

# Parental Book Reading and Children's Language Skills: Evidence from a Randomised Controlled Trial in France

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# Background

- Early cognitive skills, educational success, educational inequalities
- The pivotal role of early language skills
- The potential of Parental Book Reading (PBR): consensus & controversy
- Issues of internal & external validity

# Does it work?

## What can go wrong

Communicating with parents about the benefits of PBR can be difficult

'One-shot' interventions may not work

Not all parents have an investment focus on their children

Children as passive learners

(Measurement issues & statistical power)

# Target

- The disadvantaged neighbourhoods of the city of Paris ('18/19/20ème arrondissement')
- Public, pre-primary, 'priority' schools
- Children aged 4, including immigrant & disabled students

# Sampling & Randomisation

- Sampling: random sample of 22 schools (4 replacements) not already borrowing books to families, 922 children
- Clustered randomisation within schools: within each school, half of the classes are assigned to T, half to C
- No school/class dropped out after we communicated the randomisation (delayed treatment)
- Parental consent rate: 96%

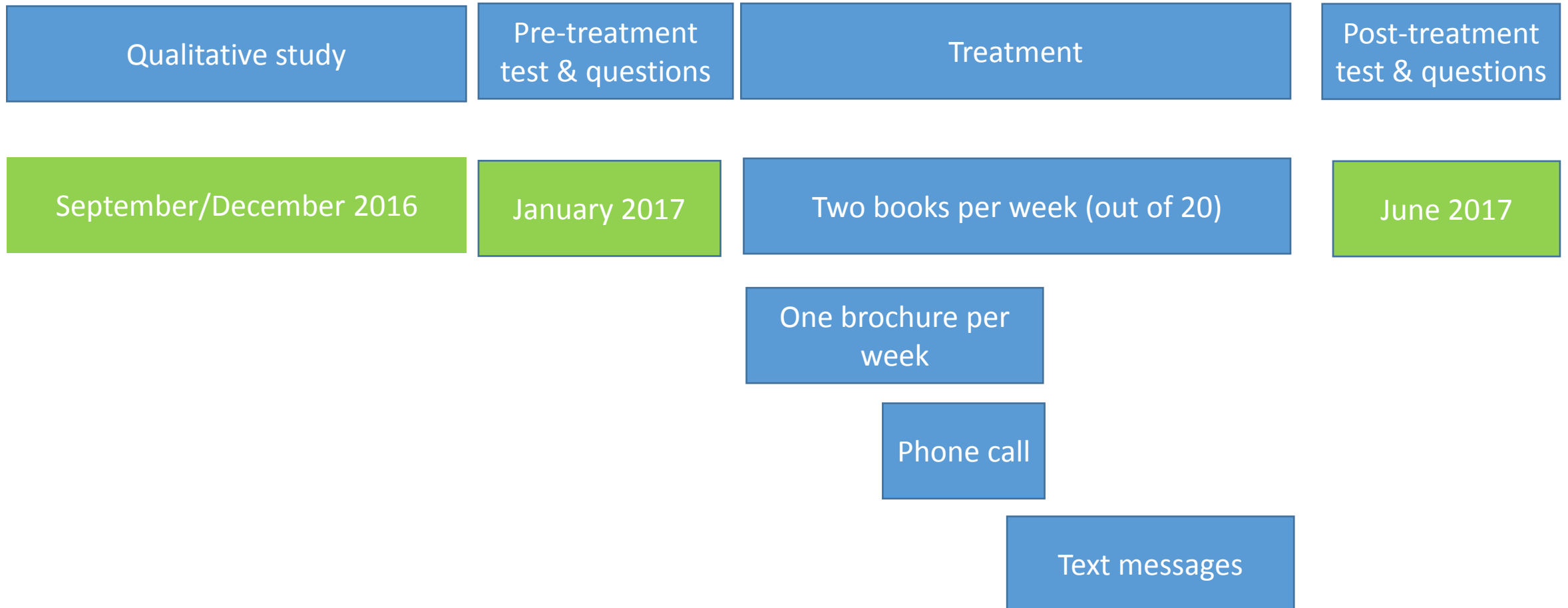
# MDE (PowerUp)

Parameter	Value	Comment/justification
p-value	5%	Standard practice
Statistical power	80%	Standard practice
% of total variance in Y among level-3 units	15%	Conservative estimate (the REP schools of our three arrondissements are quite similar)
% of total variance in Y among level-2 units	10%	Conservative estimate (in schools the assignment of teachers and classmates is virtually random and changes yearly)
Level-3 effect hetherogeneity	20%	Standard assumption
% of level 2 units assigned to T	50%	Balanced randomisation
% of variance explained at level 1 by level 1 covariates	65%	We have pre-test values and covariates to predict post-test values
% of variance explained at level 2 by level 2 covariates	5%	We have contextual variables from the school & family questionnaires
% variance explained at level 3 by level 3 covariates	10%	We will use contextual variables from the school questionnaire
Mean N for level-1 units	12	Mean size for classes around 18, but we account for non-response
Mean N for level-2 units	3,9	Value computed on the actual data given by the schools
Number of level-3 units (schools)	22	Value computed on the actual data
MDES with fixed-effects specification	0,15-0.19	

# Overview of the study



# Treatment overview





# Treatment design

What can go wrong	What we try to do
Communicating with parents can be difficult	Brochures + phone calls + text messages
One-shot interventions may not work	A continuous intervention
Not all parents have an investment focus	Behavioural incentives & expressive motivations
Children as passive learners	Dialogic reading component
Children are the key stakeholders	They choose the books

# Treatment design: main characteristics

- **Coverage:** reaching also parents with low-motivation & limited knowledge of French
  - > phone calls (5 languages)
  - > short & simple texts
  - > repeating few basic messages across the different formats
- **Motivation:** stressing both the educational benefits *and* the pleasure of PBR
- **Expertise:** tips on reading as daily routine, how to effectively read

# Data collection: background information

- Parental questionnaire: parental education, language(s) spoken at home, nationality, gender
- School-level questionnaire to the principals
- Classroom-level observations of teacher-child interactions (sub-sample)

# Measurements

## **Primary outcomes**

- PPVT (EVIP), forms A & B: receptive vocabulary
- PPVT-type test adapted to the specific contents of the books (EVIP C)

## **Secondary outcomes**

- PBR frequency
- Parental enjoyment of PBR
- Children's enjoyment of PBR

# Dimensionality of the new measure

Variable	Factor loadings
EVIP A	0,90
EVIP B	0,90
'EVIP C'	-0,88
Explained variance	78%
Cronbach's alpha	0,72

# Equivalence between T & C children before the treatment

Variable	Treated	Whole sample	Control
% males	50,4	51,1	52,4
age in months	52,1	52,2	52,3
% parents without a tertiary degree	53,2	52,4%	51,7
% families who do not speak French at home	16,1	16,8	17,9
% parents who read less than once a week	29,2	30,8%	33,5
% children with low interest for books	18,1	16,9%	15,9
% parents who do not like little a lot reading books	16,5	15,5	14,5
EVIP vocabulary score	42,5	41,9	41,4

N=842

# Modelling

$$EVIPB_i = a + bT_j + cEVIPA_i + \epsilon_i$$

OLS regression models

Clustered standard errors (school level)

ITT estimates

# Treatment effects

Variable	PBR frequency	Specific vocabulary	General Vocabulary	Child enjoyment
Main effect	+0,25***	-0,28	-1,26	+0,07
Parental ed: high	+0,10*	-0,10	-3,14	+0,06
Parental ed: low	+0,42***	-0,52*	+0,71	+0,08
Boys	+0,33***	-0,56*	-0,68	+0,10
Girls	+0,18**	+0,03	-1,98	+0,03
Language: only FR	+0,19**	-0,21	-1,91	+0,07
Language: mainly FR+other lang.	+0,39***	-0,53*	+0,11	+0,07
Language: only other lang.	+0,25	+1,27	-9,6*	+0,30
Language: mainly other+ FR	+0,47***	-0,19	-3,38	+0,14
Mean (control students)	2,23	5,60	43,41	2,48
SD (control students)	0,90	2,61	19,97	0,71



# Discussion

- General vs. specific vocabulary skills
- Short vs. long-term outcomes
- Effect sizes
- Confidence intervals for T effects across categories estimates overlap

# Preliminary indications on scalability

- The positive reception of the schools
- The high participation of the parents
- The enthusiastic reaction of the children
- Moderate cost per student if T is scaled (3 euros)

# Conclusions

- Our contribution: a RCT with good external & internal validity, a cheap, scalable intervention
- Evidence of an impact on (self-reported) PBR frequency
- Evidence of an impact on (specific) vocabulary skills among low-educated families, immigrant families & boys
- A reduction of the socio-economic gradient in language skills ?
- No effect on general language skills, nor on reading enjoyment

THANKS FOR YOUR ATTENTION & REMARKS!