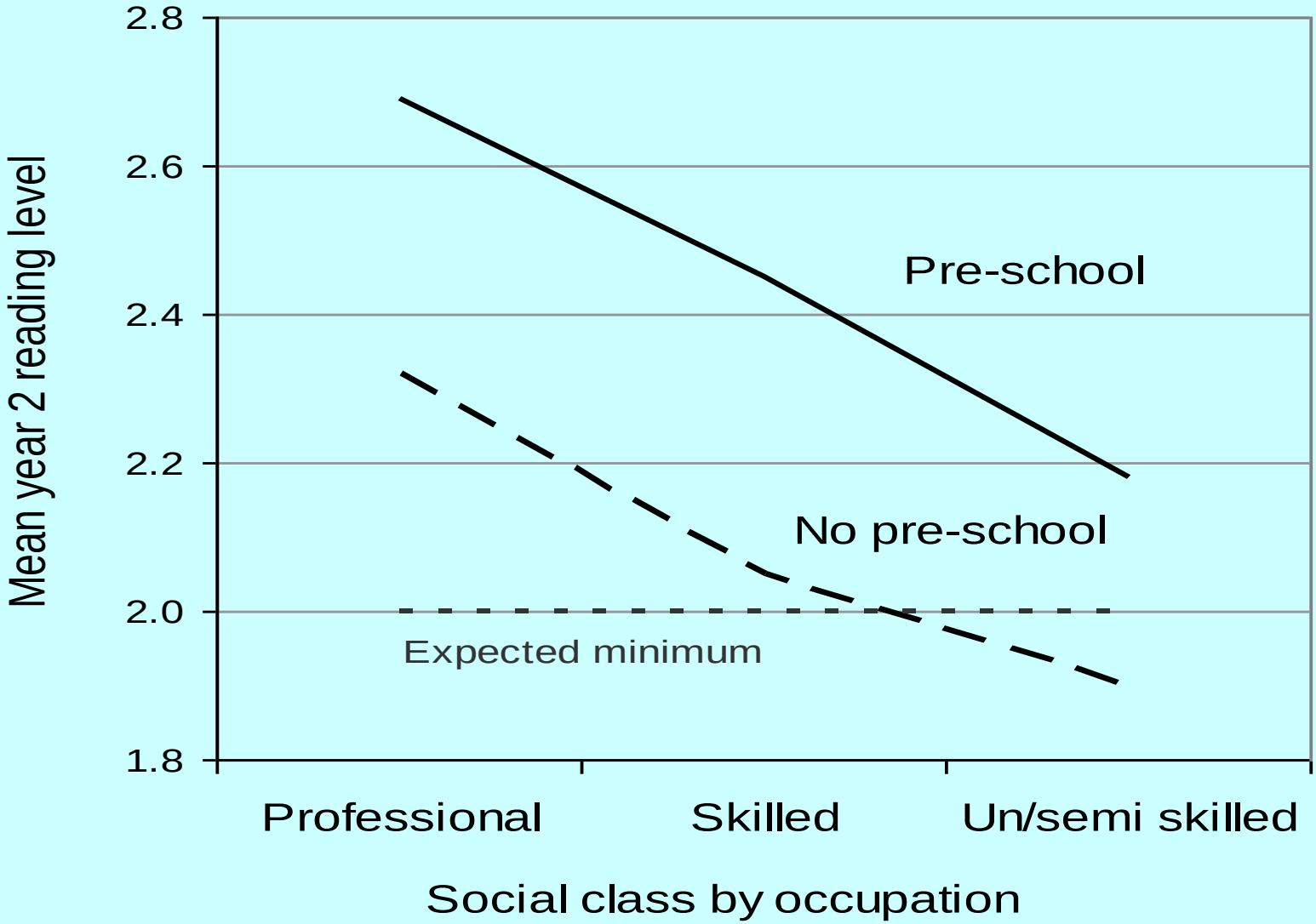
Home Learning Environment

Parents were asked about learning and play activities in the home. An index of the home learning environment (HLE) was constructed. There were seven types of home learning activities. These were:

- Reading
- Painting and drawing
- Playing/ teaching with numbers /shapes
- Library visits
- Playing/ teaching the alphabet or letters
- Playing with letters or numbers
- Playing/teaching of songs/ nursery rhymes

Each activity was rated on a scale 0–7 where 0 is not occurring and 7 is occurring very frequently. These ratings were then combined to form the Home Learning Environment index (HLE) (Melhuish et.al. (2001).

Social class and pre-school on literacy (age 7)



Effective Pre-schools

Five areas were particularly important:

- **Quality of the adult-child verbal interaction.**
- **Knowledge and understanding of the curriculum.**
- **Knowledge of how young children learn.**
- **Adults skill in supporting children in resolving conflicts.**
- **Helping parents to support children's learning at home.**

Measuring the effectiveness of primary schools

- **Data every child in England in state school**

- **600, 0000 children in each year,**
  N = 15,771 primary schools

We used data to calculate the effectiveness of each school

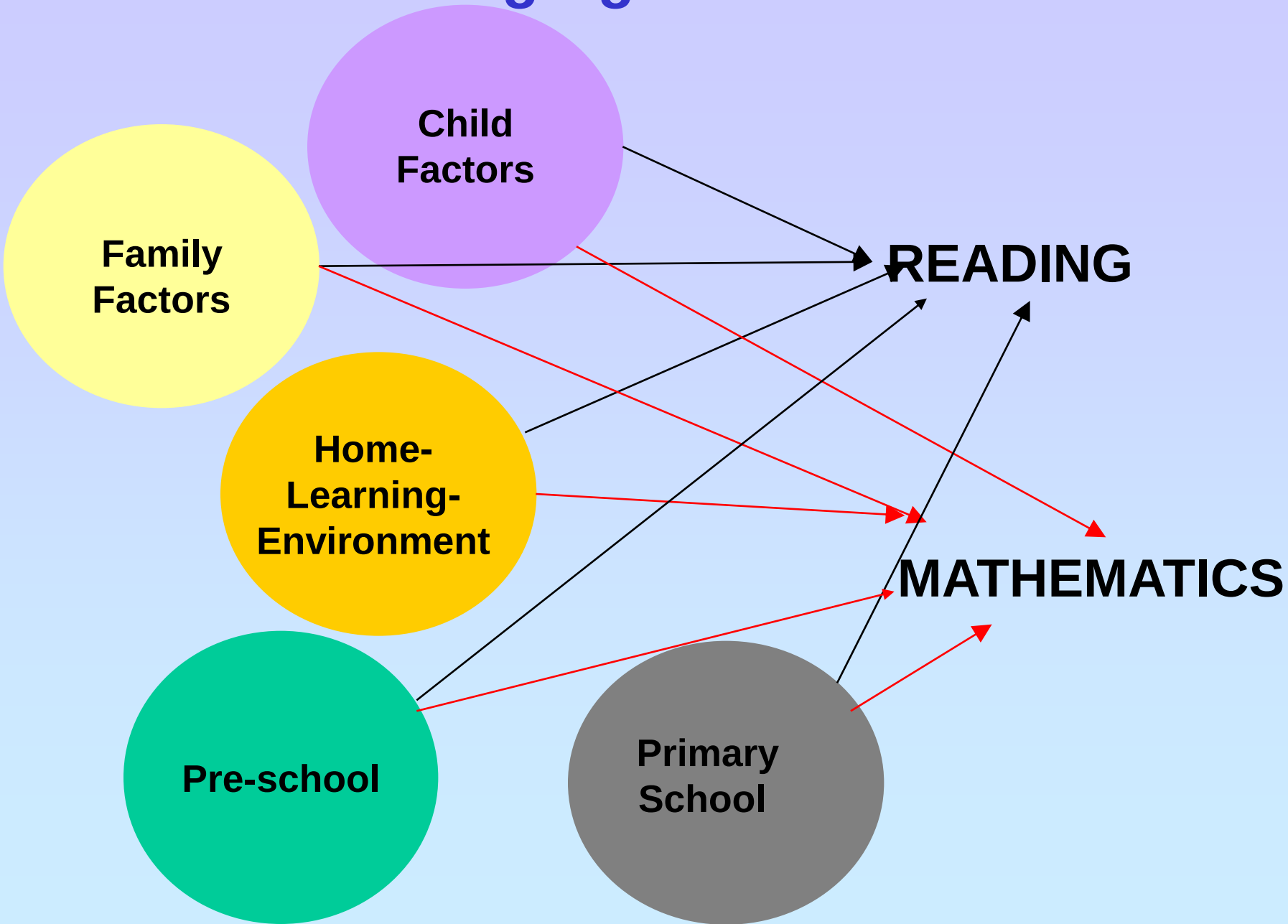
EFFECTIVENESS

- **Schools where children make greater progress than predicted on the basis of initial attainment and pupil and area characteristics can be viewed as *more effective*.**

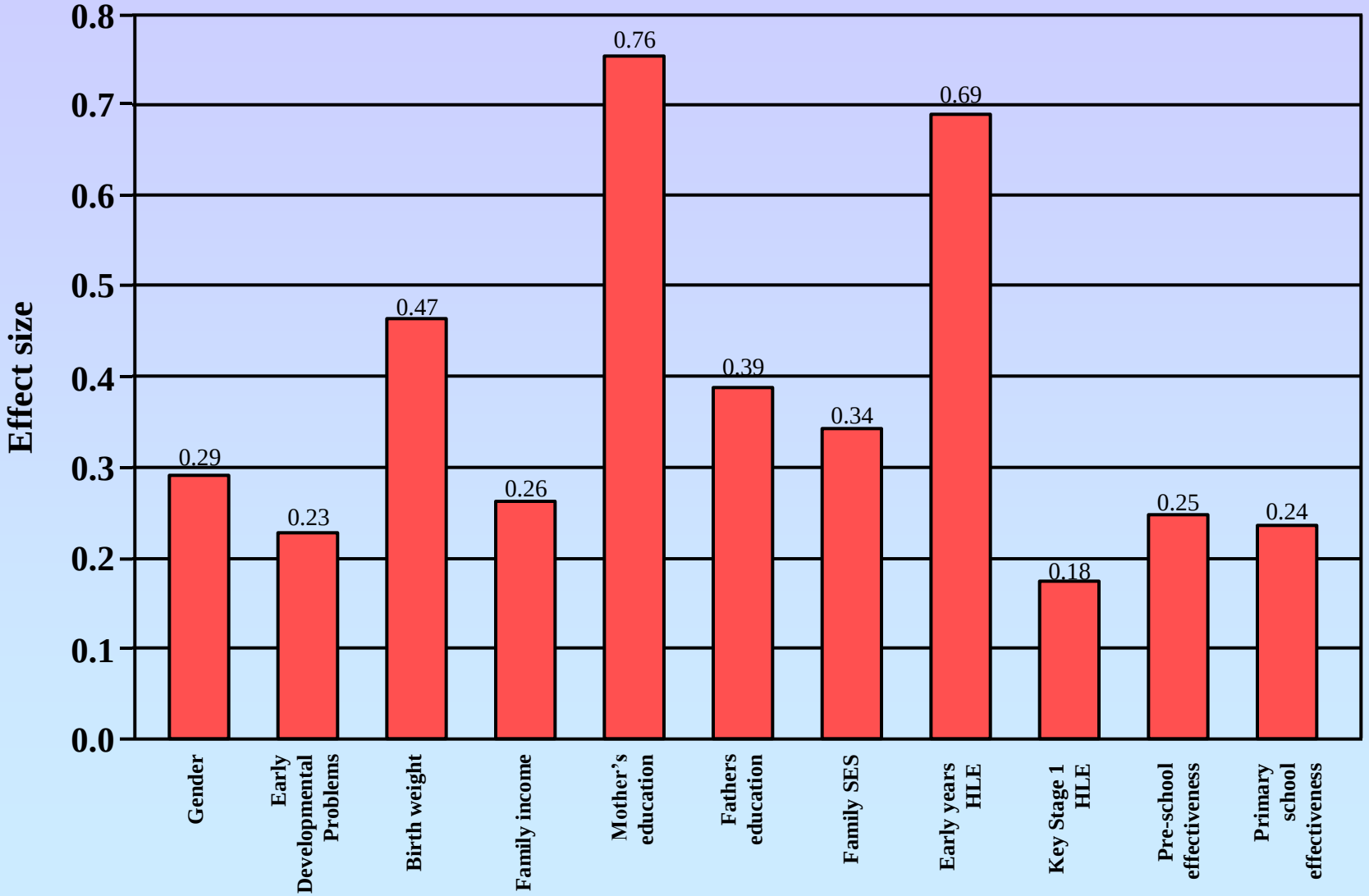
- **Schools where children make less progress than predicted can be viewed as *less effective*.**

We have a continuous scale of school effectiveness

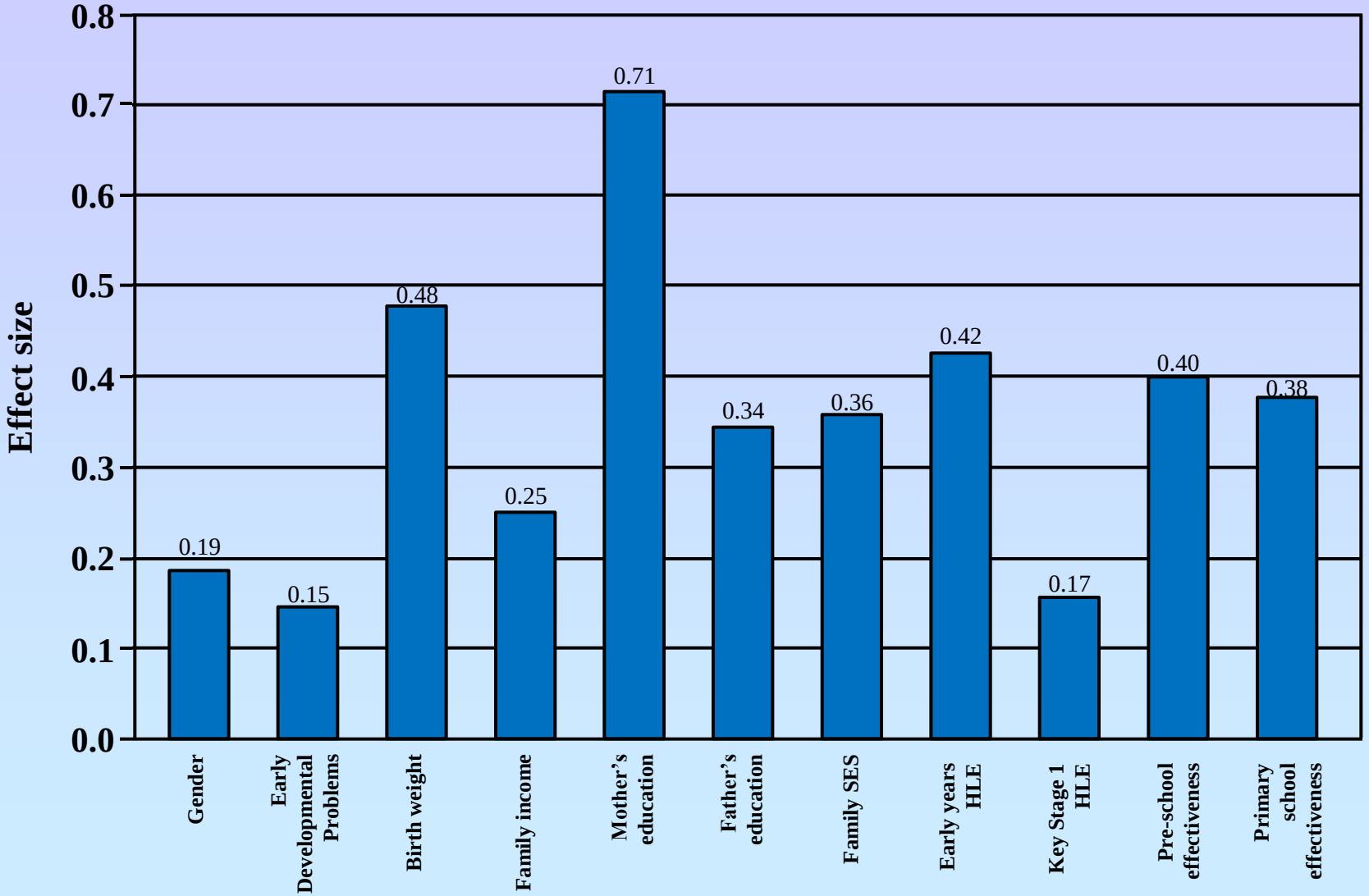
Modelling Age 11 outcomes



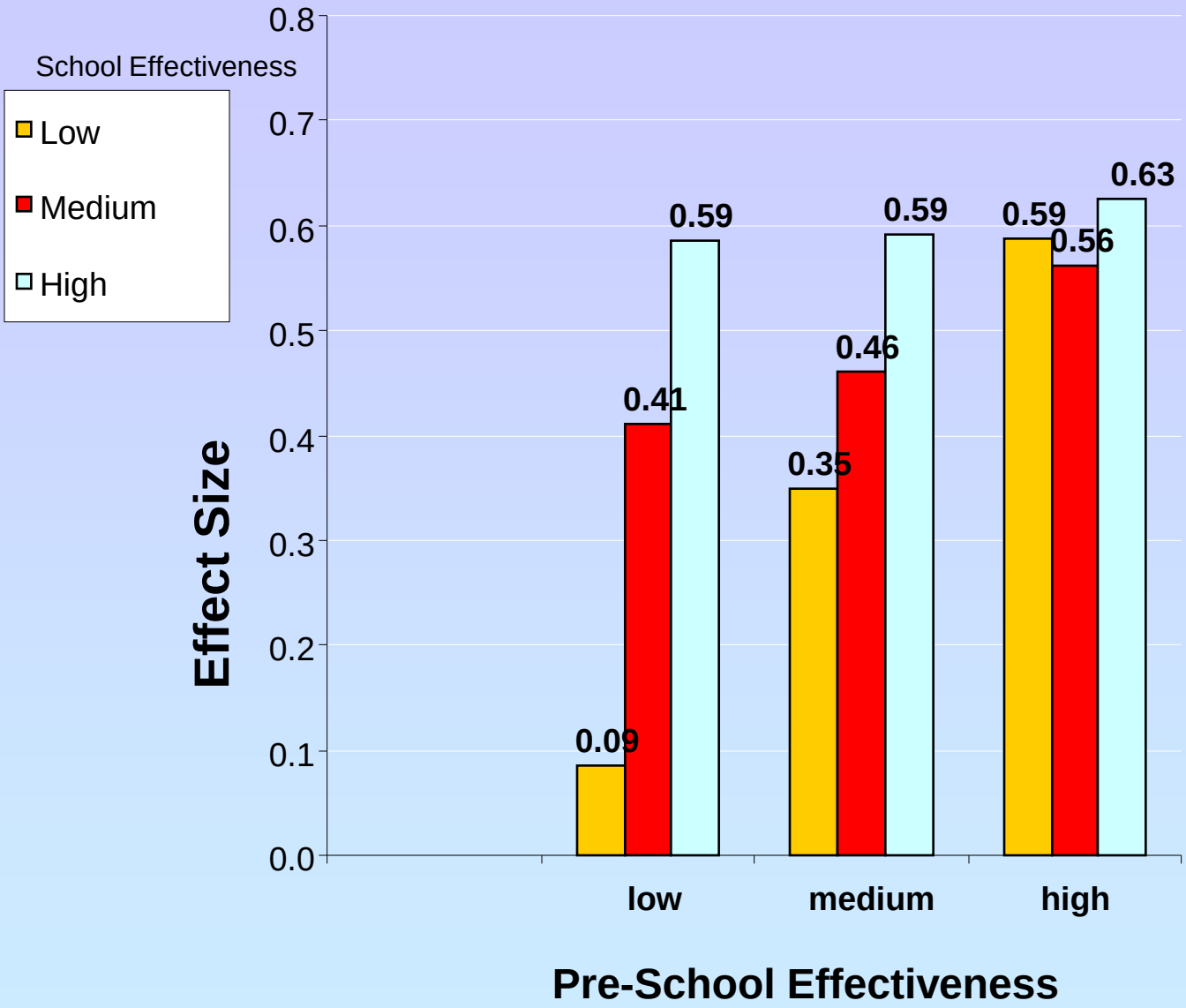
Effects sizes for Literacy – age 11



Effect sizes for Numeracy – age 11

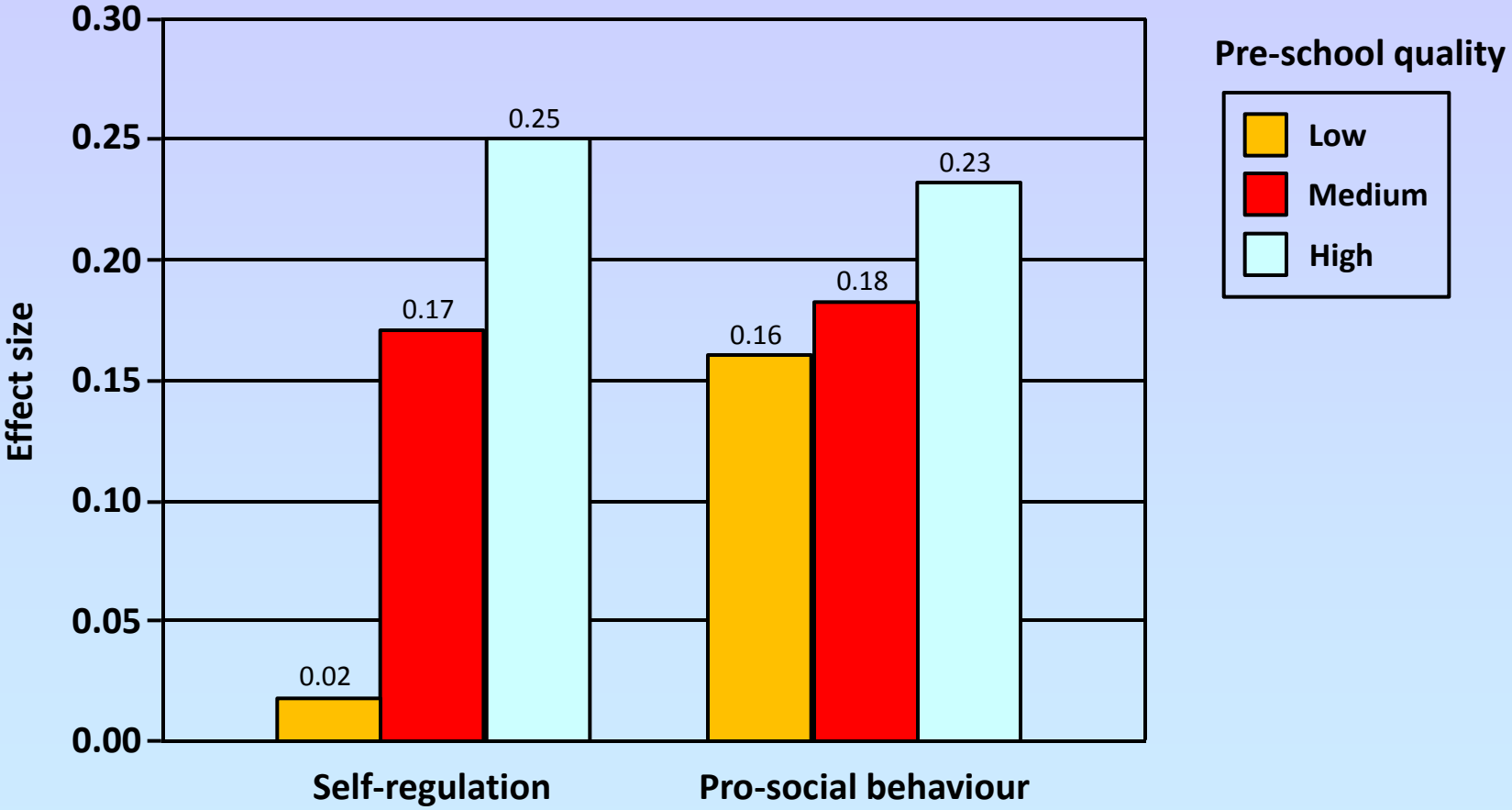


Combined Impact of Pre- and Primary School – Maths

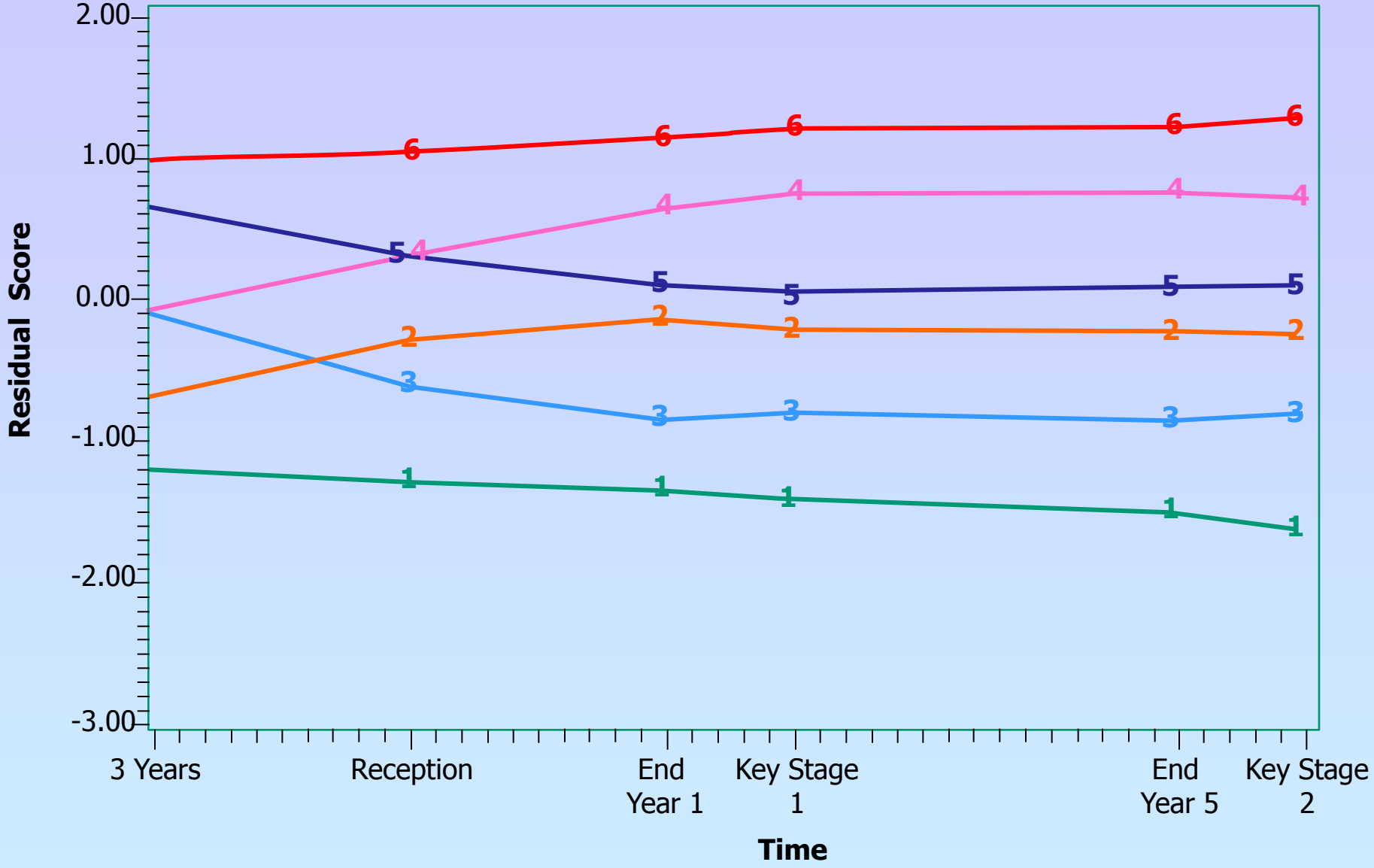


Reference Group: No Pre-School and low Primary School Effectiveness

Pre-school Quality and Self-regulation and Pro-social behaviour (age 11)



Trajectories for Numeracy



Group % 1 1 1 8.2% 2 2 2 19.6% 3 3 3 18.8% 4 4 4 17.3% 5 5 5 23.2% 6 6 6 12.9 %

EFFECTIVE PRE-SCHOOL PROVISION IN NORTHERN IRELAND (EPPNI)

Similar study to EPPE with children in Northern Ireland
850 children followed from to 11 years of age.
Similar results to EPPE in England.

At age 11, allowing for all background factors,
The effects of quality of pre-school persist until age 11 years

High quality pre-school – improved English and maths,
And improved progress in maths during primary school.

Children who attended high quality pre-schools were 2.4 times more likely in English, and 3.4 times more likely in mathematics, to attain the highest grade at age 11 than children without pre-school.

Conclusions

- From age 2 all children benefit from pre-school.
- The quality of preschool matters.
- Part-time has equal benefit to full-time.
- Quality of preschool effects persist until at least the end of primary school.
- High quality preschool can protect a child from consequences of attending low effective school.

What matters

3 elements that can lead to educational success

Good Home Learning Environment (pre-school)

Good Pre-schools for longer duration

Good Primary schools

Those children with all 3 will out-perform those with 2
who will out-perform those with 1
who will out-perform those with 0
All other things being equal

Conclusions

- From age 2 all children benefit from pre-school.
- The quality of preschool matters.
- Part-time has equal benefit to full-time.
- Quality of preschool effects persist until at least the end of primary school.
- High quality preschool can protect a child from consequences of attending low effective school.

EPPE results have influenced policy:

- Retention of nursery schools
- Free part-time pre-school place for all 3 & 4 year-olds (2004)
- Extension of parental leave (2004)
- 10-year Childcare Strategy (2004)
- Guidance for Children's Centres (2005)
- Childcare Bill (2006)
- Acceptance that money spent on pre-school produces savings later

Magnusson, Meyers Ruhm & Waldfogel (2003)

Results for US nationally- representative sample of 12,800 children

Age 5 Reading by sub-group & pre-school quality:

- Comparison with no pre-school

Year Before	READING				
	ALL	**Poverty**	**Low Mother Educ.**	**Single Parent**	**Non-English**
Pre-school (High Quality)	1.66**	2.23**	3.44**	3.10**	2.72**
Pre-school (Low Quality)	1.34**	1.48*	1.21	2.11**	1.56**

Goodman & Sianesi (2005). Early education and children's outcomes: How long do the impacts last? *Fiscal Studies, 26*, 513-548.

Pre-school in a random sample of children born in 1958 in UK

Effects on cognition and socialisation are long-lasting.

Controlling for child, family and neighbourhood, there were **long-lasting effects from pre-school education**.

pre-school leads to **better cognitive scores at 7 and 16 years**
In adulthood, pre-school was found to increase

the **probability of good educational qualifications** and **employment at age 33**, and
better earnings at age 33.

PISA results for 2009

15-year-olds who had attended pre-school were on average a year ahead of those who had not.

Also, PISA results suggest that pre-school participation is strongly associated with reading at age 15 in countries that

1. have sought to improve the quality of pre-school education
2. provide more inclusive access to pre-school education.

PISA 2009 - the relationship between pre-school and performance at age 15 is strongest when

1. larger % of population can use pre-school
2. pre-school is for more months
3. pre-school has smaller pupil-to-teacher ratios
4. more in spent per child in pre-school

OECD report on PISA results

"The bottom line: Widening access to pre-primary education can improve both overall performance and equity by reducing socio-economic disparities among students, if extending coverage does not compromise quality."

OECD (2011). *Pisa in Focus 2011/1: Does participation in pre-primary education translate into better learning outcomes at school?*. Paris: OECD. Available at **www.pisa.oecd.org.dataoecd/37/0/47034256.pdf**

International Perspectives

Countries planning for economic expansion are increasing their investment in pre-school education.

E.g. China, New Zealand, Scandinavia, Canada, some US states (e.g. California, Minnesota, Massachusetts).

See

Melhuish & Petrogiannis (Eds.) (2006)

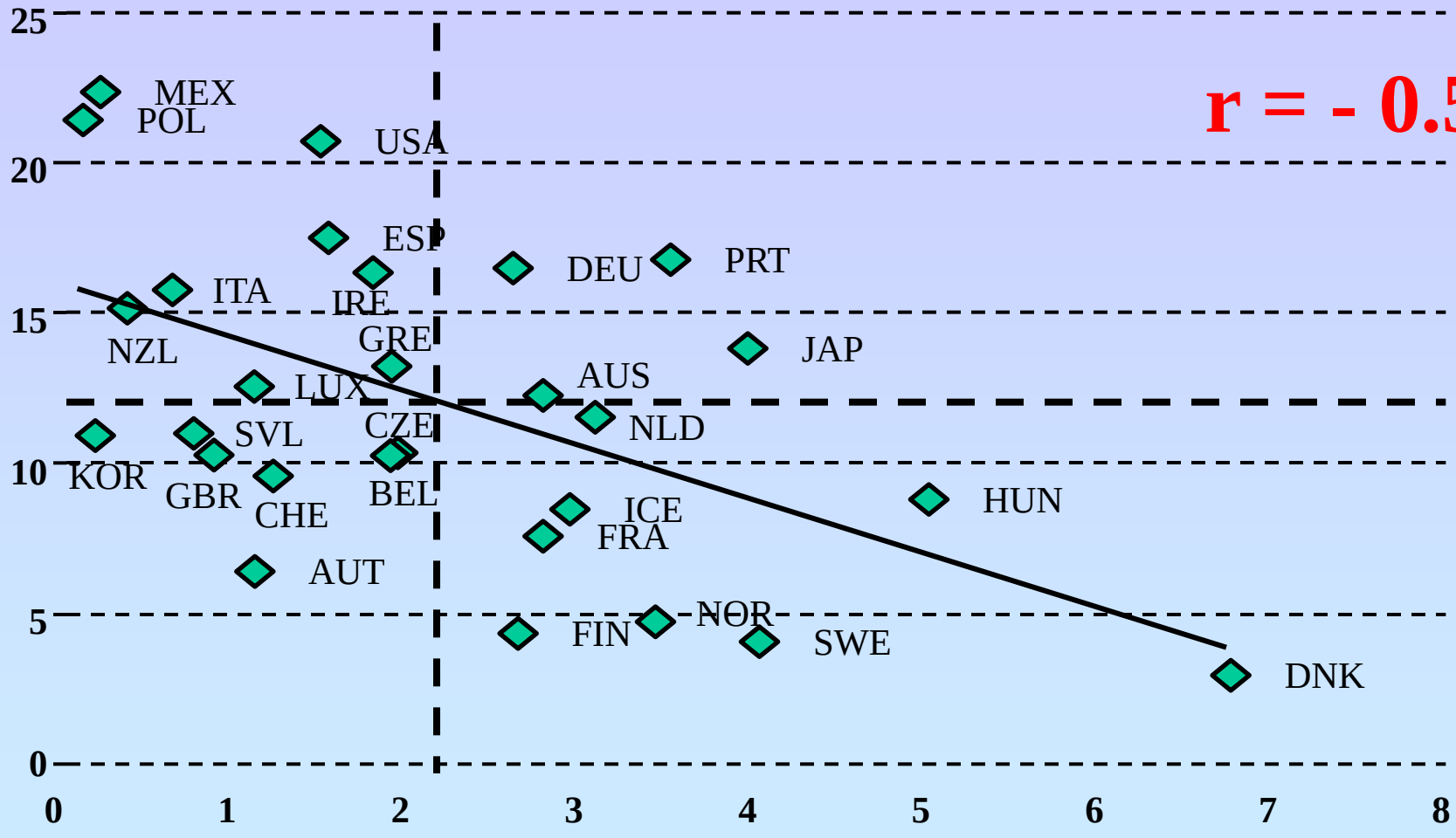
Early Childhood Care & Education: International Perspectives.

London: Routledge

Some governments are realising-

Good quality pre-school is an essential component of the infrastructure for sustained economic development

Early childhood spending is linked with lower poverty rates



Early childhood spending as a proportion of median income - 2003

For more information

EPPE: eppe.ioe.ac.uk

Melhuish, E. et al. (2008). Preschool influences on mathematics achievement. *Science, 321*, 1161-1162.

Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I. and Taggart, B., (Eds) (2010). *Early Childhood Matters: Evidence from the Effective Pre-school and Primary Education Project*. London: Routledge

Reviews

Melhuish, E. C. (2004). *A literature review of the impact of early years provision upon young children, with emphasis given to children from disadvantaged backgrounds: Report to the Comptroller and Auditor General.* London: National Audit Office. Available at www.nao.org.uk/publications/0304/early_years_progress.aspx

OECD (2009). Doing Better for Children
www.oecd-ilibrary.org/social-issues-migration-health/doing-better-for-children_9789264059344-en

European Commission (2011). Early Childhood Education and Care: Providing for all our children with the best start for the world of tomorrow. Brussels, 12.2.2011. COM (2011) 66final. Available at: ec.europa.eu/education/school-education/doc/childhoodcom_en.pdf