



# **‘Effective Pre-school, Primary and Secondary Education’ : Longitudinal research findings**

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# 'Effective Pre-School, Primary and Secondary Education' (EPPSE ) 1997 – 2015



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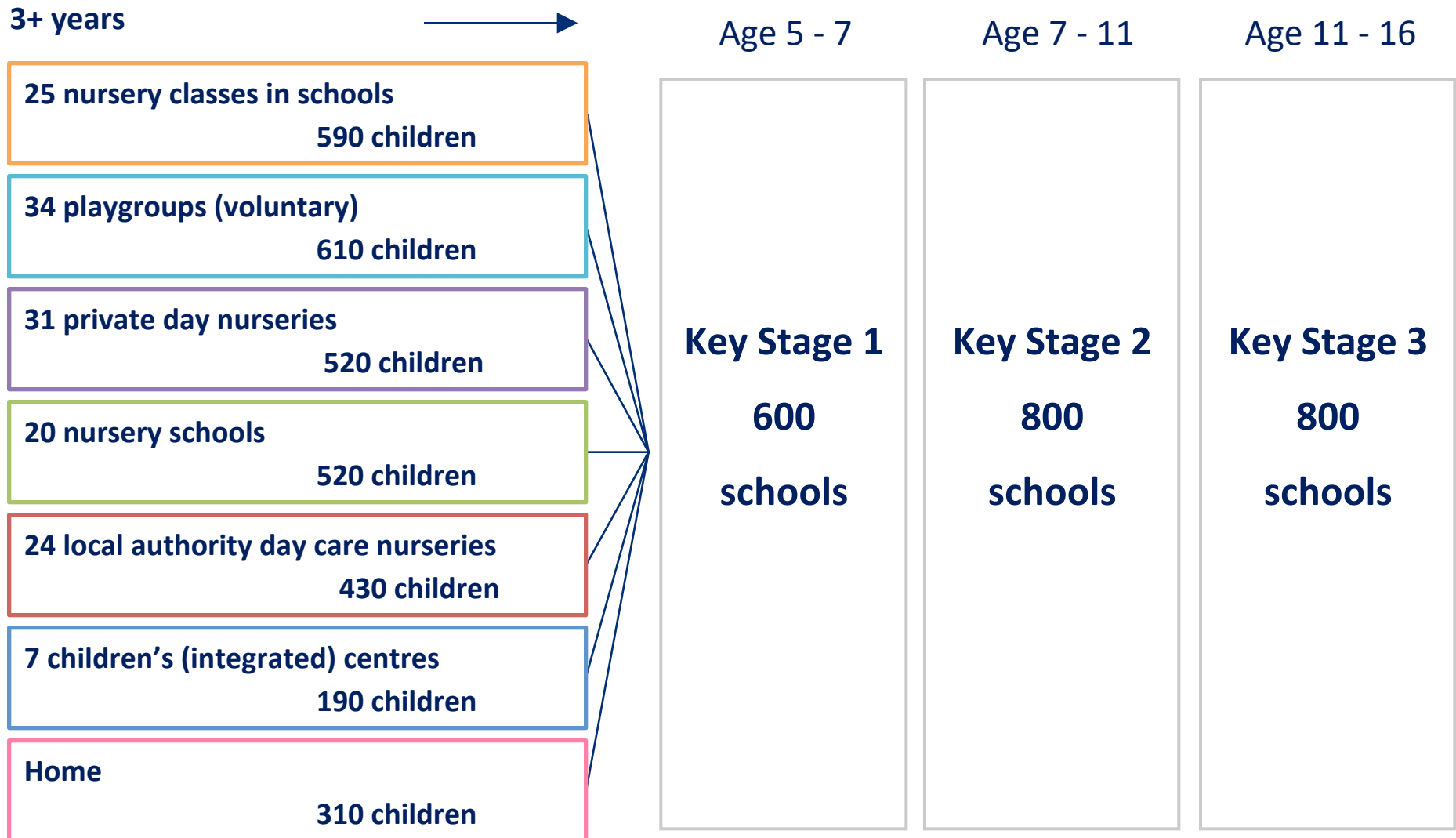
# The Early Education System in England

- Funded and regulated (via inspection) by Ministry of Education
- ECEC is free for age 3-5+ years , and from age 2 for disadvantaged children
- All Pre-school providers follow the same 'Early Years Foundation Stage' curriculum 0-5+ yrs
- Development of all children is monitored at age 5 via the 'Foundation Stage Assessment' (based on teacher observation/ test)
- Final year of the Foundation Stage is in 'reception class' in primary school. This is a statutory pre-primary year and is compulsory
- Children are formally assessed at ages 7, 11, 16, 18 via national tests & teacher assessment



# Effective Preschool, Primary and Secondary Education (EPPSE) design

6 Local Regions, 141 preschools, 3,000 children



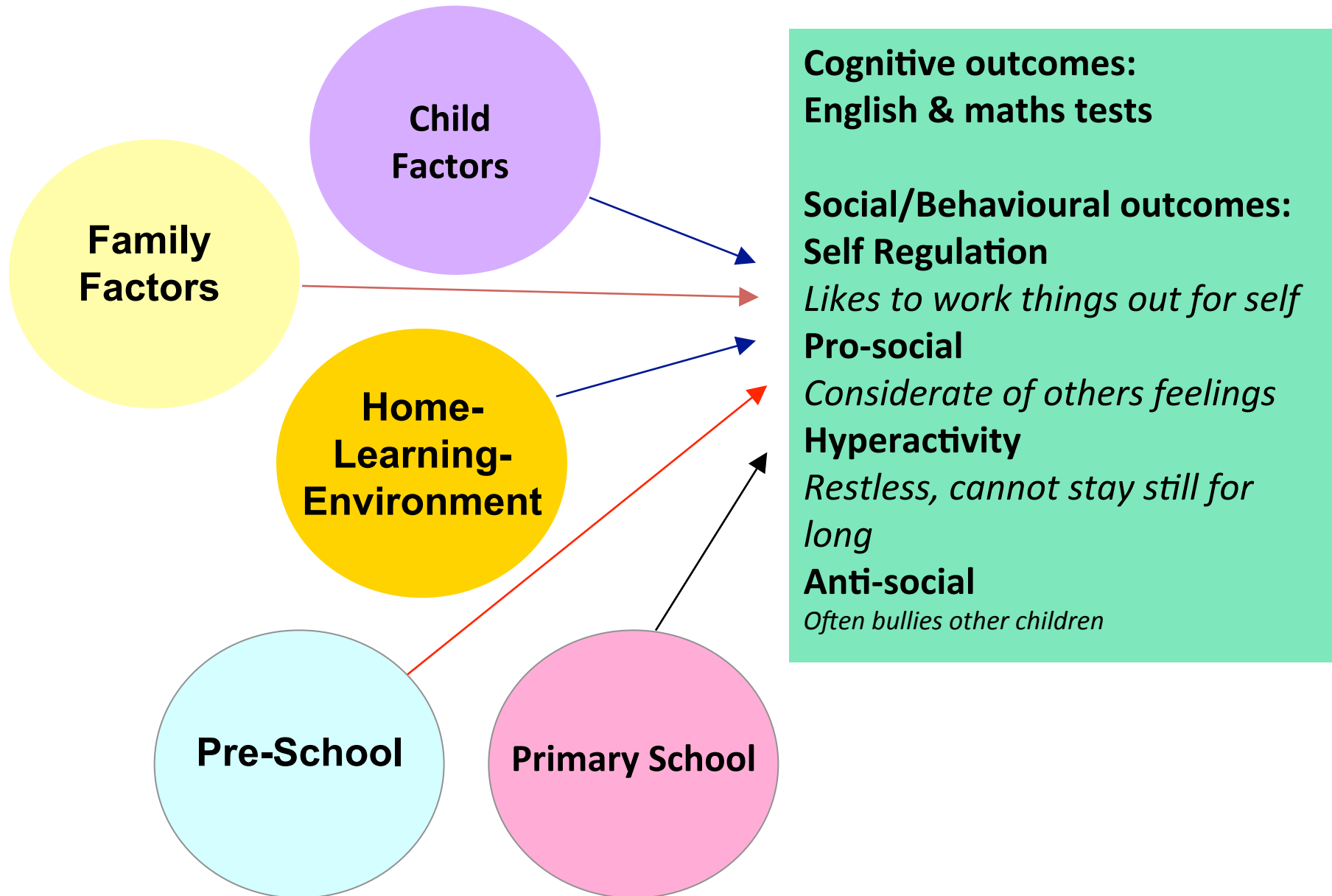
# Sources of data

- **Child assessments** 3-18 yrs on tests and teacher completed rating scales
- **1:1 Interviews/questionnaires with all parents**, e.g. socio-economic status, birth weight, ethnicity, parental education, home language, income, health, home learning activities
- **Questionnaires for children** (7-16 yrs)
- **Neighbourhood poverty** status
- Observation quality rating scales in pre-schools (**ECERS R and E**)
- **Inspection** data on schools' effectiveness
- Qual. **case studies of children** who 'succeeded against the odds' (Siraj)
- Qual. **case studies of 'effective' practice'** (Siraj and Sylva)





# Different effects on child outcomes at age 11



# Reading KS1, age 7 : social class and attendance at pre-school



# Two Early Childhood Environment Observation Rating Scales

## ECERS-R

- Based on observation
- 7 sub-scales:
  - Space and furnishings
  - Personal care routines
  - Language reasoning
  - Activities
  - Interaction
  - Programme structure
  - Parents and staff
- *Harms, Clifford & Cryer (1998)*

## ECERS-E

- Based on observation
- 4 sub-scales:
  - Literacy
  - Mathematics
  - Science and environment
  - Diversity
- *Sylva, Siraj-Blatchford & Taggart (2010)*



# Example ECERS-R item: Greeting/departing (Personal Care Routines)

Inadequate`		Minimal		Good		Excellent
1	2	3	4	5	6	7
1.1 Greeting of children is often neglected		3.1 Most children greeted warmly (Ex. staff seem pleased to see children, smile, use pleasant tone of voice)		5.1 Each child is greeted individually (Ex. staff say “hello” and use child’s name; use child’s primary language spoken at home to say “hello”)		7.1 When they arrive, children are helped to become involved in activities, if needed
1.2 Departure is not well organised		3.2 Departure well organised (Ex. children’s things ready to go)		5.2 Pleasant departure (Ex. children not rushed, hugs and good-byes for everyone)		7.2 Children busily involved until departure (Ex. no long waiting without activity; allowed to come to comfortable stopping point in play)
1.3 Parents not allowed to bring children into the classroom		3.3 Parents allowed to bring children into the classroom		5.3 Parents greeted warmly by staff		7.3 Staff use greeting and departure as information sharing time with parents

# Example ECERS-E item: Book and literacy areas (Literacy)

## Inadequate

1

2

1.1 Books are unattractive and/or not of a suitable age level

## Minimal

3

4

3.1 Some books of different kinds are available

3.2 An easily accessible area of the room is set aside for books

3.3 Some reading takes place in the book area

## Good

5

6

5.1 A variety of types of book are available

5.2 Book area used independently by children (outside group reading times)

## Excellent

7

7.1 Book area is comfortable (rug and cushions or comfortable seating) and filled with a wide range of books at many levels of complexity

7.2 Adults encourage children to use books and direct them to the book area

7.3 Books are included in learning areas outside of the book corner

# Example ECERS-E item: Food preparation (Science)

## Inadequate

1

2

1.1 No preparation of food/drink is undertaken in front of children

## Minimal

3

4

3.1 Food preparation is undertaken by staff in front of the children

3.2 Some children can choose to participate in food preparation

3.3 Some food-related discussion takes place where appropriate

## Good

5

6

5.1 Food preparation / cooking activities are provided regularly

5.2 Most of the children have the opportunity to participate in food preparation

5.3 The staff lead discussion about the food involved and use appropriate language

5.4 Children are encouraged to use more than one sense (feel, smell, taste) to explore raw ingredients

## Excellent

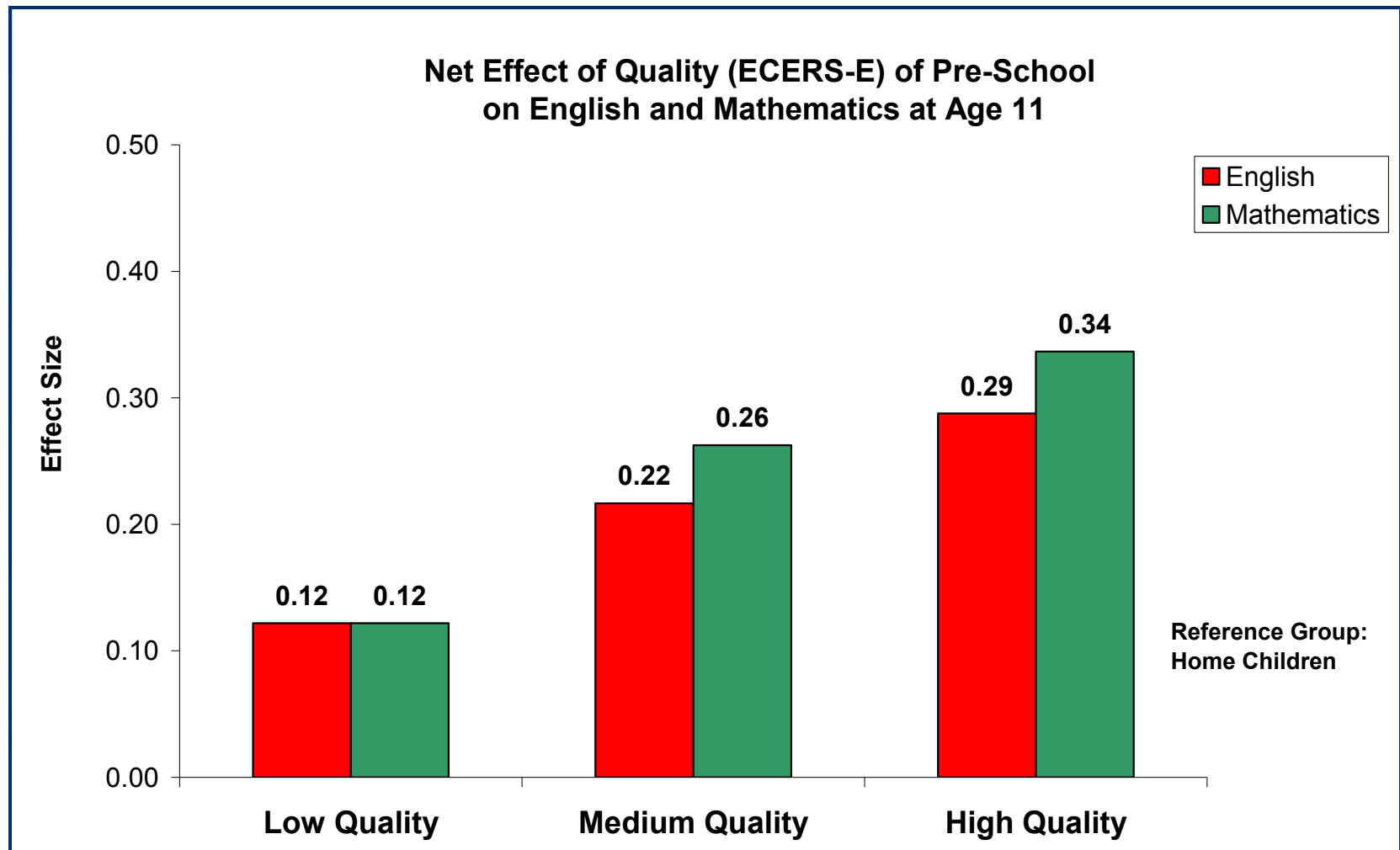
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7.1 A variety of cooking activities in which all children may take part are provided regularly

7.2 The ingredients are attractive and the end result is edible and appreciated

7.3 The staff lead and encourage discussion on the process of food preparation and/or question children about it

# The impact of pre-school pedagogical quality (ECERS-E) on English and Mathematics



# Effects of the ECERS-R on academic attainment

There is no effect of the ECERS-R on English or Mathematics at age 11. (However there was an effect on social behavioural outcomes)

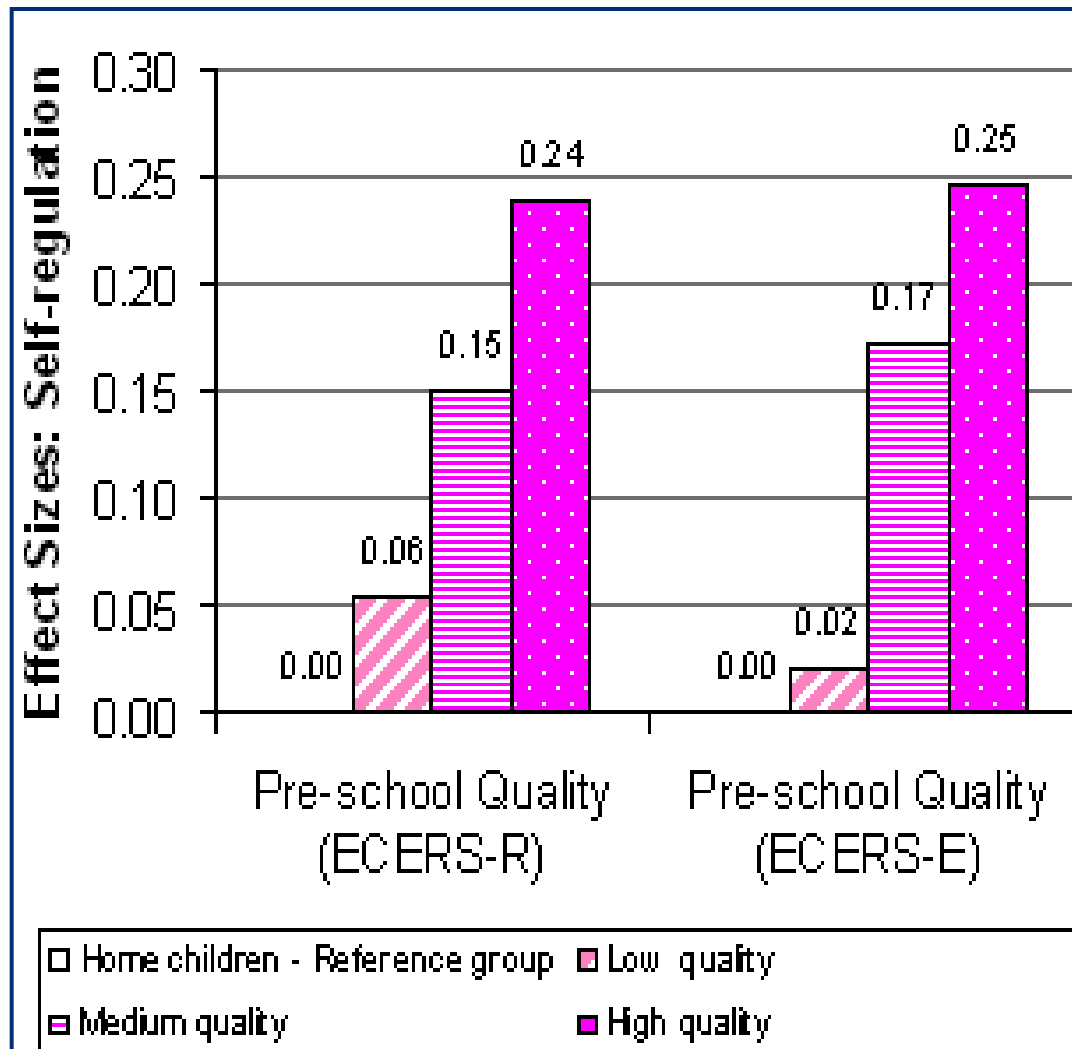


# The social behavioural outcomes at age 11 (Goodman SDQ scale extended)

- **Hyperactivity**  
e.g. 'Restless, overactive, cannot stay still for long'
- **Self regulation**  
e.g. 'Likes to work out things for self'
- **Pro-social behaviour**  
e.g. 'Considerate of other people's feelings'
- **Antisocial behaviour**  
e.g. 'Bullies other children'

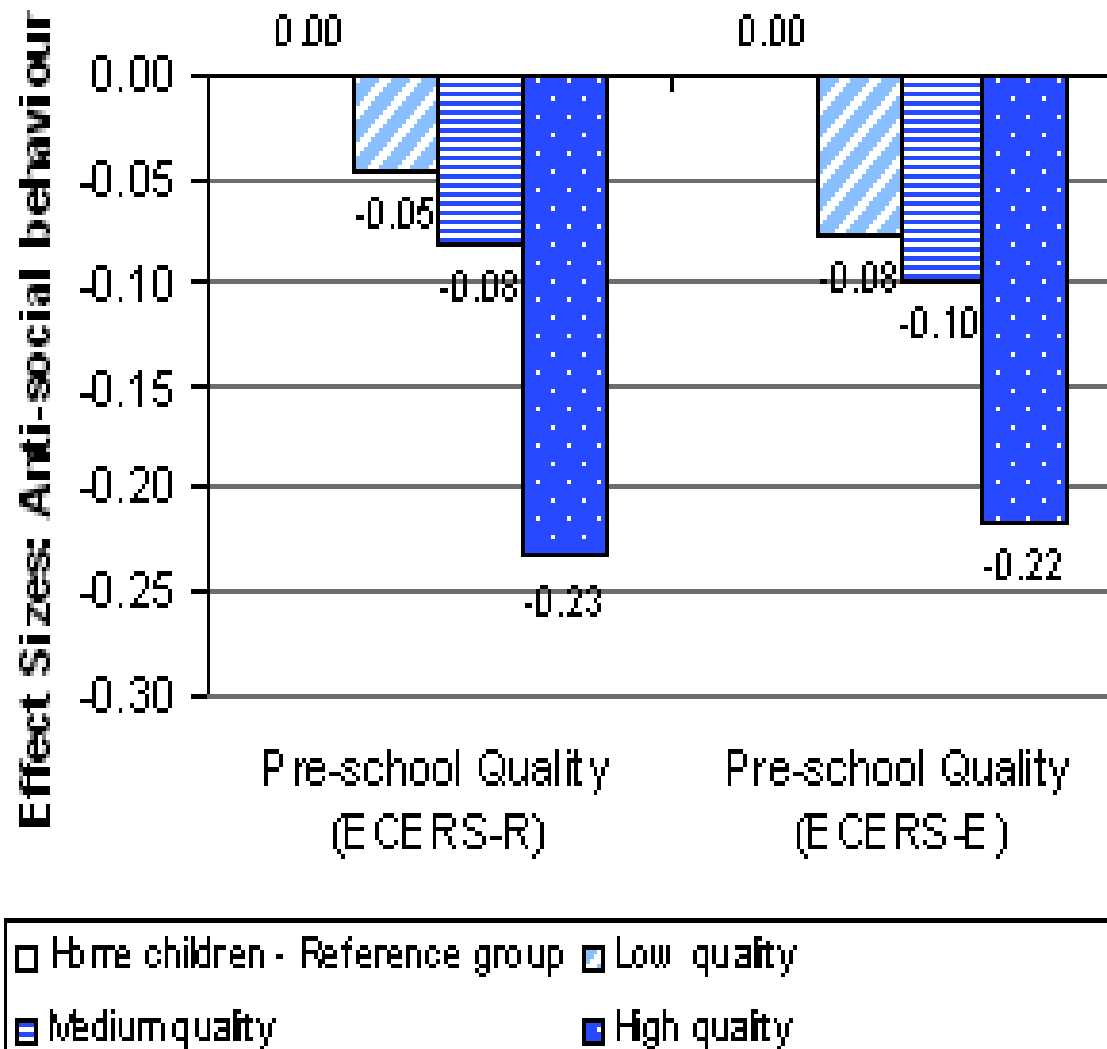


# The impact of pre-school quality (ECERS-R and ECERS-E) on self-regulation at age 11





# The impact of pre-school quality (ECERS-R and ECERS-E) on anti-social behaviour at age 11



# Influences on maths attainment – age 11

Factors	*Effect Size	Description
Gender	0.19	Boys show higher attainment than girls.
Birth weight	0.48	Normal birth weight higher than very low.
Ethnic groups	0.45	Indian heritage higher than children of White UK heritage.
Need for EAL support	0.64	Need of EAL support = predictor of low attainment.
Developmental problems	0.15	Early developmental problems = predictor of low attainment.
Parents' qualification	0.71	Higher qualified parent = higher attainment.
Socio-Economic Status	0.36	Higher SES = higher attainment.
Free School Meals	0.15	Eligible for FSM = negative predictor.
Early years Home Learning Environment	0.42	Higher Early years HLE = higher attainment.
KS1 HLE	0.17	Moderate personal interaction better than high.
Pre-school attendance	0.26	Attending vs. non-attending
Pre-school quality ECERS-E	0.34	High quality pre-school = higher attainment

Effect Sizes (ES)-the strength of relationships controlling for other factors. ES 0.1=relatively weak, 0.5=moderate , 0.7=strong.

# Summary

- Early years education shapes future development
- High quality pre-school boosts outcomes at age 11 and 16/18  
**Its effects are stronger for children whose parents have low levels of education.**
- Two types of quality: pedagogical and ‘global’ provision
  - ECERS-E boosts academic outcomes
  - ECERS-R boosts social-behavioural outcomes
- High quality in pedagogy **protects** against social (e.g. SES) and individual (e.g. birthweight) risks; ‘global’ quality protects against social risks only
- Early investment ‘pays off’ later on .....

# An example of high quality learning: ‘The Light-Up Shoes’

(From Lilian Katz, personal communication)

Four children and teacher returned from playing outdoors. Three of the children were wearing shoes that would light up when they stepped down on them.

**Teacher:** Wow! Look at your shoes! That is so cool. They light up when you step down.

**Child 1:** Yes, they do this. [Jumps up and down several times]

**Teacher:** How does that happen? How does it light up?

**Child 1:** Because they are new.

**Teacher:** Um. Mine are new too but they don't light up.

**Child 2:** No, because they light up when you step down on them. [Steps down hard several times]

## The Light-Up Shoes (cont.)

**Teacher:** [Steps down hard several times] That's funny. Mine don't light up when I step down.

**Child 3:** No, no, no, you have to have these holes [points to the holes]

**Teacher:** [Pointing to the holes in her own shoe] But I have holes and mine still don't light up, and Josh has holes in his trainers too and his do not light up either. I wonder why?

**Child 4:** I think you need batteries. Kids, you need batteries.

**Child 1:** Yeah, you need batteries to make them work. [Thinks for a while]. But I did not see batteries when I put my toes in.

**Child 4:** I think they are under the toes.

**Child 2:** I can't feel the batteries under my toes.

**Teacher:** I wonder how we can find out about this?

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# The impact of pre-school attendance on lifetime earnings (per individual and household)

	No pre-school experience	Some pre-school experience	Difference between two groups
<b><i>Discounted present value of lifetime gross earnings at the individual level</i></b>			
Average individual gains in £	<b>£432,150</b>	<b>£458,938</b>	<b>£26,788</b>
Average of individual gains in percentage points			<b>7.9%</b>
<b><i>Discounted present value of lifetime gross earnings at the household level</i></b>			
Average household gains in £	<b>£838,353</b>	<b>£874,346</b>	<b>£35,993</b>
Average of individual gains in percentage points			<b>5.1%</b>

**Savings to the Exchequer(govt) per household: £15,914 (Sylva et al 2014)**

# References

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# Pre-school quality acts as a 'protective' factor for children at risk (extra slide on moderation)

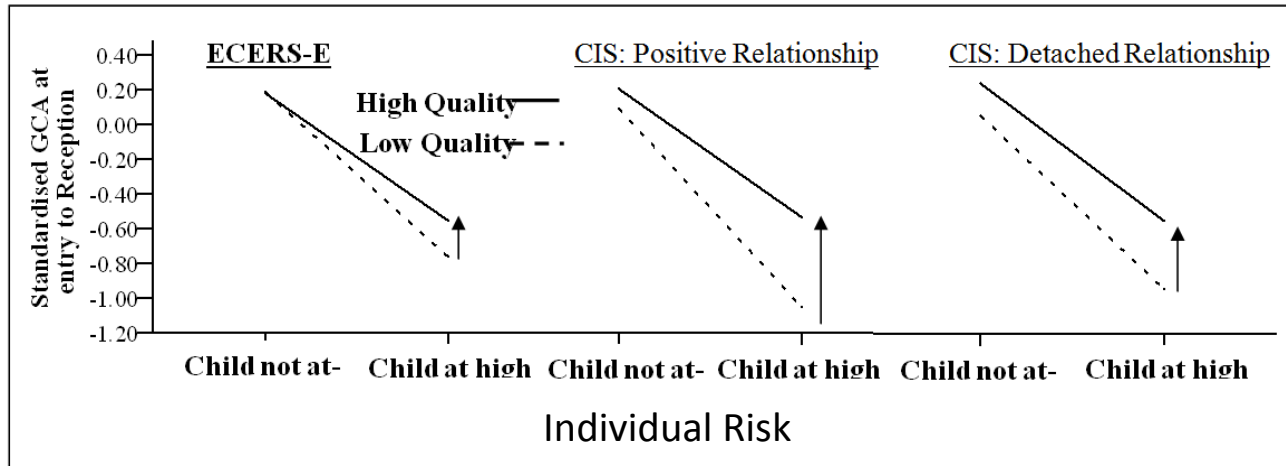


Figure 1. Differentiated (moderated) impact of **child** level risk on cognition at entry to school Protection conferred by process quality of preschool (from Hall et al., 2009)

Figure 2. Differentiated (moderated) impact of **familial** level risk on cognition at entry to school: Protection conferred by process quality of preschool (from Hall et al., 2009)

