Better Provision in ECEC for ALL : evidence from research

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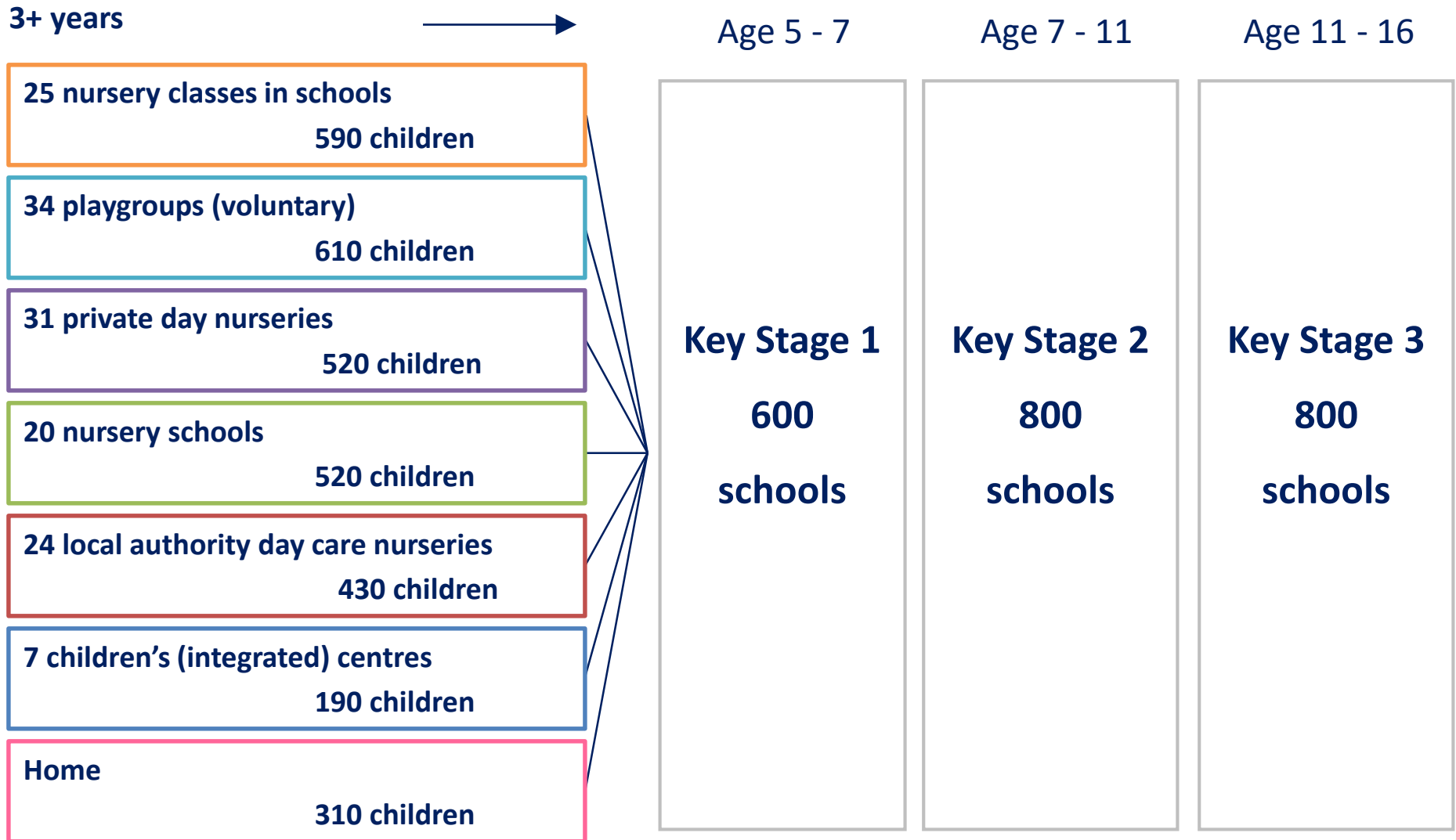# 'Effective Pre-School, Primary and Secondary Education' (EPPSE) 1997 – 2016

A longitudinal study funded by the UK Dept for Education

Principal Investigators: Kathy Sylva[1], Edward Melhuish[1], Pam Sammons[1], Iram Siraj[1] and Brenda Taggart[2]

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# Effective Preschool, Primary and Secondary Education (EPPSE) design
6 Local Regions, 141 preschools, 3,000 children

3+ years →

25 nursery classes in schools
590 children

34 playgroups (voluntary)
610 children

31 private day nurseries
520 children

20 nursery schools
520 children

24 local authority day care nurseries
430 children

7 children's (integrated) centres
190 children

Home
310 children

Age 5 - 7

Key Stage 1
600
schools

Age 7 - 11

Key Stage 2
800
schools

Age 11 - 16

Key Stage 3
800
schools

Assessments age 3-11 years (age 16 and age 18 followed)

INDIVIDUAL LEVEL DATA						
Assessment	Age 3	5	6	7	10	11
Cognitive assessments	√	√	√ NFER tests	√ National Assessment	√ NFER tests	√ National Assessment
Social/behavioural profiles	√	√	√	√	√	√
Home Learning Environment (HLE)	√ Early years HLE		√ KS1 HLE			√ KS2 HLE
Pupils' self-report				√	√	
Community characteristics/ neighbourhood					√	√
PRE-SCHOOL/SCHOOL LEVEL DATA						
Institution characteristics – quality and effectiveness	√				√ Across KS2	
Academic effectiveness	√				√ Across KS2	
Additional information in sub-sample of 125 schools:						
Observation / Teacher report: classroom/school processes, quality of teaching					√	
Ofsted judgements of school					√ Across KS2	

Many influences on child outcomes at age 11
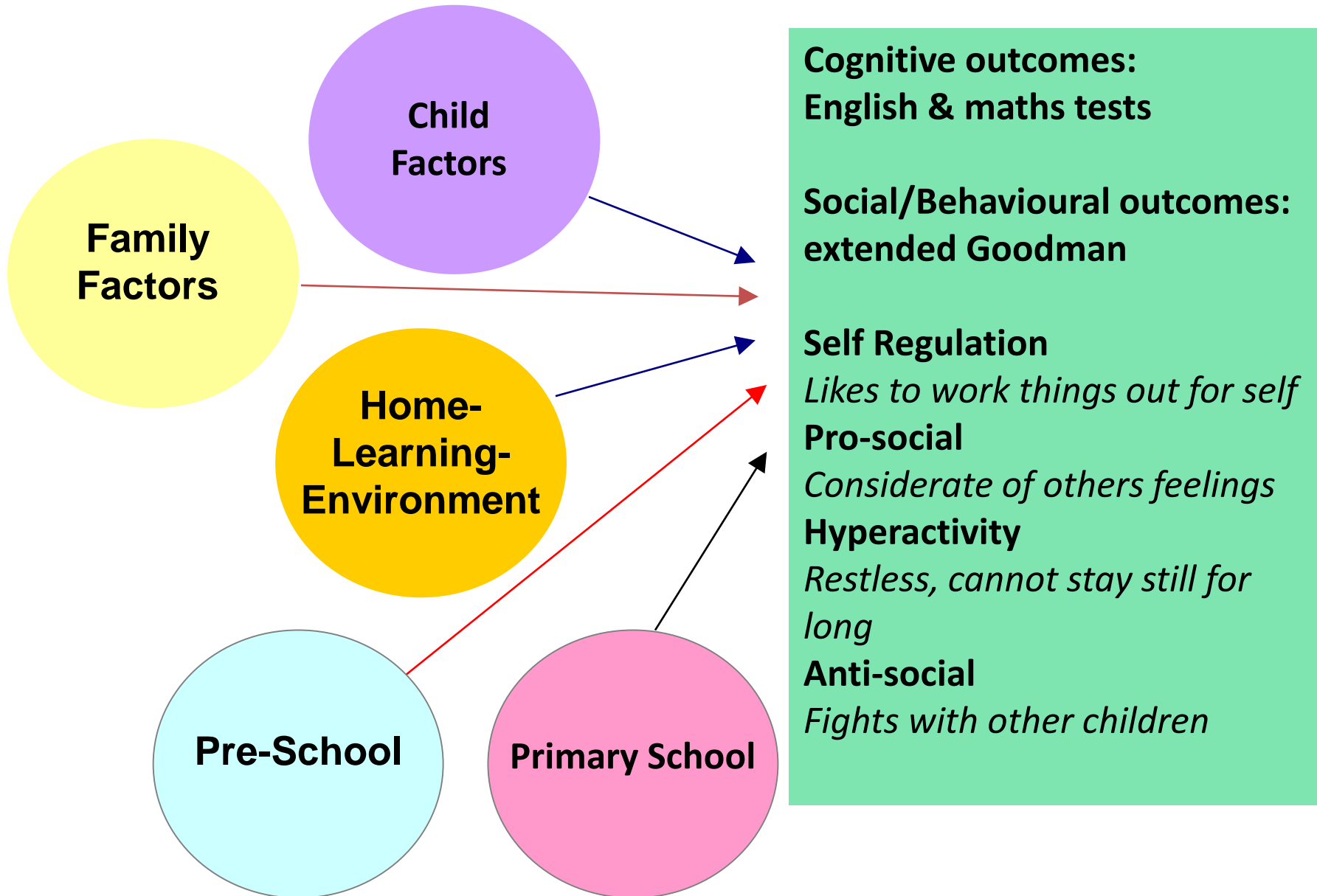
Key take-home messages….

- If children come from disadvantaged backgrounds they are 'at risk' of social problems, then high quality pre-school/early years will make an important contribution to improving their social development, esp. boys.

- Children with no pre-school experience (the 'home' group) had poorer intellectual attainment, sociability and concentration when they started school, even after taking account of home background.

- More terms in pre-school (after the age of 2 years) is related to better cognitive and social progress (dose effect).

- Children who attend pre-school settings part-time develop as well as those children attending full-time

- Pre-school Attendance and quality
- predicted emergent literacy (pre-reading)

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 of Rating the ERS

Inadequate		Minimal		Good		Excellent
1	2	3	4	5	6	7

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

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	

Duration and quality of preschool make a difference
# Value added fixed effects models

Pre-literacy : phono awareness plus letter ID
Developmental advantage (in months of development) on pre-literacy at school entry: age 5
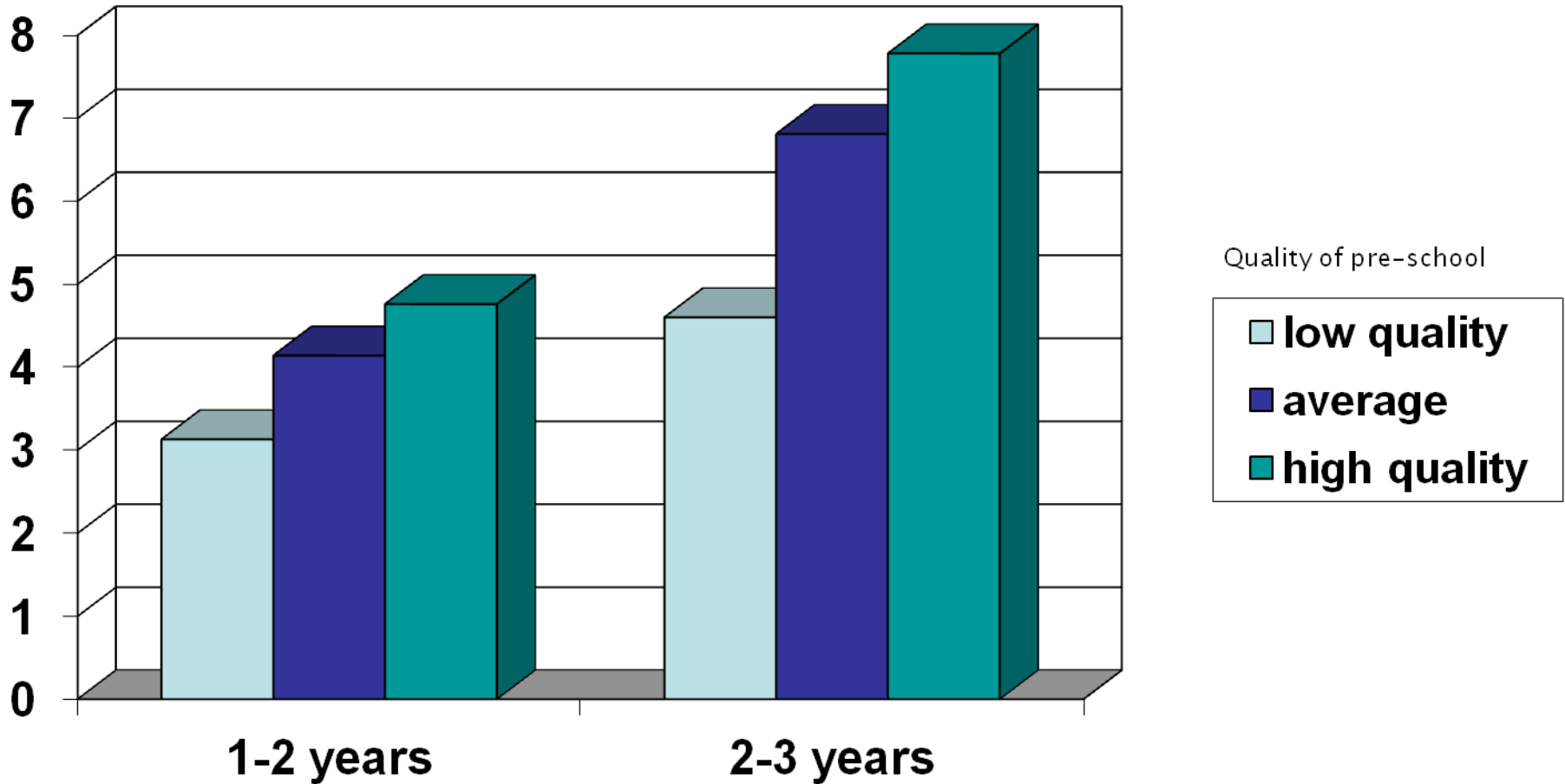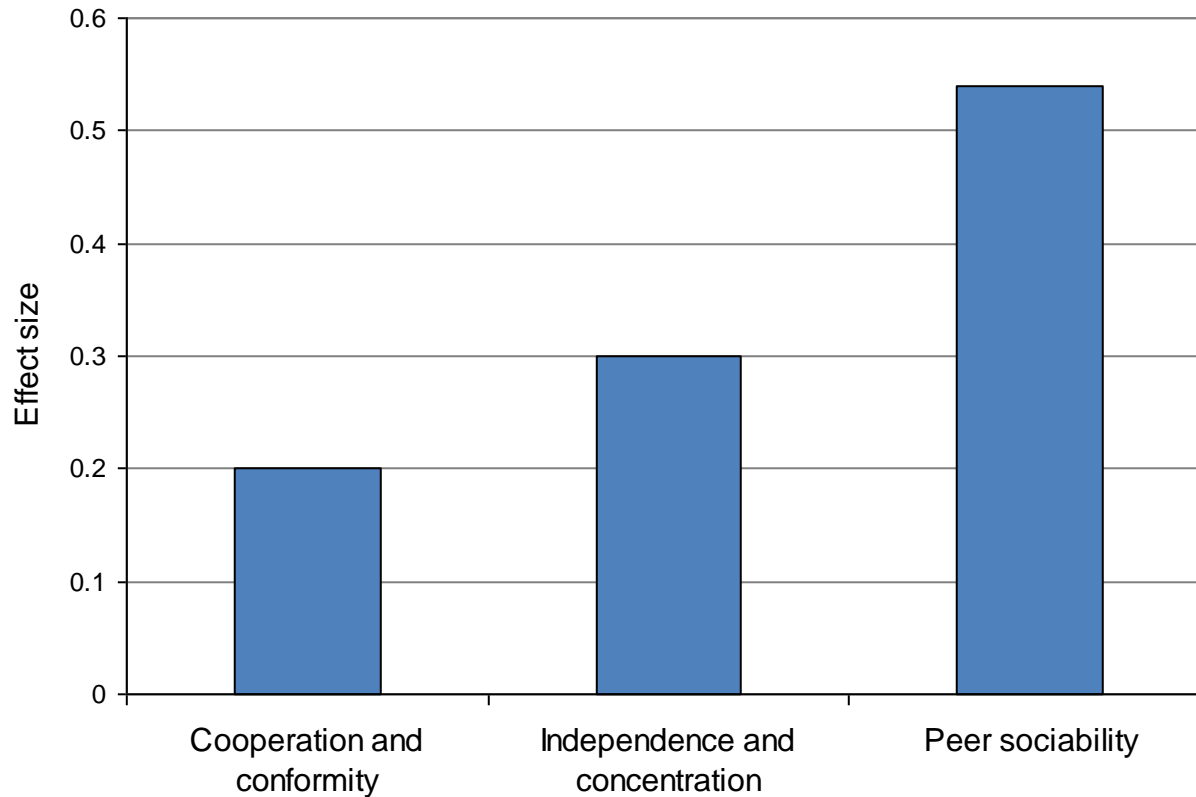
The impact of pre-school pedagogical quality (ECERS-E) on English and Mathematics SATs: controlled for pre-test at baseline and family and child co-variates
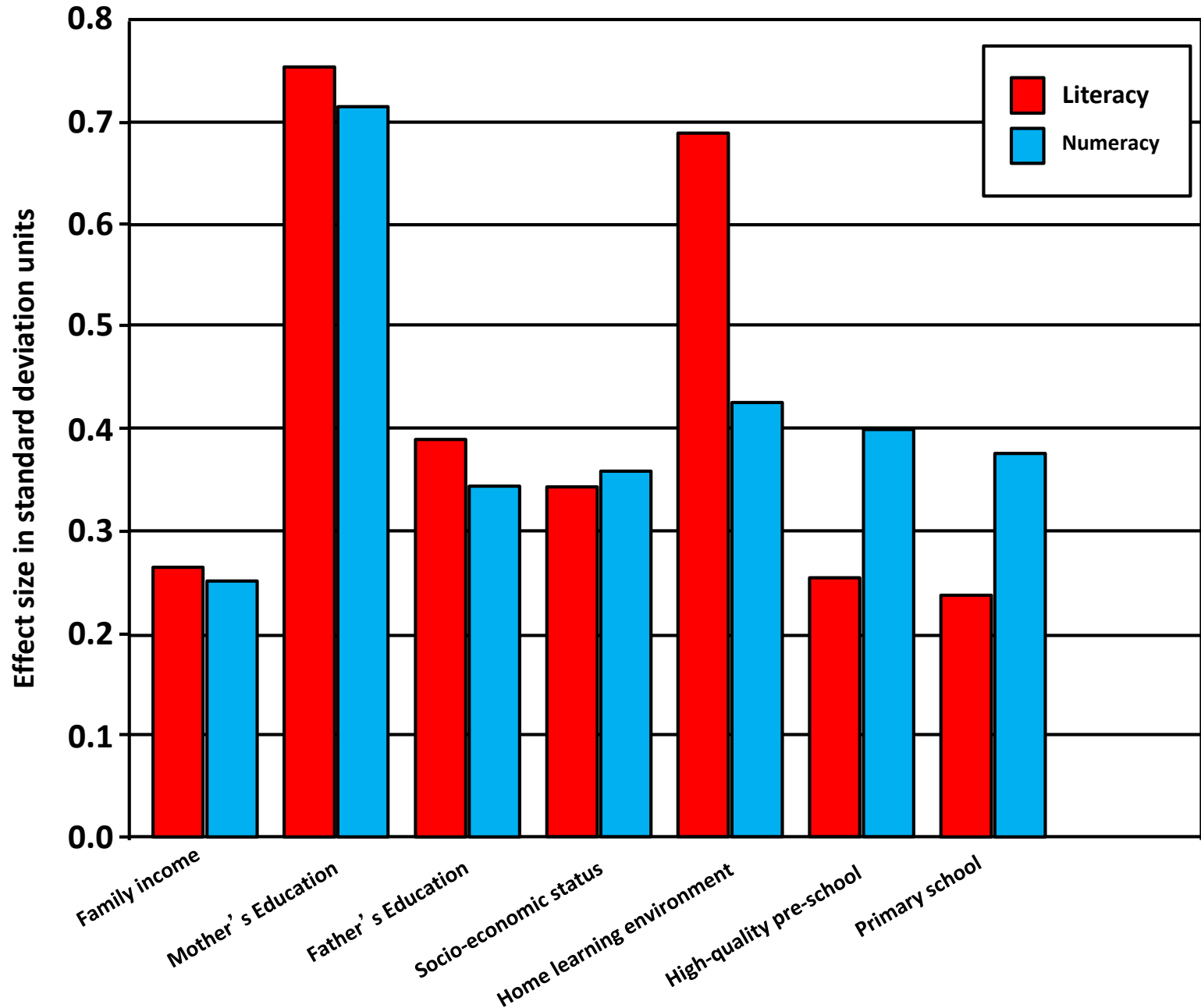

Net Effect of Quality (ECERS-E) of Pre-School on English and Mathematics at Age 11

Reference Group: Home Children
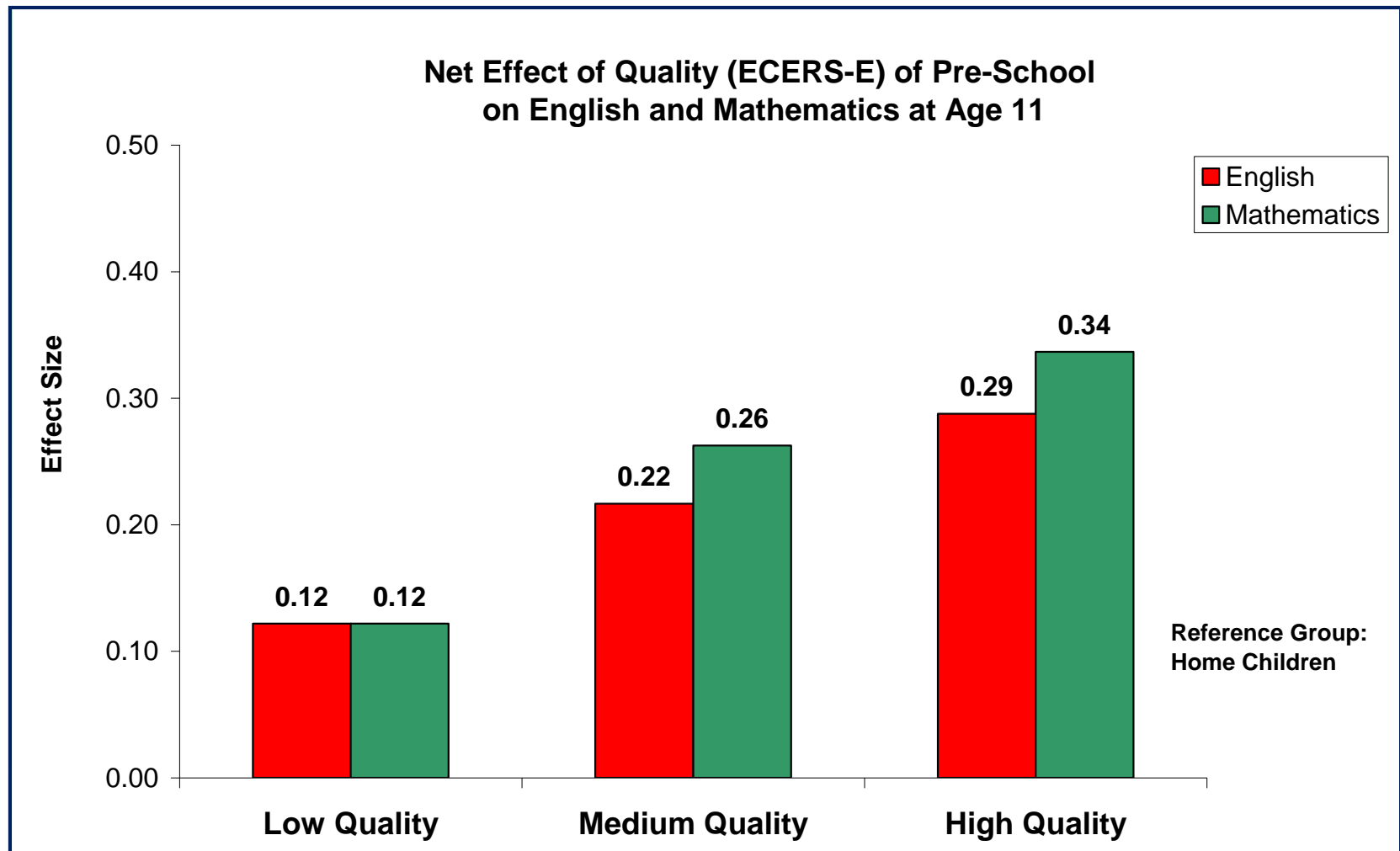
The impact of pre-school quality (ECERS-R and ECERS-E) on self-regulation at age 11 after controlling for co-variates
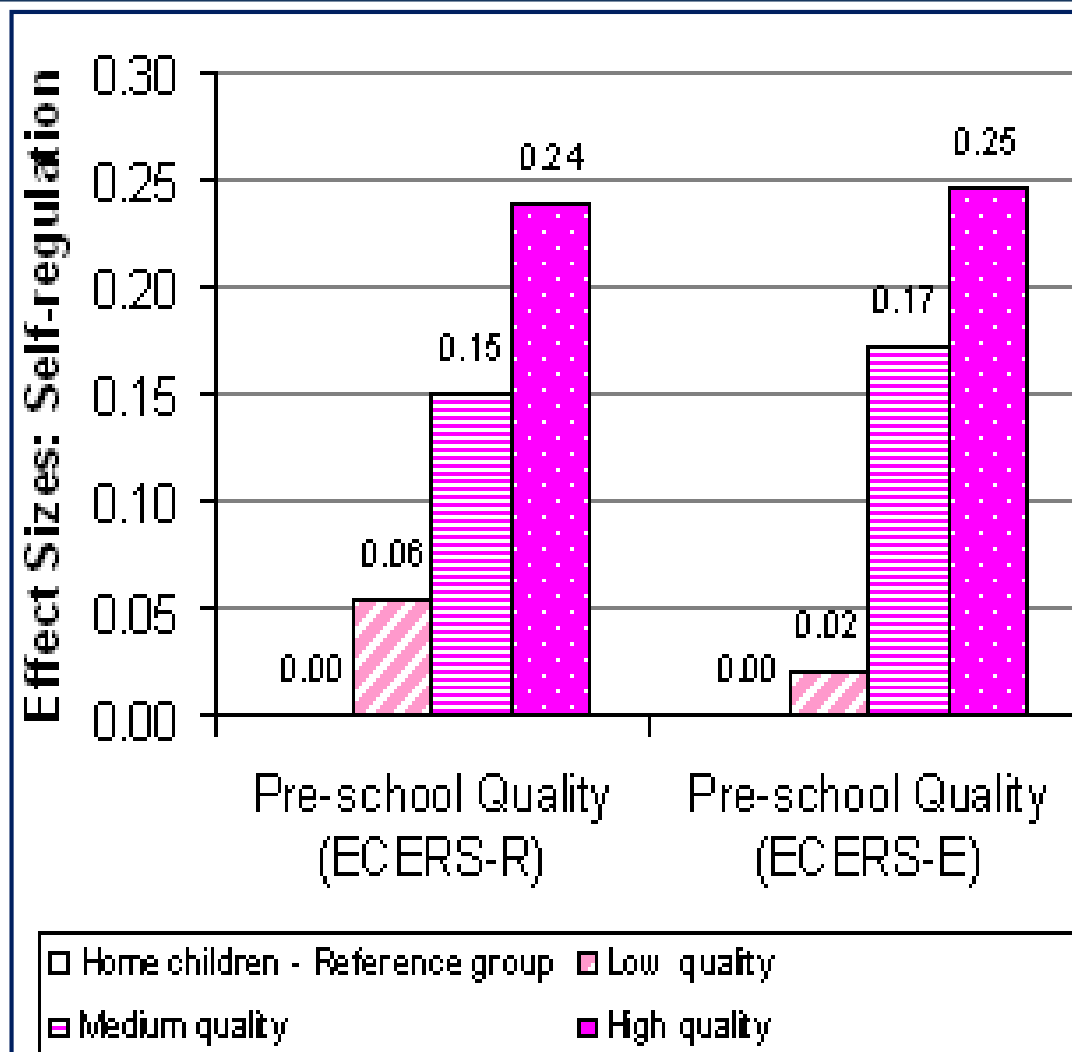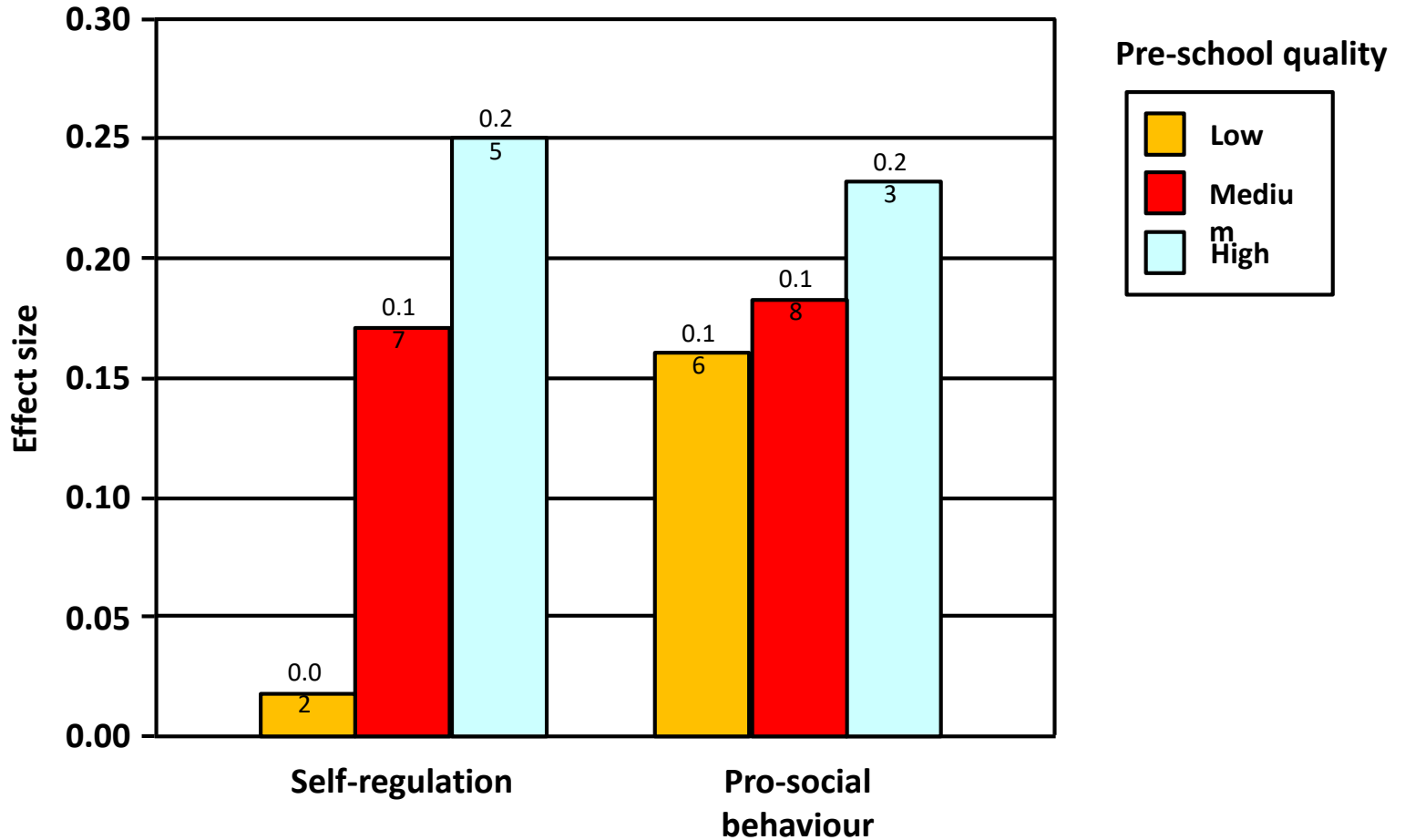
Short term impact – Aged 5 (entry to school) Social-behavioural

Effects upon Age 11; literacy and numeracy

Effect size in standard deviation units

Legend:
- Literacy (red)
- Numeracy (blue)

Categories: Family income, Mother's Education, Father's Education, Socio-economic status, Home learning environment, High-quality pre-school, Primary school

Pre-school Quality and
Self-regulation and Pro-social behaviour (age 11 and 14)

Effect sizes for 16 year olds
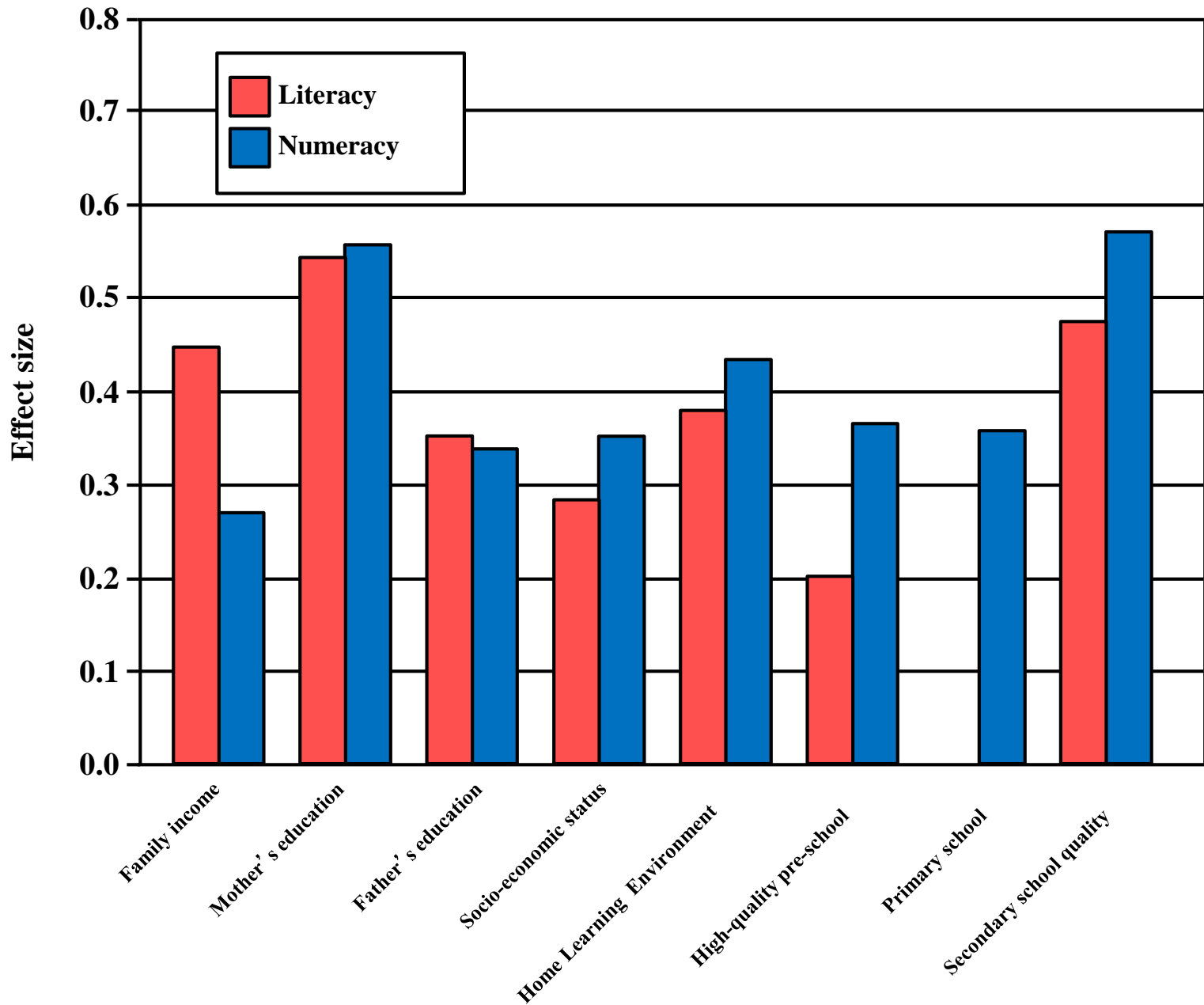
Quality of relational pedagogy matters: Caregiver Interaction Scale (Arnett)

- Positive relationships is a subscale made up of 10 items indicating warmth and enthusiasm interaction with children by the caregiver.

- Punitiveness is a subscale made up of 8 items indicating harsh or over-controlling behaviour in interaction with children by the caregiver.

- Permissiveness is a subscale made up of 4 items indicating avoidance of discipline and control of children by the caregiver.

- Detachment is a subscale made up of 4 items indicating lack of involvement in interaction with children by the caregiver.

Impact of quality as measured by the Caregivers Interaction Scale on cognitive and social behaviour outcomes

	Pre-reading	Early number concepts	Independence & Concentration	Co-operation & Conformity	Peer Sociability
Positive relationships	+	+	+	+	+
Punitiveness	-	-		-	
Permissive	-	-	-	-	
Detachment	-	-		-	-

Summary

- Early years shape future development

- Pre-schooling is vital component of a successful society

- High quality pre-school boosts outcomes

- Disadvantaged children experience poorer quality education across phases

- The maintained sector, with better leadership and qualified teachers, is better positioned to drive quality improvements which matter most for disadvantaged children

- Further work on pedagogy, assessment and workforce will strengthen quality – simply focussing on curriculum is not enough.

What quality looks like
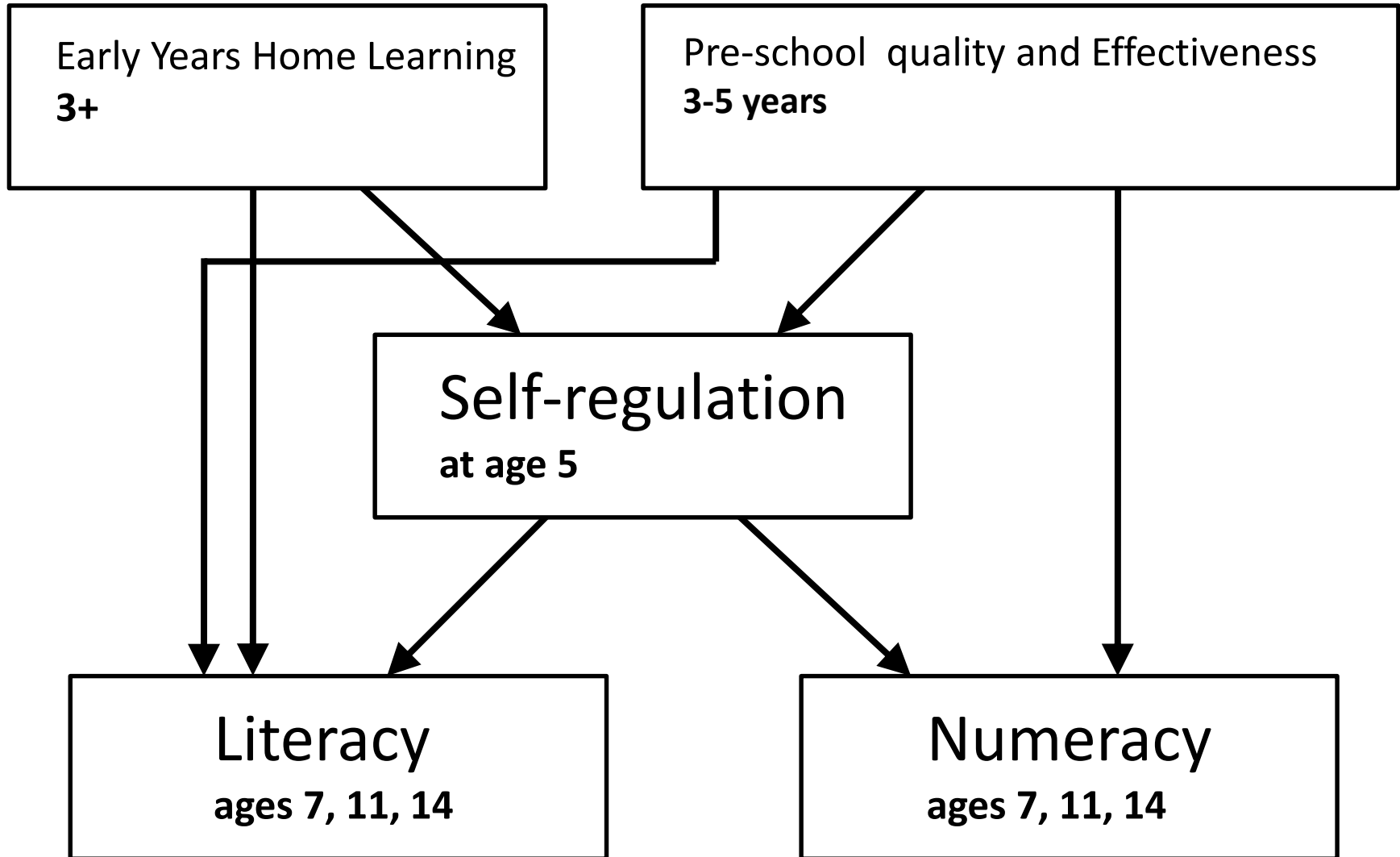## Settings - what are the key elements of high quality provision?

Graduate leading practice, setting vision, leading learning culture

Clear educational goals

Meeting every individual child's needs

Level 3 as standard for group care and basis for progression to higher levels

Sustained shared thinking

Workforce

Practice

Warm reponsive relationships between adults/children

CPD – opportunities for staff to gain higher qualifications & improve skills

Parents supported in involvement in children's learning

Content & Environment

EYFS staff : children ratios

Safe & stimulating physical environment

EYFS challenging & play-based content

Parents as Home-based Pedagogues

Early years Home Learning Environment (HLE)

- ❖ being read to
- ❖ painting and drawing
- ❖ going to the library
- ❖ playing with letters/numbers
- ❖ learning activities with the alphabet
- ❖ learning activities with numbers/shapes
- ❖ learning activities with songs/poems/nursery rhymes

Pathways to attainment in literacy and numeracy

Early Years Home Learning
3+

Pre-school quality and Effectiveness
3-5 years

Self-regulation
at age 5

Literacy
ages 7, 11, 14

Numeracy
ages 7, 11, 14

DVD

Quality Interactions clips…..

Intentionality (Pianta, 2003)

'Directed, designed interactions between children and teachers in which teachers purposefully challenge, scaffold and extend children's skills'

Summary

- Emerging concensus on adding 'soft skills' to ECE curriculum (CARE 2015, 2016)

- Certain types of PD to support play/games/interactions appear to improve quality and self regulation (Siraj et al 2017)

- Pre-school quality (and duration) leads to improved self regulation in English EPPSE sample

- Global v pedagogical quality?

Family of UK/European CLIQRS look at:

- Early Childhood Environment Rating Scale – Extension (**ECERS-E)** (3 to 5 years)
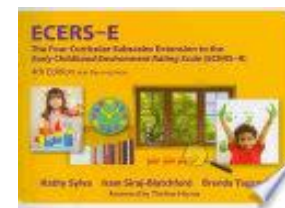
- Sustained Shared Thinking and Emotional Wellbeing (**SSTEW**) Scale (2 to 5 years)
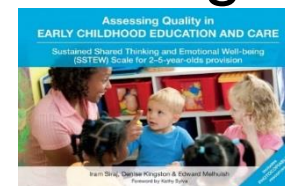
- Movement Environment Rating Scale (**MOVERS**)(2 to 6 years)

Curriculum, Leadership and Interaction Quality Rating Scales (**CLIQRS**) from UCL-IOE Press

ECERS-E and SSTEW Scale – focus on cognitive, social, emotional, relational and communication

ECERS-E

- **Based on observation – 4 sub-scales**

  - ❖ **Literacy**
  - ❖ **Mathematics**
  - ❖ **Science and environment**
  - ❖ **Diversity**

Sylva, Siraj-Blatchford & Taggart (2003)

SSTEW Scale

- **Based on observation – 5 sub-scales**

  - ❖ **Building trust, confidence and independence**
  - ❖ **Social and emotional well-being**
  - ❖ **Supporting and extending language and communication**
  - ❖ **Supporting learning and critical thinking**
  - ❖ **Assessing learning and language**

Siraj, Kingston & Melhuish (2015)

Heavily focussed on interactions

Children's interactions with educators and peers, more than any other program feature, can determine what children learn and how they feel about learning

(Driscoll et al., 2011; Epstein, 2014; National Research Council, 2000; Pianta, 2012).

Sustained Shared thinking

- *"An episode in which two or more individuals "work together" in an intellectual way to resolve a problem, clarify a concept, evaluate activities, extend a narrative etc. Both parties must contribute to the thinking and it must develop and extend"* (Siraj-Blatchford et al., 2002)

- *"the active engagement of practitioners in children's learning and extending thinking."*
  (Siraj, Kingston and Melhuish, 2015)

Sustained Shared Thinking.

- Can be verbal or non-verbal.

- Emphasis on "contribution to thinking"

- The educator may 'stand back', 'intervene', 'model', 'question' 'provoke' etc

- The educator needs to be sensitive not necessarily talkative – the responsive adult who intentionally scaffolds learning.

Format of SSTEW Scale

- Same structure as the ECERS-R
- Items assessed on a seven point scale
- Divided into five sub-scales:
  - Building trust, confidence and independence
  - Social and emotional well-being
  - Supporting and extending language and communication
  - Supporting learning and critical thinking
  - Assessing learning and language

Measuring Quality:
Sustained Shared Thinking and Emotional Well-Being (SSTEW)
Scale for 2-5 year olds provision

There are 5 Subscales and 14 items:

1   _Building trust, confidence and independence_

- Self-regulation and social development
- Encouraging choices and independent play
- Planning for small group and individual interactions/adult deployment

2   _Social and emotional well-being_

- Supporting socio-emotional wellbeing

3   _Supporting and extending language and communication_

- Encouraging children to interact with others
- Staff actively listen to children and encourage children to listen
- Staff support children's language use
- Sensitive responsiveness

There are 5 Subscales and 14 items

4   *Supporting learning and critical thinking*
 – Supporting curiosity and problem solving
 – Encouraging sustained, shared thinking during story time
 – Encouraging sustained, shared thinking in investigation and exploration
 – Supporting concept development and higher order thinking

5   *Assessing learning and language*
 – Using assessment to support and extend learning and critical thinking
 – Assessing language development

Authors: Iram Siraj, Denise Kingston, Edward Melhuish

UCL-IoE Press, 2015

Sub-scale 3: Supporting and extending language and communication

Item	Inadequate		Minimal		Good		Excellent
	1	2	3	4	5	6	7

Item 8: Sensitive responsiveness

1.1   Little effort is made to engage with the children (e.g. in conversation, to show any interest in what the children are doing etc.).

1.2   Staff often talk amongst themselves and ignore the children in front of them.

1.3   Little effort is made to treat the children as individuals, instead children are communicated with "en masse" (as a group) at all times.

1.4   Children are left in obvious distress.

3.1 Staff focus on small groups of children and respond to individuals within the group.

3.2 Staff listen out for and respond to any questions or comments from children in an interested way.

3.3 Praise is used, but indiscriminately and generally to the whole group.

5.1 Staff ensure that most children receive extended individual attention at least once during the session*.

5.2 Help is willingly offered if the staff feel that children may be struggling with the task in hand.

5.3 Praise and encouragement is readily given to individuals when appropriate.

7.1 Most children are given "one on one" interactive attention more than once during the session*.

7.2 Any comments or requests from children are responded to or dealt with promptly – if necessary involving another member of staff to ensure that children are not left waiting and wondering*.

7.3 Although staff members may wish to focus on an individual child, no other child in the group is made to feel excluded.

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Areas identified for professional development (PD) for URLEY (England), FEEL (NSW) and REEL (Vic) studies

ECERS-E:

1. Language and Literacy

2. Maths and number

3. Science and the environment

4. Diversity (meeting and planning for the needs of individuals and groups)

Areas identified for PD

SSTEW:

- Building trust, confidence and independence
- Social and emotional well-being
- Supporting and extending language and communication
- Supporting learning and critical thinking
- Assessing learning and language

References

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