

Early Years Conference, Fribourg
Friday 29 May 2009

Quality matters: evidence from the UK research



A Longitudinal Study Funded by the DCSF

An ESRC/TLRP Project

Professor Kathy Sylva

Department of Education, University of Oxford

The EPPE Team

Principal Investigators:

Kathy Sylva *Department of Education, University of Oxford*

Edward Melhuish *Birkbeck, University of London*

Pam Sammons *University of Nottingham*

Iram Siraj-Blatchford *Institute of Education, University of London*

Brenda Taggart *Institute of Education, University of London*

Researchers:

Stephen Hunt *Institute of Education, University of London*

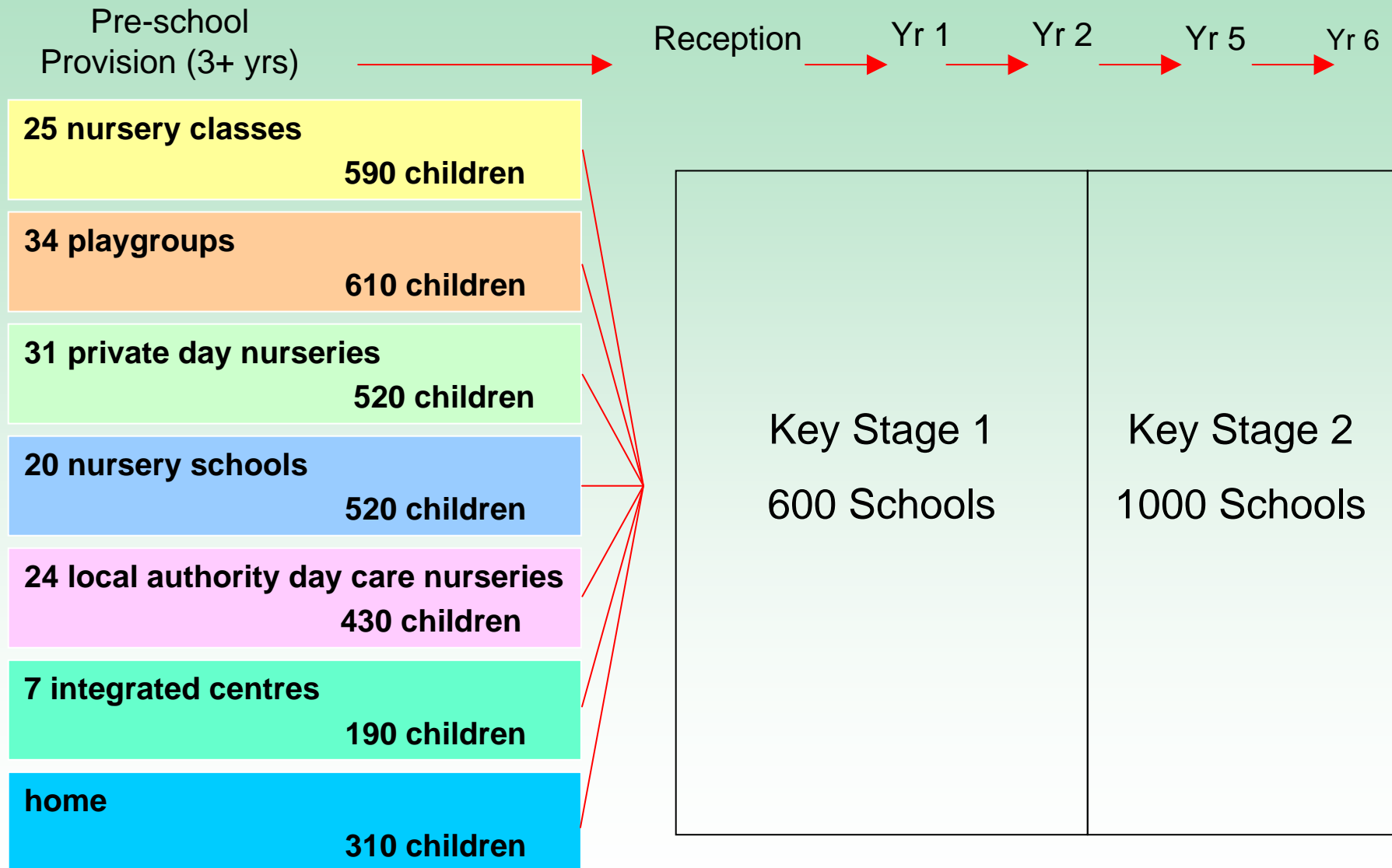
Helena Jelcic *Institute of Education, University of London*

Rebecca Smees *Institute of Education, University of London*

Wesley Welcomme *Institute of Education, University of London*

Aziza Mayo *Institute of Education, University of London*

Design of EPPE 3-11: 6 LA, 141 pre-schools, 3,000 children



Research questions

- What is the effect of pre-school on children's development through primary school?
- What is the effect of the home learning environment (HLE) on children's developmental outcomes at ages 7 and 11?

Sources of data

- HLE parent questionnaire at age 3 (and later at 6)
- National tests (English/reading, Maths) and social-behavioural profiles completed by teachers (extended Goodman, 1997) at ages 7 and 11
- Early Childhood Environment Rating Scale (ECERS)

Early Years (age 3-4) Home Learning Environment (HLE)

Parents were asked about learning and play activities in the home. There were seven types of home learning activities.

- Reading
- Library visits
- Playing/teaching alphabet and letters
- Playing/teaching of songs, nursery rhymes etc.
- Painting and drawing
- Playing with numbers and shapes
- Teaching numbers

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).

Child and family factors predicting the HLE

- Gender: girls higher
- EAL: non-EAL higher
- Family size: 3+ sibling lower
- Developmental problems: lower
- Parental education: higher with more qualifications
- Area deprivation: lower HLE in more deprived areas

Effects on National Tests at age 11 years (English)

Gender	0.29	Girls show higher attainment than boys
Birth weight	0.47	Normal birth weight higher than very low
Ethnic groups	0.17	Only White European heritage lower than children of White UK heritage
Need for EAL support	0.59	Need for EAL support = predictor of low attainment
Developmental problems	0.23	Early developmental problems = predictor of low attainment
Parents' qualifications	0.76	Higher qualified parent = higher attainment
Socio-economic status	0.34	Higher SES=higher attainment
Free school meals	0.23	Eligible for FSM = negative predictor
Early Years HLE	0.70	Higher Early years HLE = higher attainment

1. What is quality? Who decides?

- Qualitative judgments by 'expert' inspectors/advisors
- Views of stakeholders, e.g., parents, children and young people
- Quantitative evidence on 'effectiveness', e.g., national assessment data at school on classroom level
- Descriptive research instruments, e.g., ECERS rating scale

Two early childhood environment 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 (2003, revised 2006)*

Example ECERS-R item: Interactions among children (Interaction)

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7
1.1 Interaction among children (peers) not encouraged (Ex. talking with peers discouraged, few opportunities for children to choose own playmates)		3.1 Peer interaction encouraged (Ex. children allowed to move freely so natural groupings and interactions can occur)		5.1 Staff model good social skills (Ex. are kind to others, listen, empathize, cooperate)		7.1 Peer interactions usually positive (Ex. older children often cooperate and share; children generally play well together without fighting)
1.2 Little or no staff guidance for positive peer interaction		3.2 Staff stop negative and hurtful peer interactions (ex. stop name calling, fighting)		5.2 Staff help children develop appropriate social behaviour with peers (Ex. help children talk through conflicts instead of fighting; encourage socially isolated children to find friends; help children understand feelings of others)		7.2 Staff provide some opportunities for children to work together to complete a task (Ex. a group of children work to cover a large mural paper with many drawing; make a soup with many ingredients; cooperate to bring chairs to table)
1.3 Little or no positive peer interaction (Ex. teasing, bickering, fighting are common)		3.3 Some positive peer interaction occurs				

Example ECERS-E item: Food preparation (Science)

Inadequate

Minimal

Good

Excellent

1

2

3

4

5

6

7

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

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

5.1 Food preparation / cooking activities are provided regularly

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

3.2 Some children can choose to participate in food preparation

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

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

3.3 Some food-related discussion takes place where appropriate

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

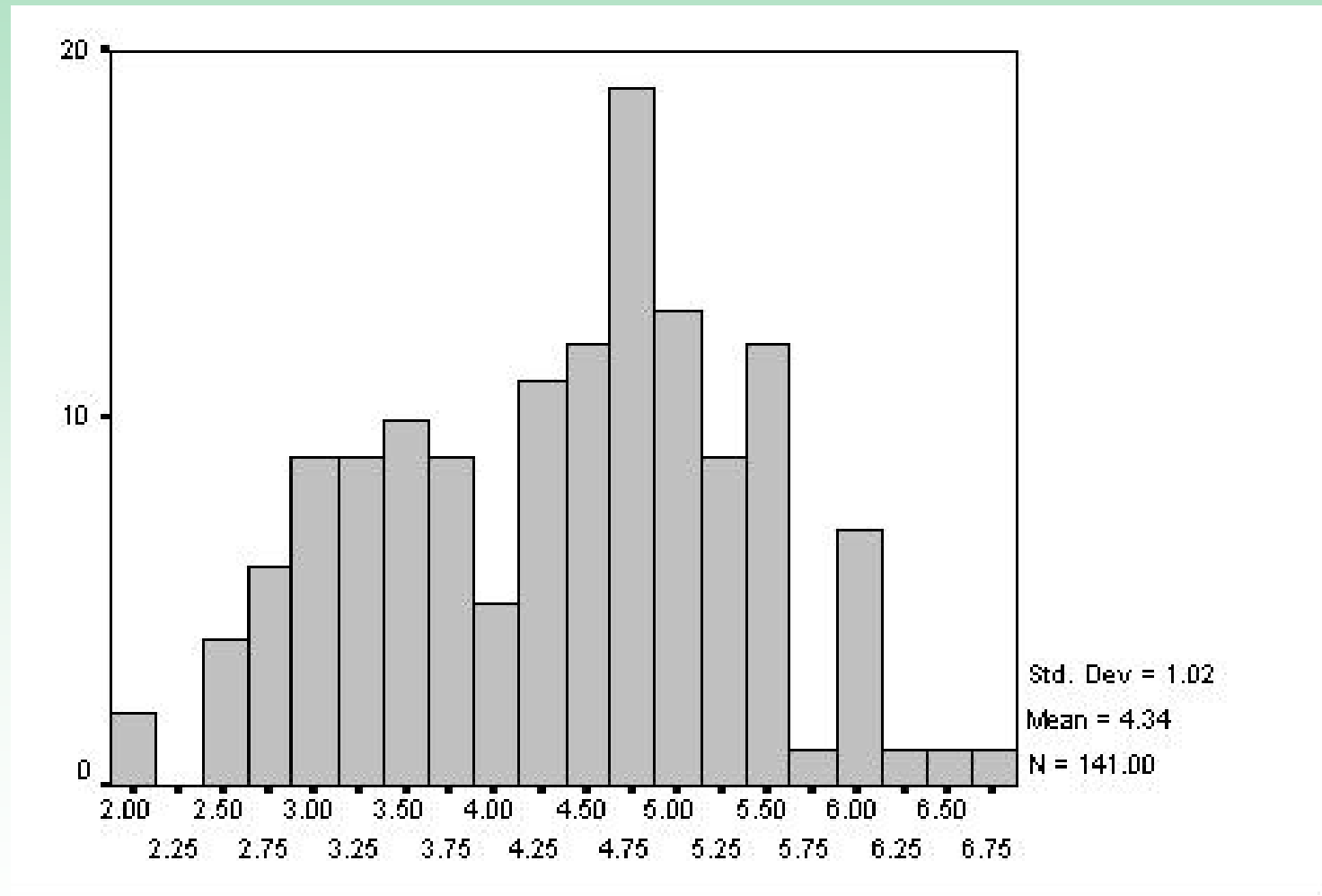
7.3 The staff lead and encourage discussion on the process of food preparation and/or question children about it

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

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

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7
1.1 Books are unattractive and/or not of a suitable age level		3.1 Some books of different kinds are available		5.1 A variety of types of book are available		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
		3.2 An easily accessible area of the room is set aside for books		5.2 Book area used independently by children (outside group reading times)		7.2 Adults encourage children to use books and direct them to the book area
		3.3 Some reading takes place in the book area				7.3 Books are included in learning areas outside of the book corner

Histogram of total ECERS-R scores (N = 141 pre-school settings, randomly selected)



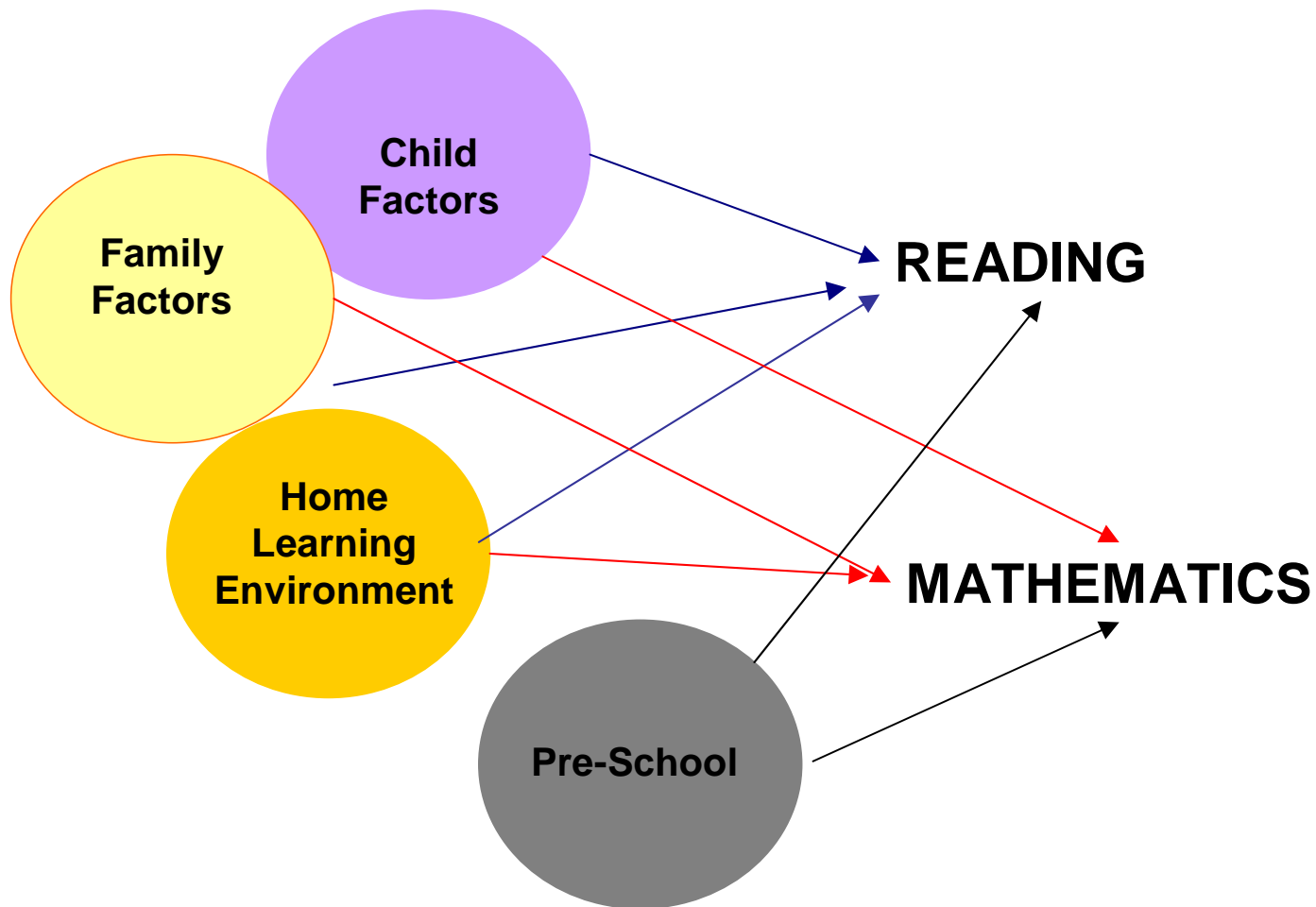
From EPPE Technical Paper 6 (Sylva et al., 1999)

Child outcomes at ages 7 and 11



- **Maths**
- **Reading**
- **Self regulation**
- **Pro-social behaviour**
- **Anti-social behaviour**

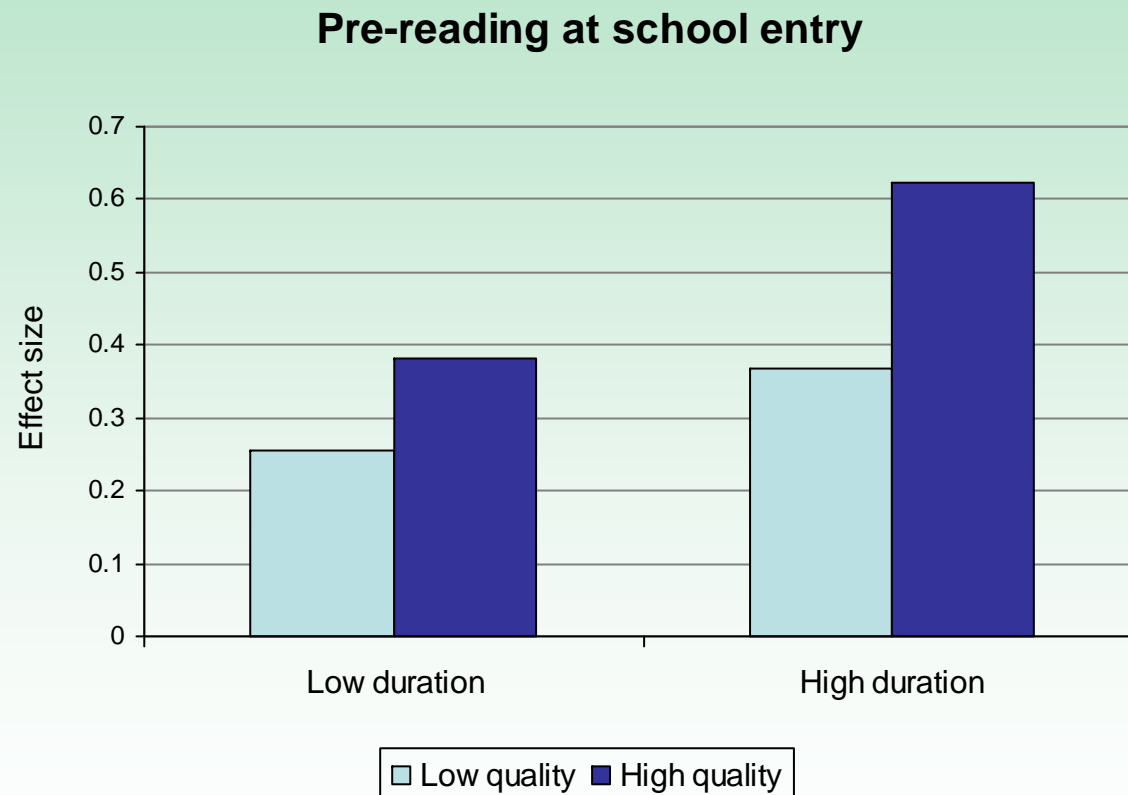
Strategy of statistical analysis of net HLE effects



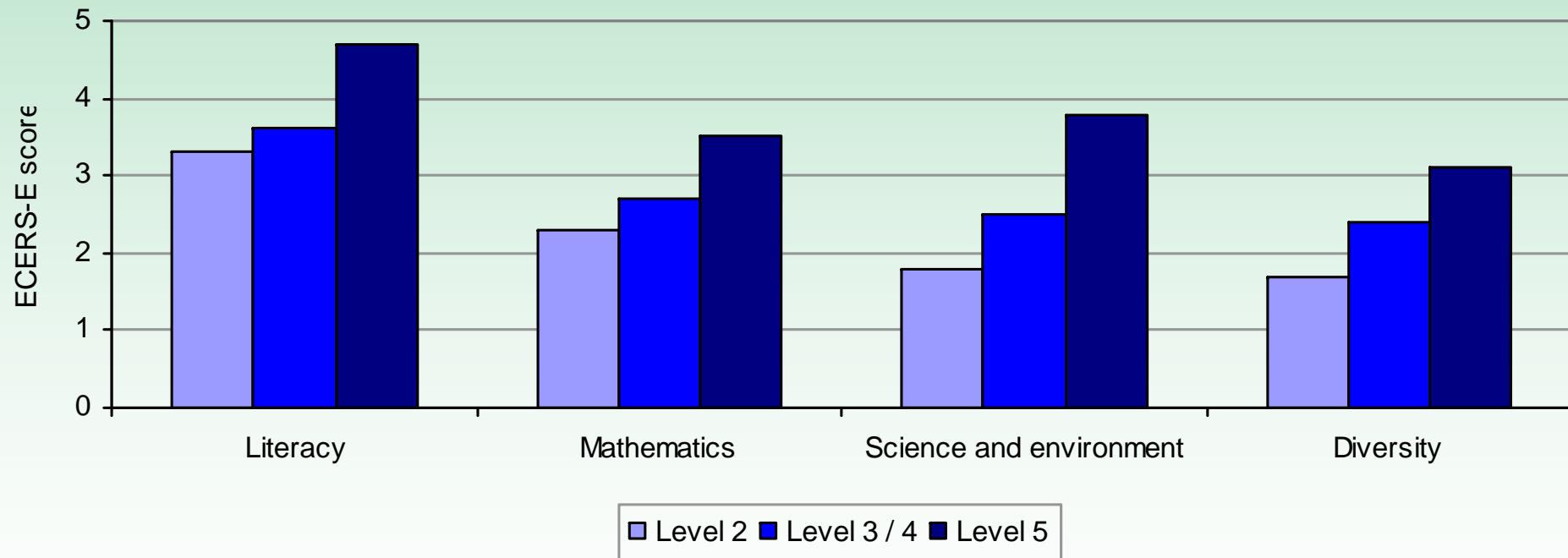
Multi-level strategy

- First child characteristics (e.g. gender, birthweight) were entered into the model, followed by parent (e.g. qualifications) and family (e.g. socio-economic status) characteristics.
- This modelling strategy allowed control of effects for the child, parent and family characteristics **BEFORE** estimating the effect of the HLE on children's outcomes.

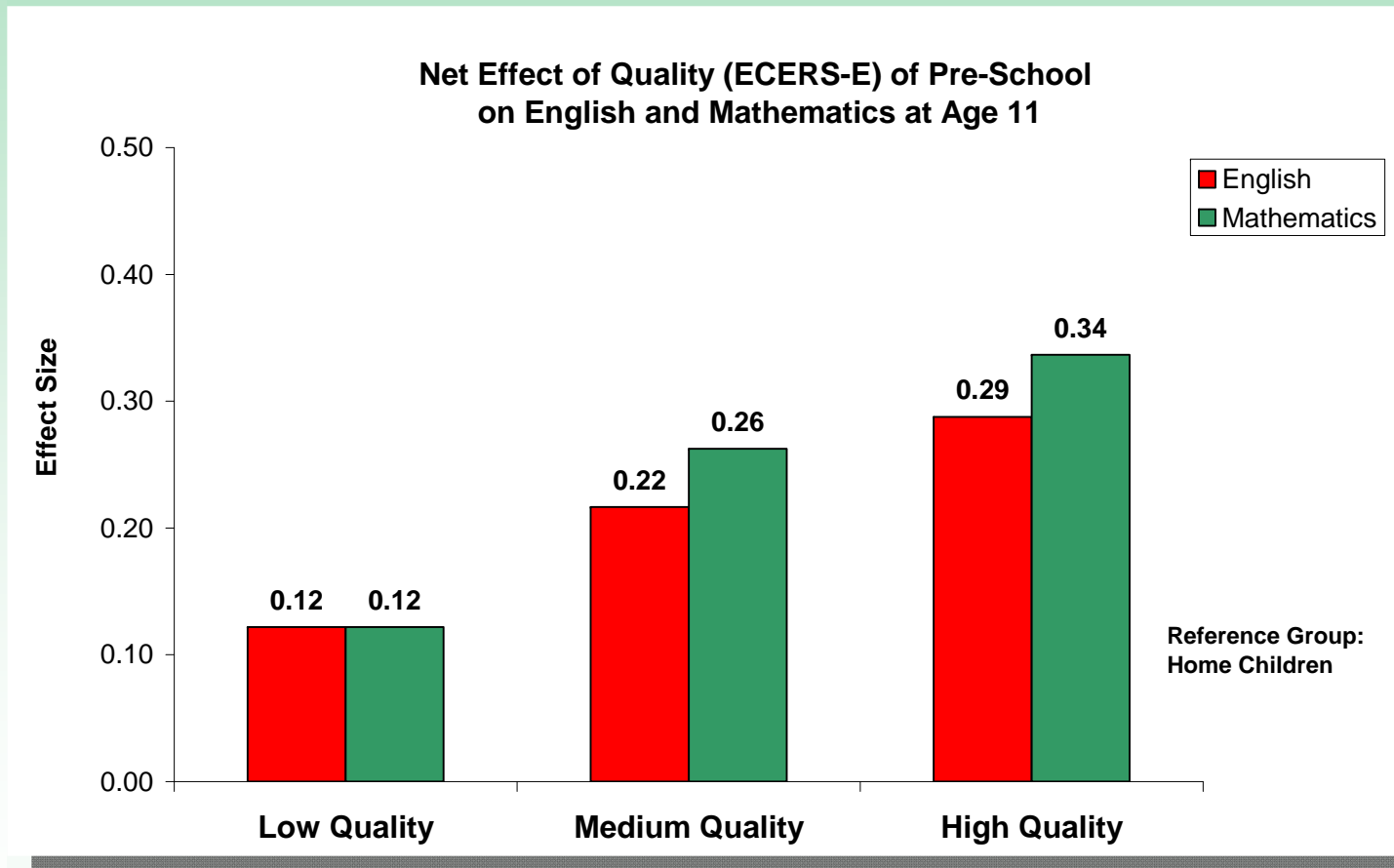
Effect of quality and duration of pre-school compared to 'home' children



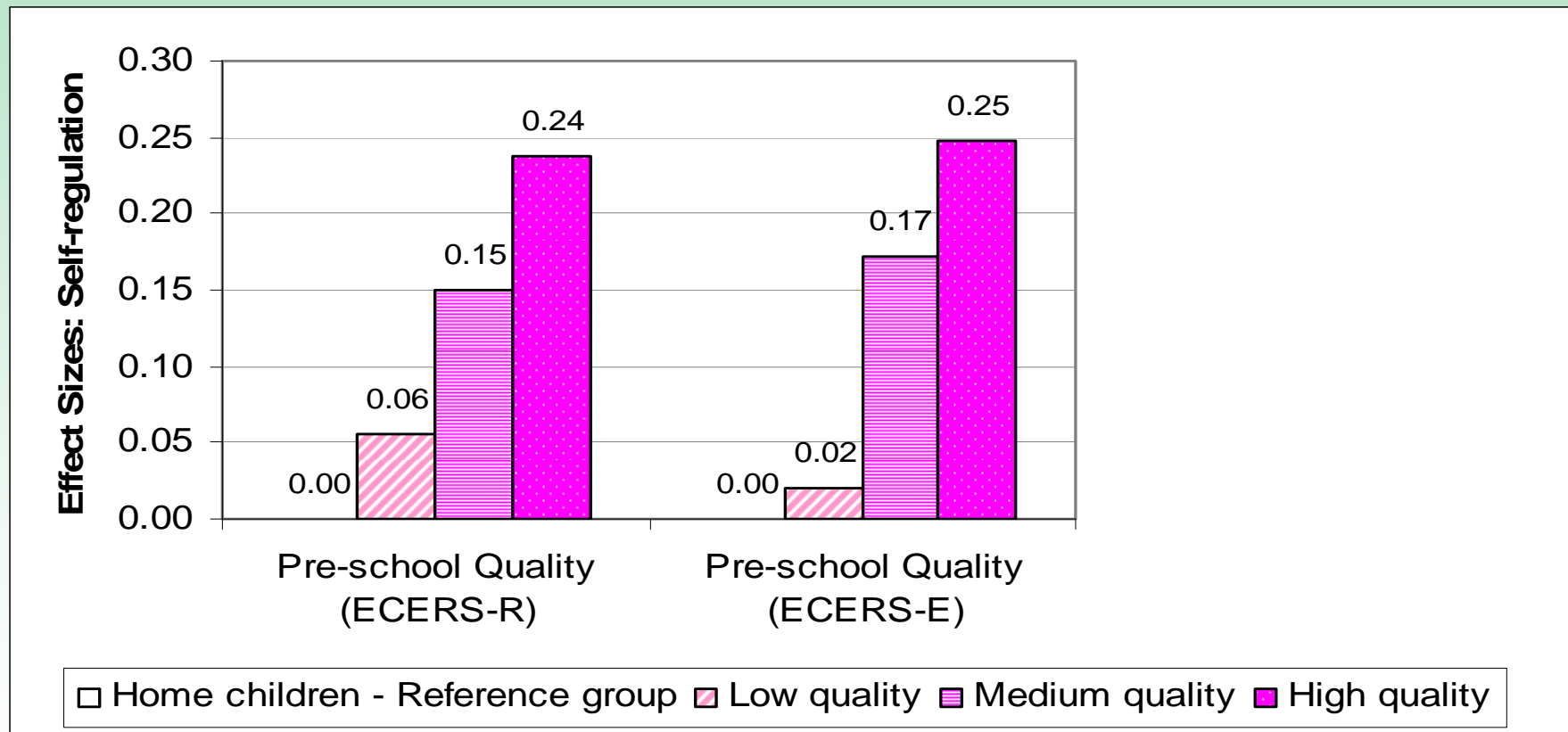
ECERS-E subscale means by manager qualification



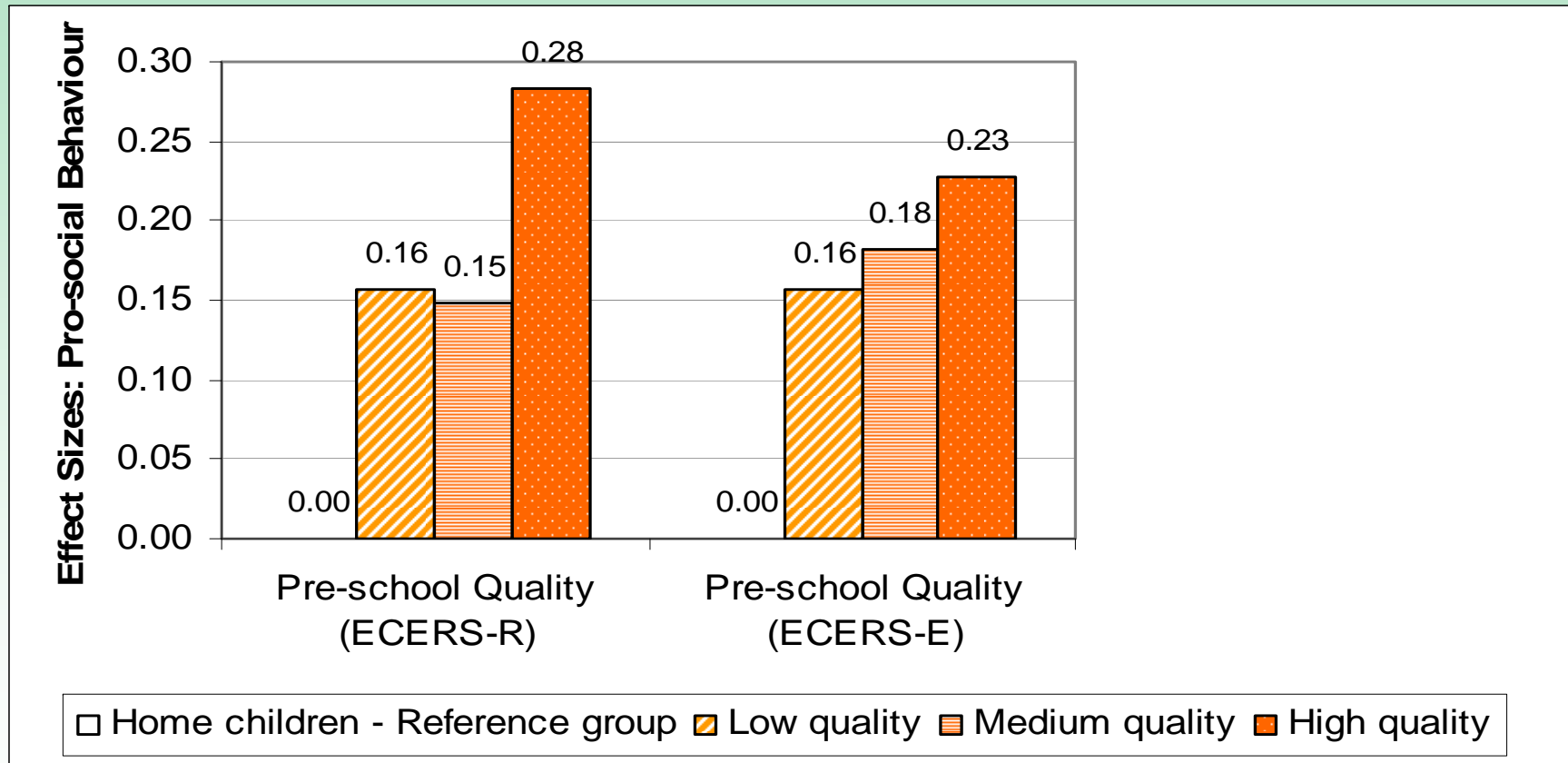
The impact of pre-school quality (ECERS-E) on English and Mathematics in Year 6



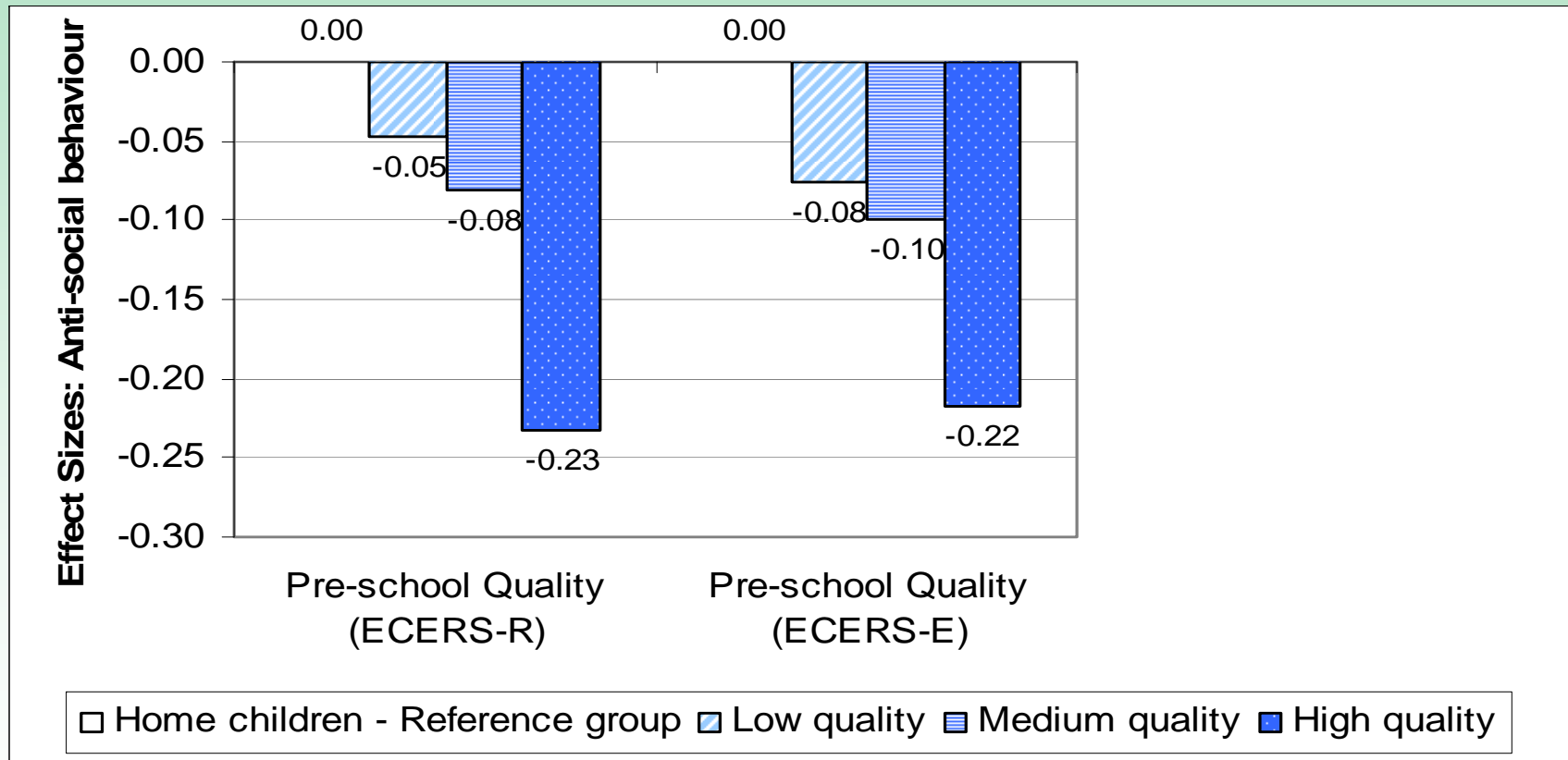
The impact of pre-school quality (ECERS-R and ECERS-E) on self-regulation



The impact of pre-school quality (ECERS-R and ECERS-E) on pro-social behaviour

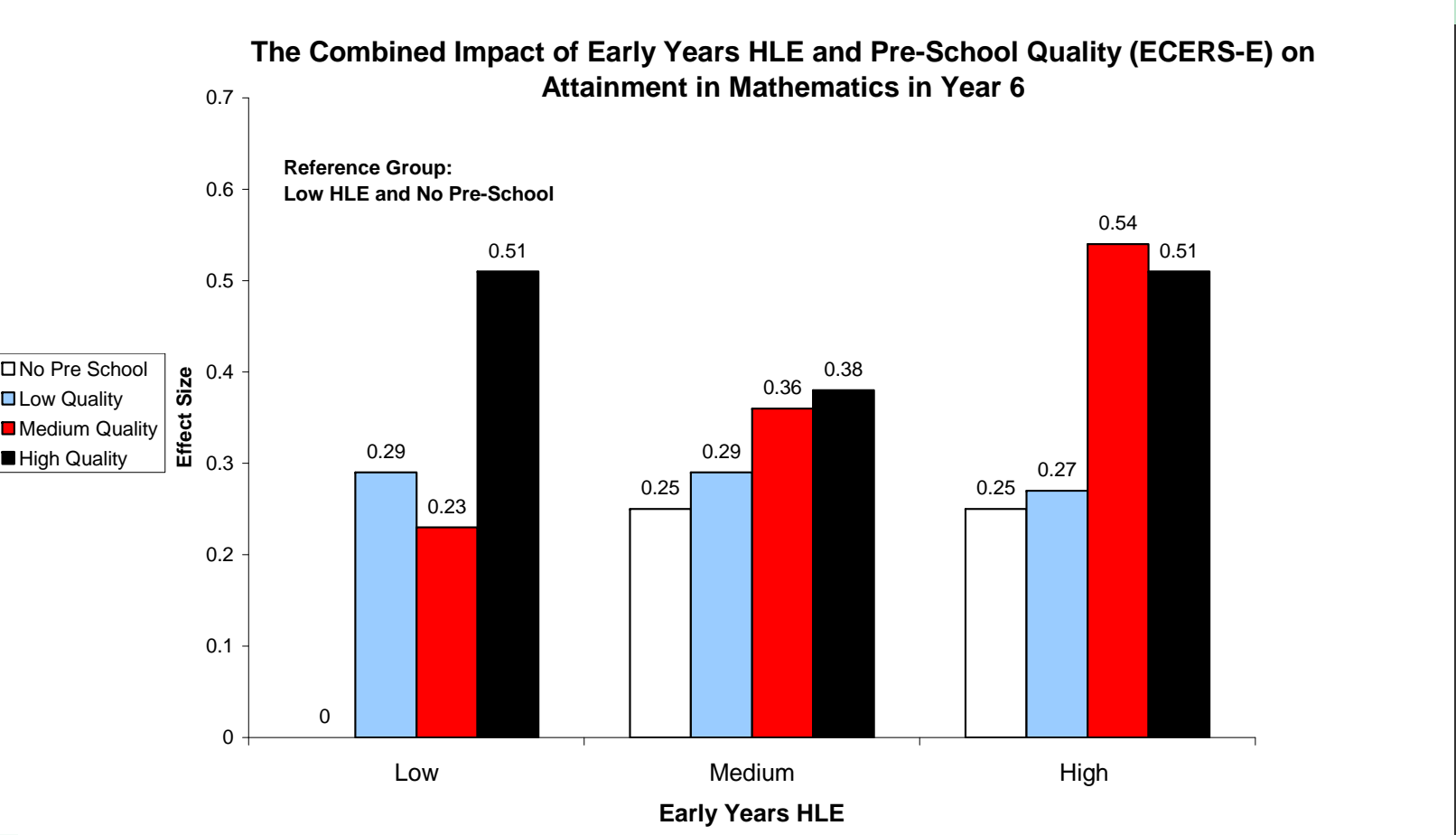


The impact of pre-school quality (ECERS-R and ECERS-E) on anti-social behaviour

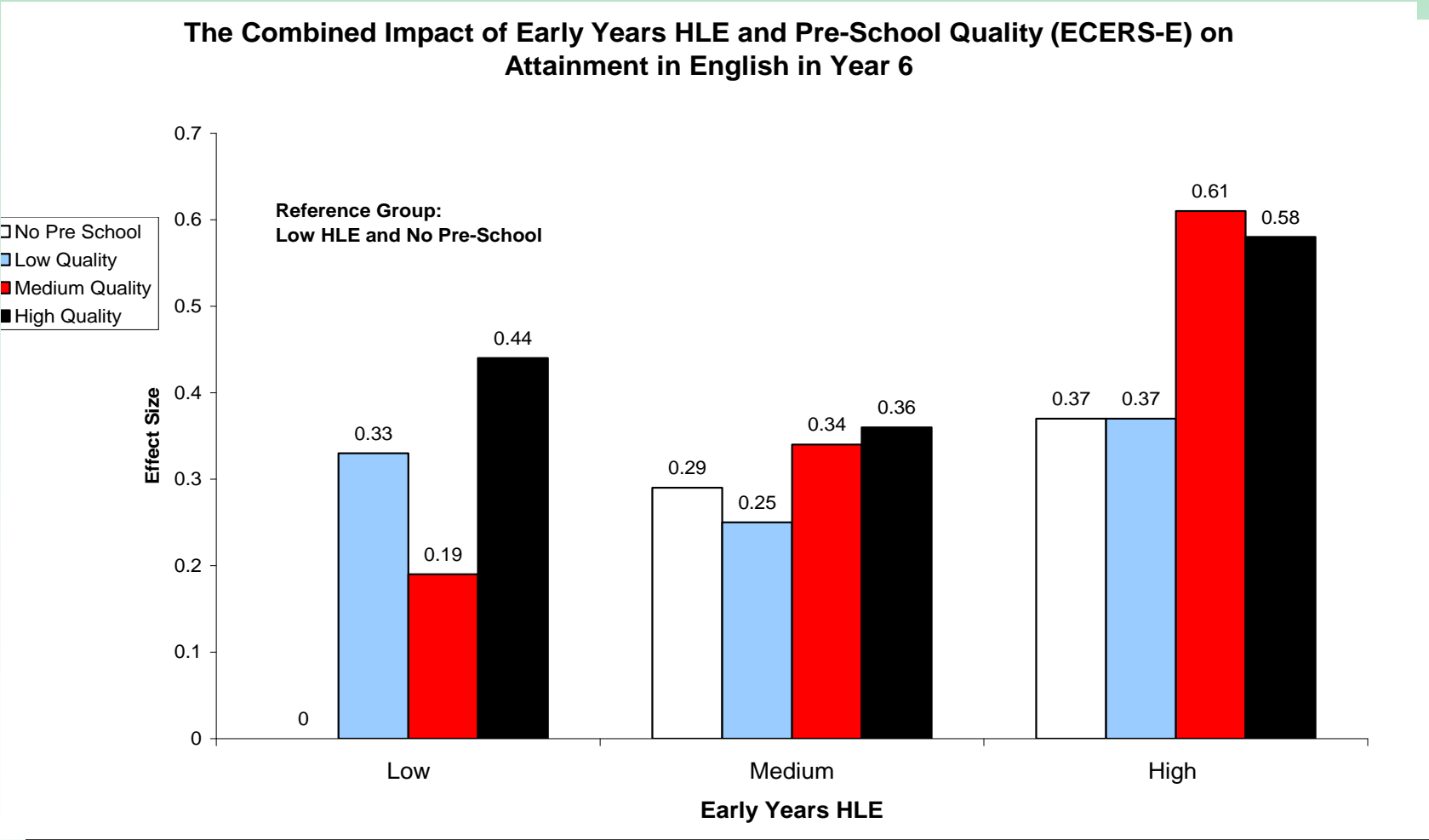


Combined effects of quality at pre-school and home

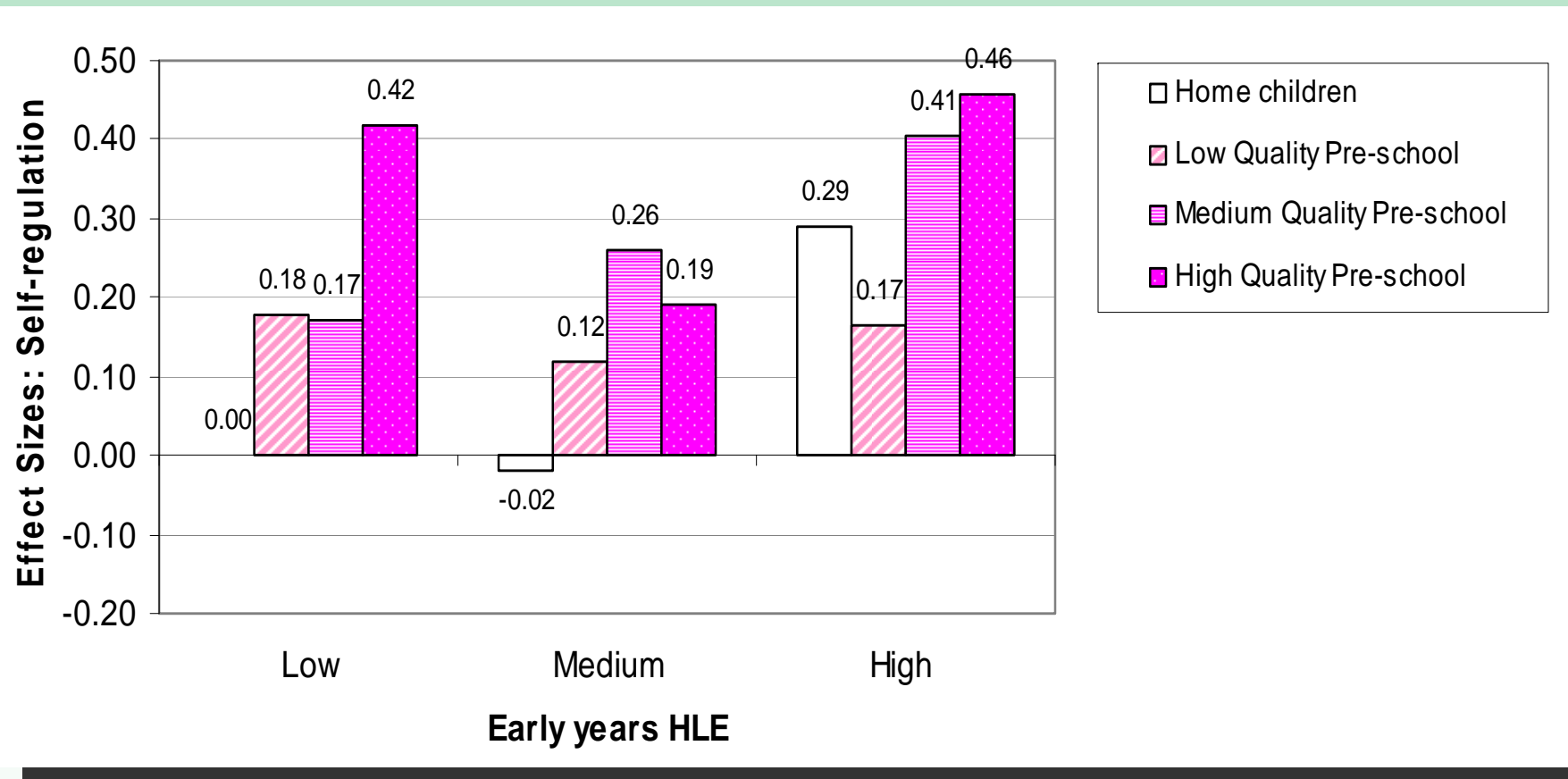
The combined impact of pre-school quality and HLE on Mathematics attainment



The combined impact of pre-school quality and HLE on English attainment



The combined impact of pre-school quality and HLE on self-regulation



A take home message

1. The impact of pre-school, especially quality, continues through the primary school
2. The home learning environment continues to be important, along with pre-school, in shaping children's development
3. Unravelling the effects of family and schooling requires large-scale longitudinal data and multi-level analytic strategies

For further information about EPPE 3-11 visit the EPPE website:

<http://eppe.ioe.ac.uk>

or the DCSF website: www.dcsf.gov.uk/research

or contact the research co-ordinator (Brenda Taggart):

b.taggart@ioe.ac.uk or 020 7612 6219



A Longitudinal Study Funded by the DCSF

An ESRC/TLRP Project