

Early Language Skills and Reading Acquisition

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Acknowledgements

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Reading...

- The core learning in primary school
 - Basis for subsequent learning
- Reading skills are a determinant of:
 - School performance at all ages
 - Time required to obtain a high school diploma
 - Continuation of post-secondary studies
 - Employment income and prestige
- ...and associated with:
 - Behavioural difficulties
 - Social and emotional adaptation

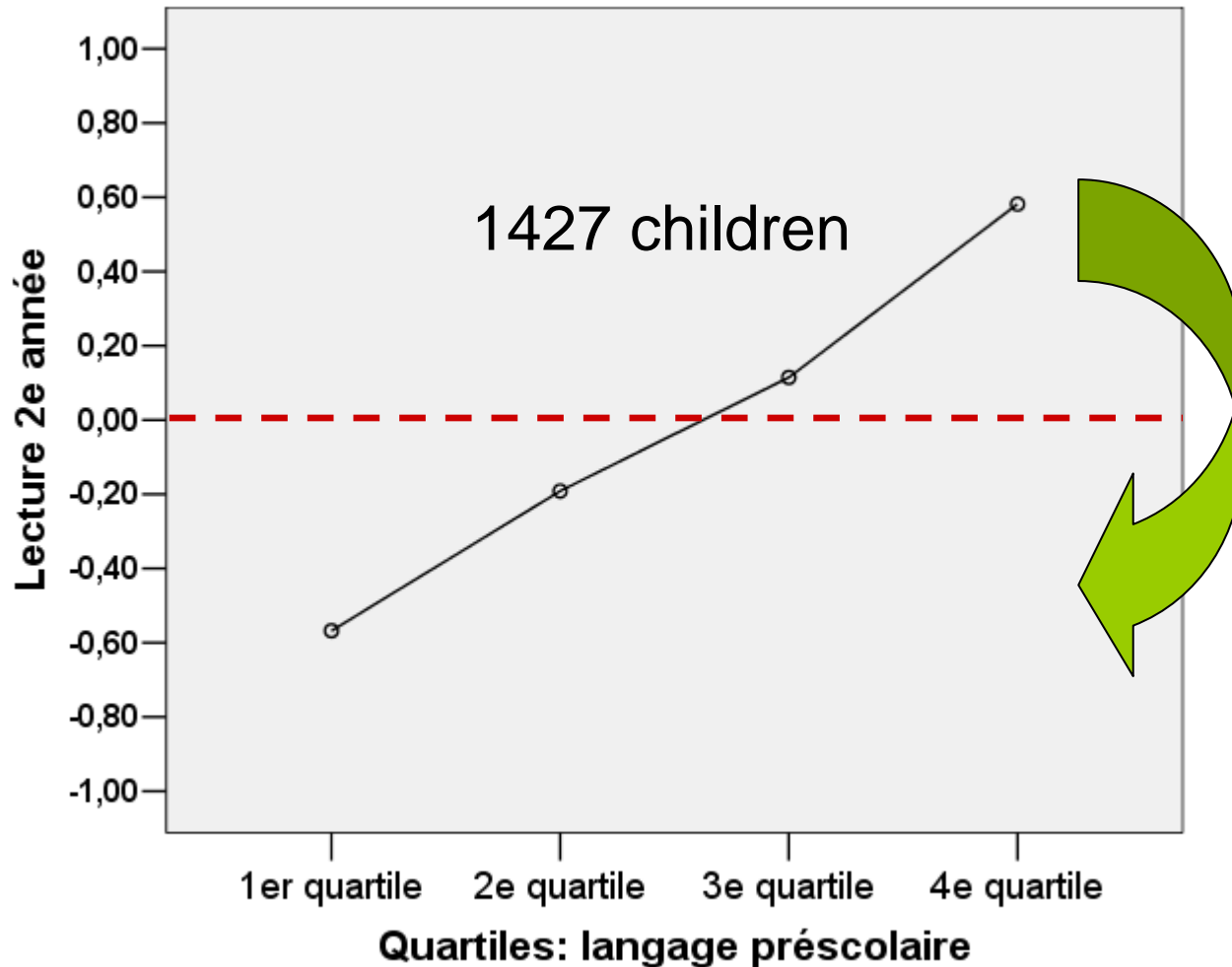


Determinants of reading

- In the child:
 - Expressive and receptive **language skills**
 - Phonological memory and awareness (determined in part by auditory perceptual abilities)
 - Knowledge of the alphabet
 - Non-verbal cognitive abilities (automation, spatial perception, memory)
- In the family:
 - Parental education and family income
 - Parental behaviours with respect to literacy
 - Access to books, **joint reading**, importance given to educational activities, access to quality daycare



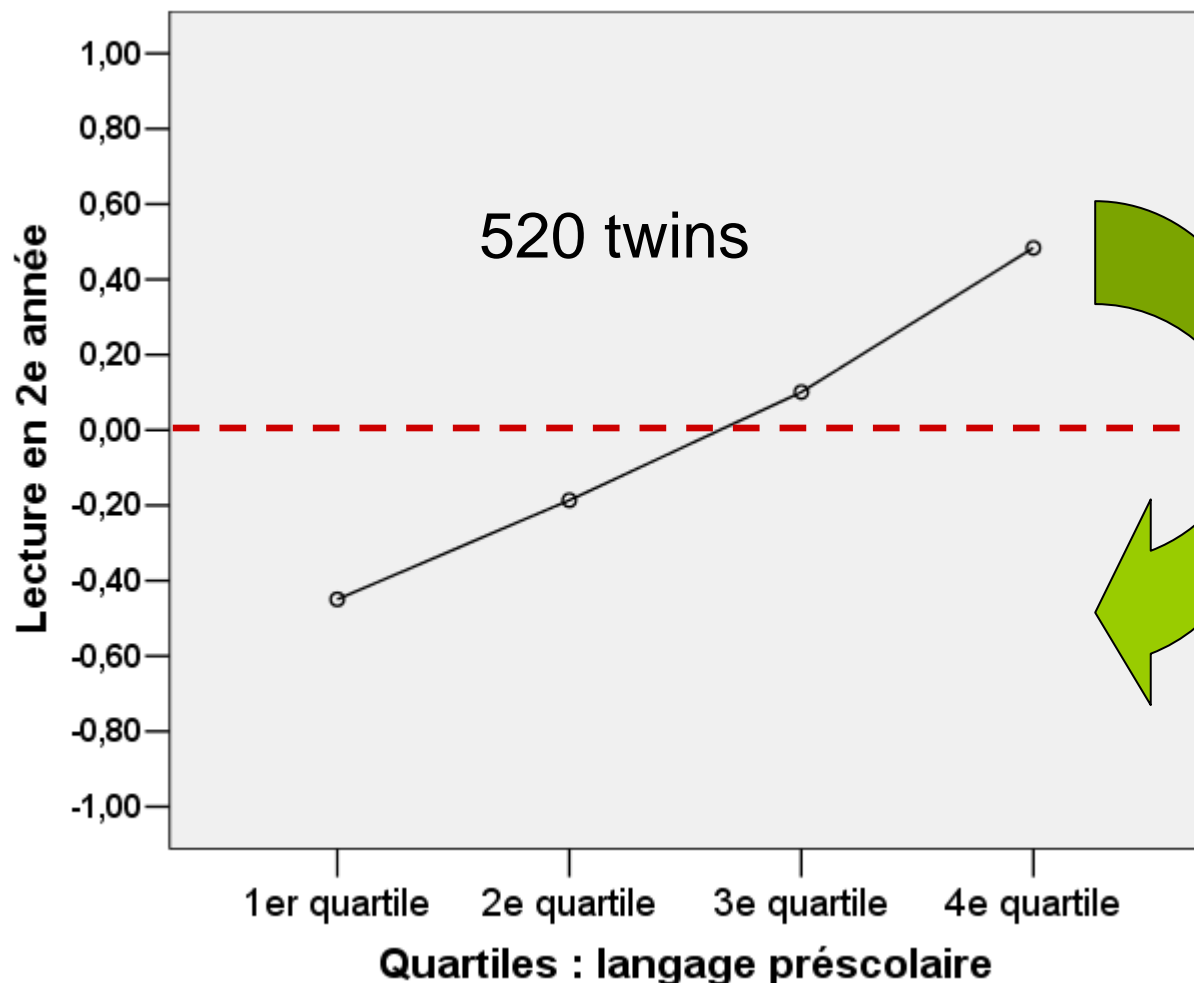
QLSCD preschool language–reading link



There is about one standard deviation difference between the average reading performances of children in the 1st and 4th quartiles of preschool language.



QNTS preschool language–reading link



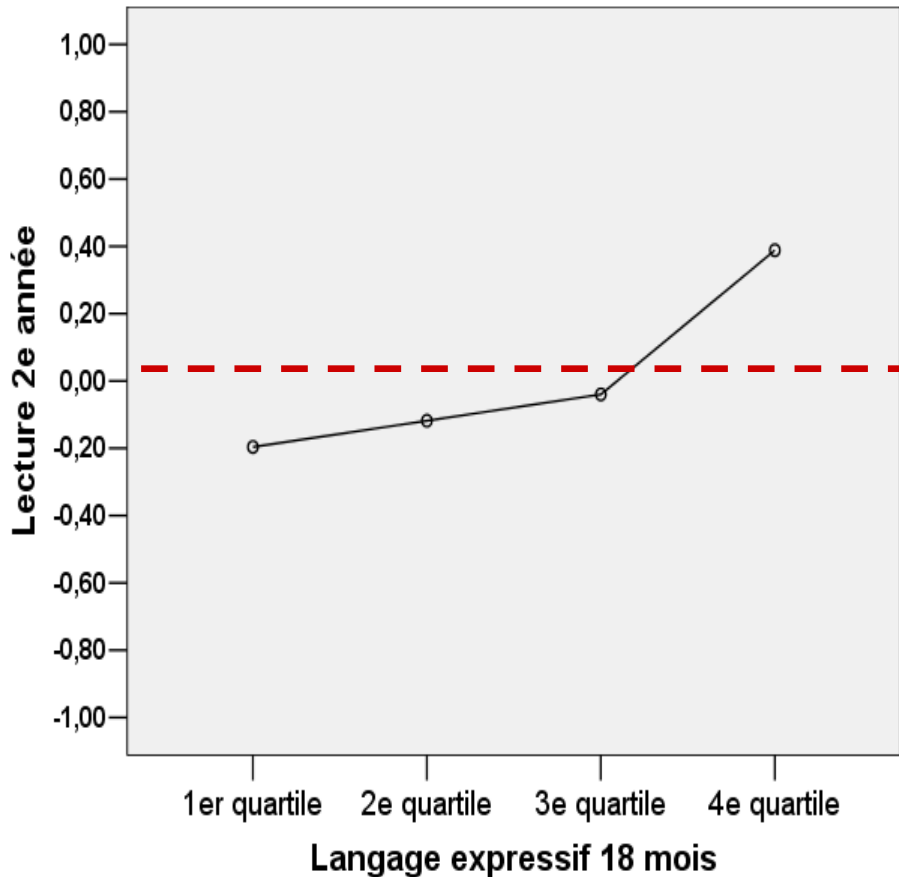
The relation is identical in the twins sample

- It is a strong link
- The correlation wavers around .40 (about 16% -18% of the variance explained).

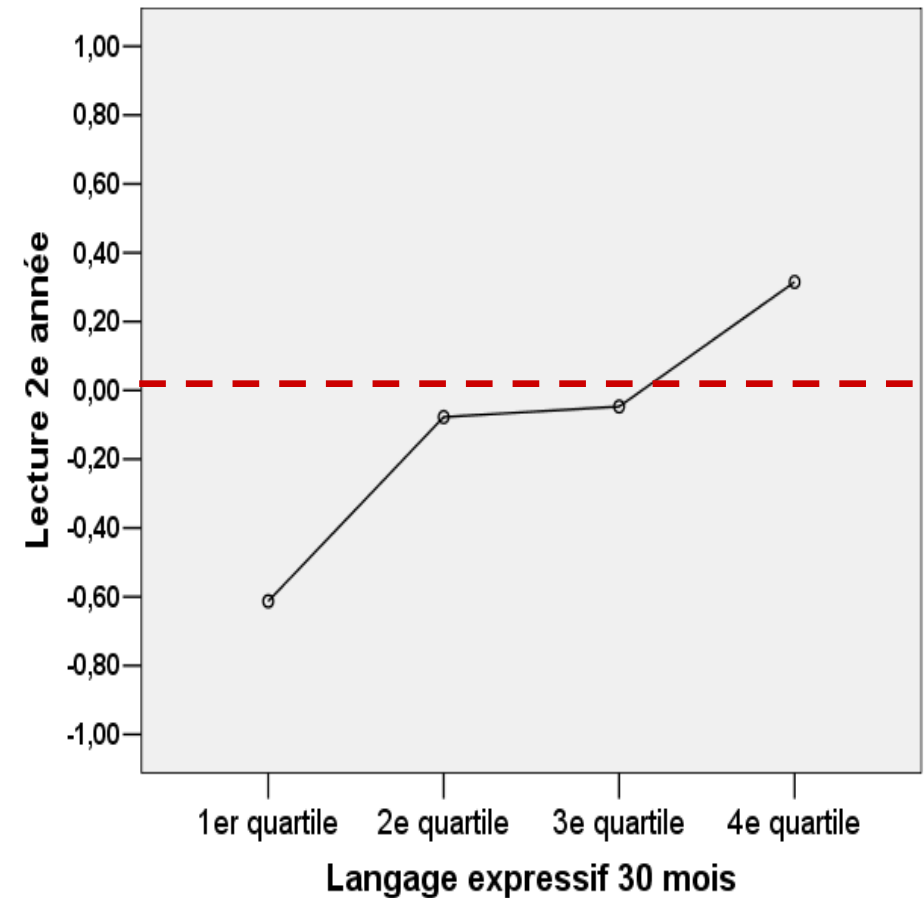


Language predicts reading in Grade 2 from 18-30 months

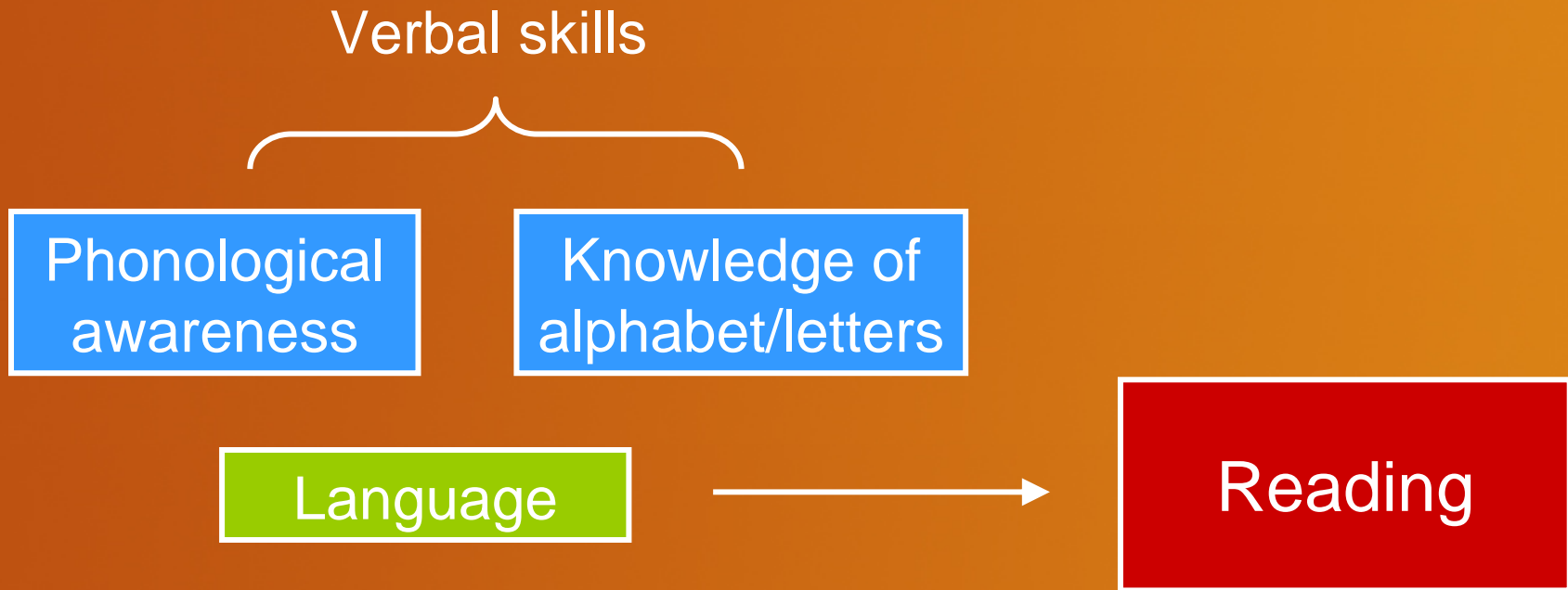
18 months: QNTS, 420 twins



30 months: QLSCD, 715 children



This gives the impression that...



... language and, by extension, associated verbal skills are the only determinants of reading to consider?



Yet this is false: the determinants of reading are complex

Verbal skills

Non-verbal skills

Phonological awareness

Knowledge of alphabet/letters

Perception

Executive functions

Automation

Language



Reading

Language stimulation

Joint reading

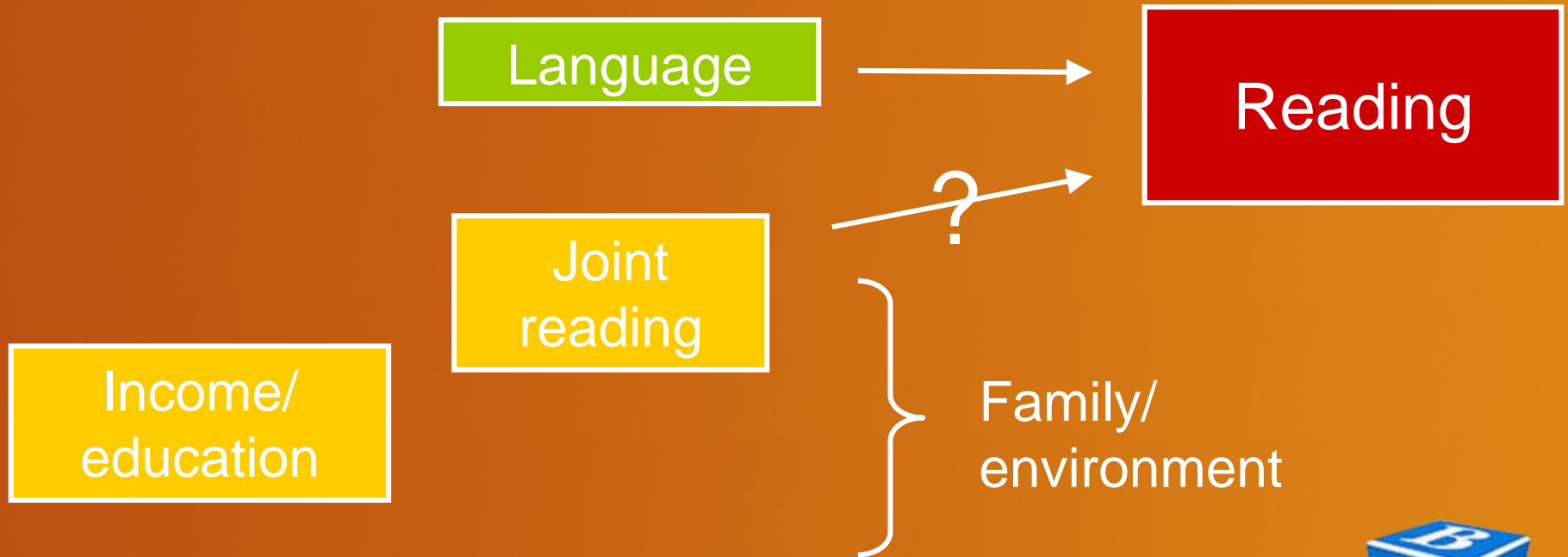
Family/
environment

Income/
education

Daycare



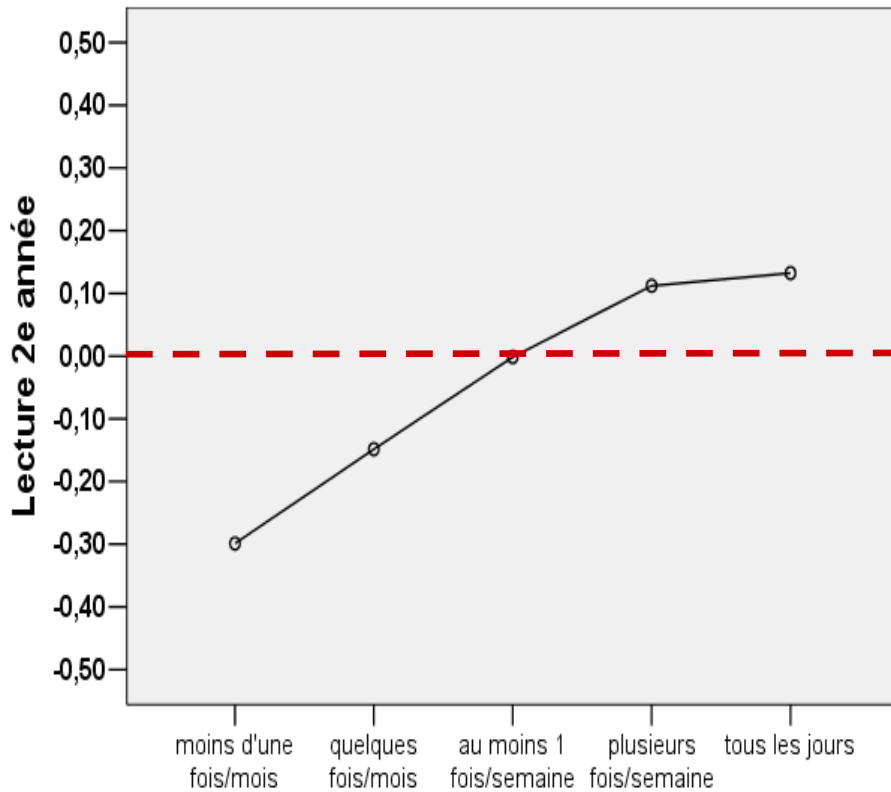
What is the contribution of joint reading activities?





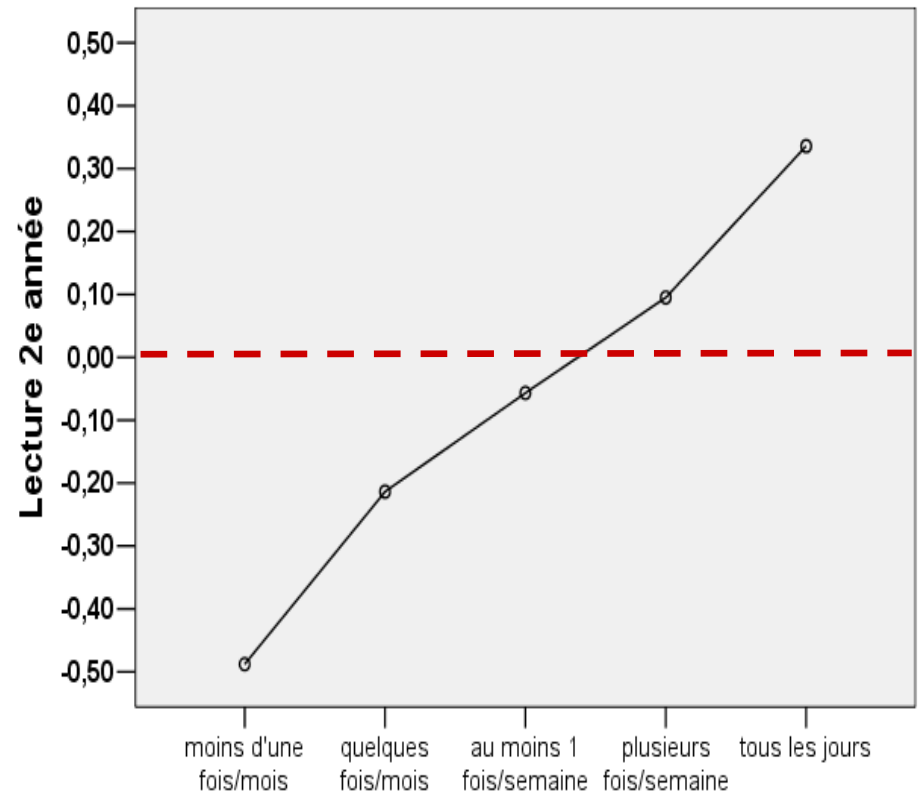
Frequency of joint reading in preschool: explains about 5% of the variation in reading

QLSCD: 1427 children



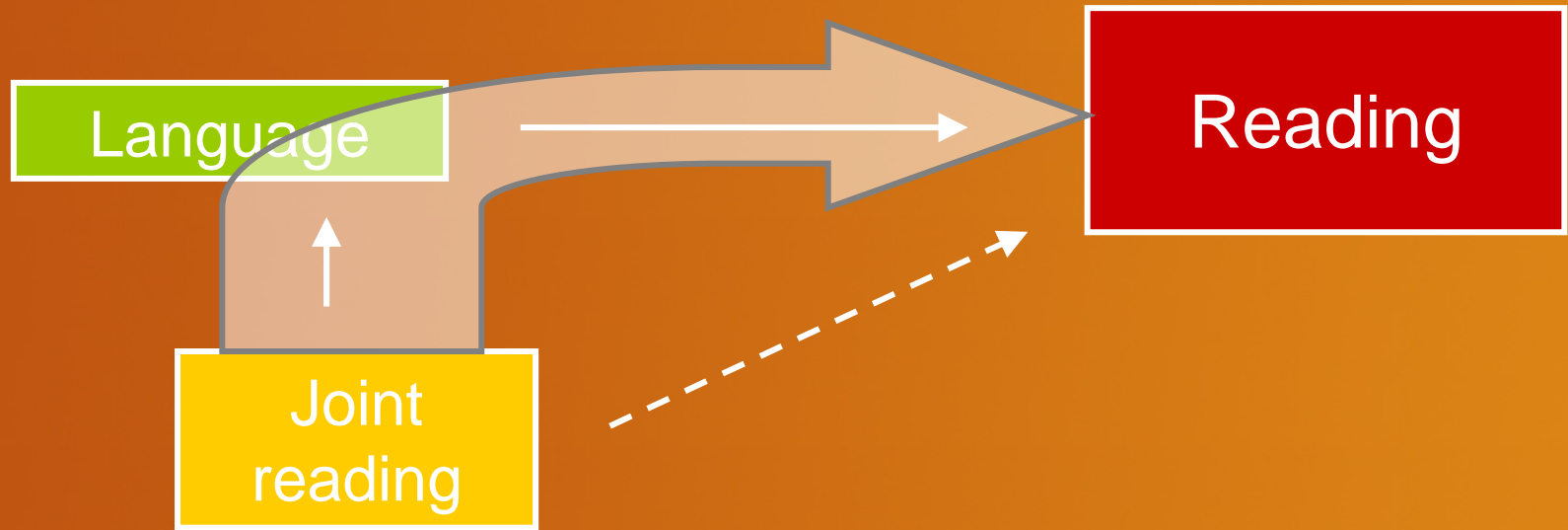
**Fréquence moyenne lecture conjointe
entre 18 mois et 4 ans**

QNTS: 521 twins



**Fréquence moyenne lecture conjointe
entre 18 mois et 4 ans**

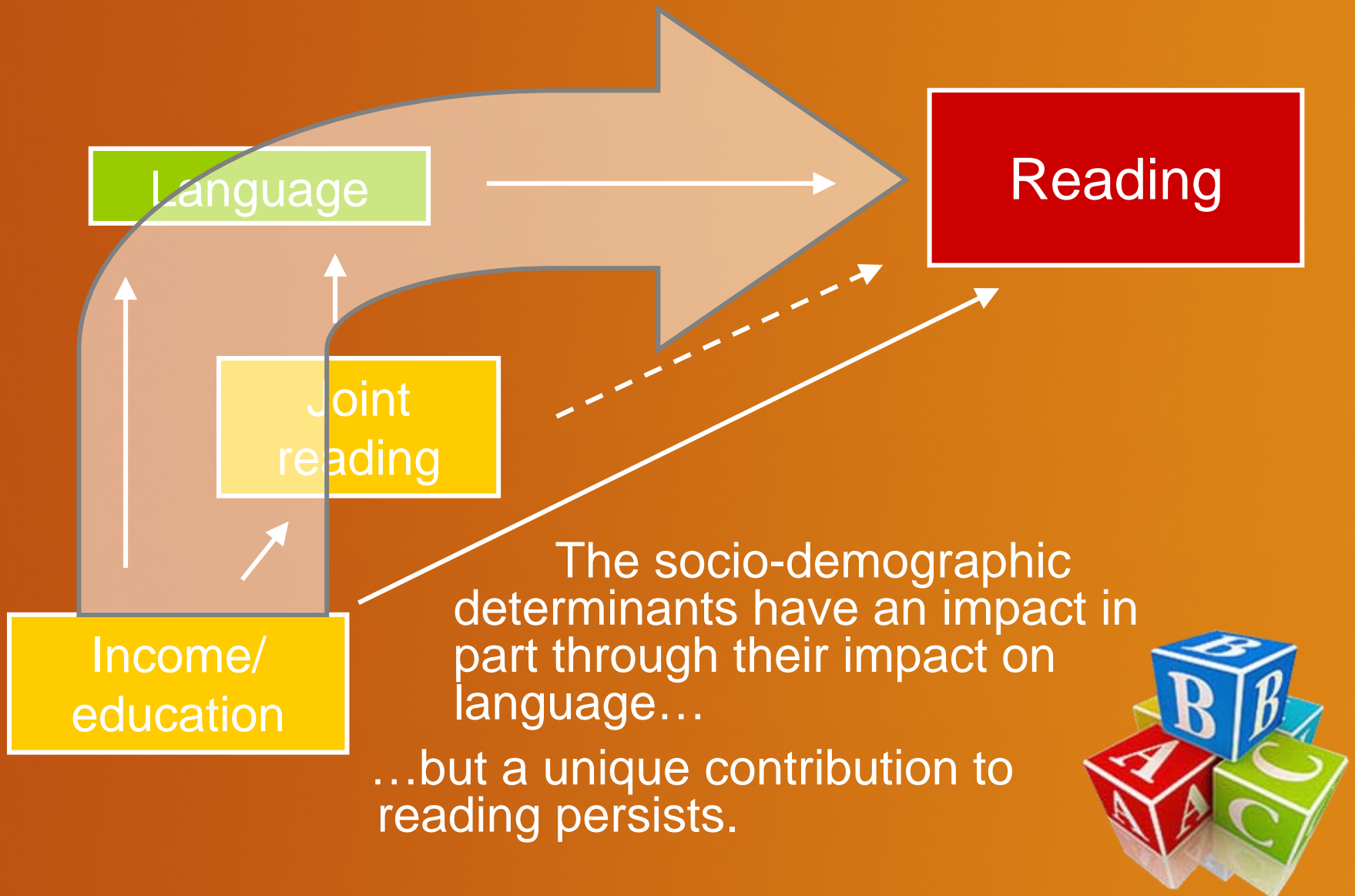
Joint reading has an indirect effect through the child's language



Joint reading explains about 10% of the variation in language skills at the end of preschool. It contributes to reading performance partly (QNTS) or entirely (QLSCD) through its effect on the child's language.



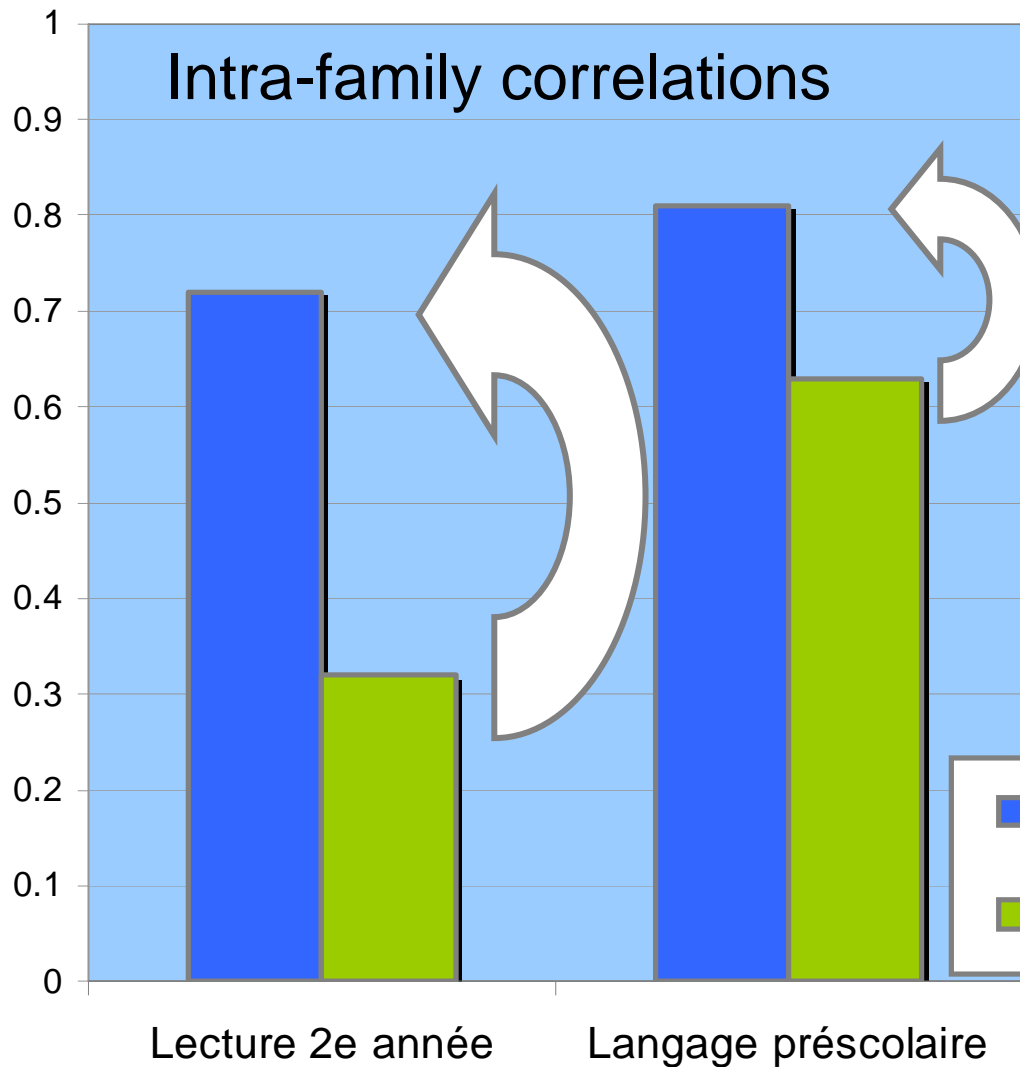
What is the contribution of the socio-demographic determinants?



Parents also contribute to reading through the genetic skills they pass on to their child



Reading is a strongly heritable skill; language is only slightly



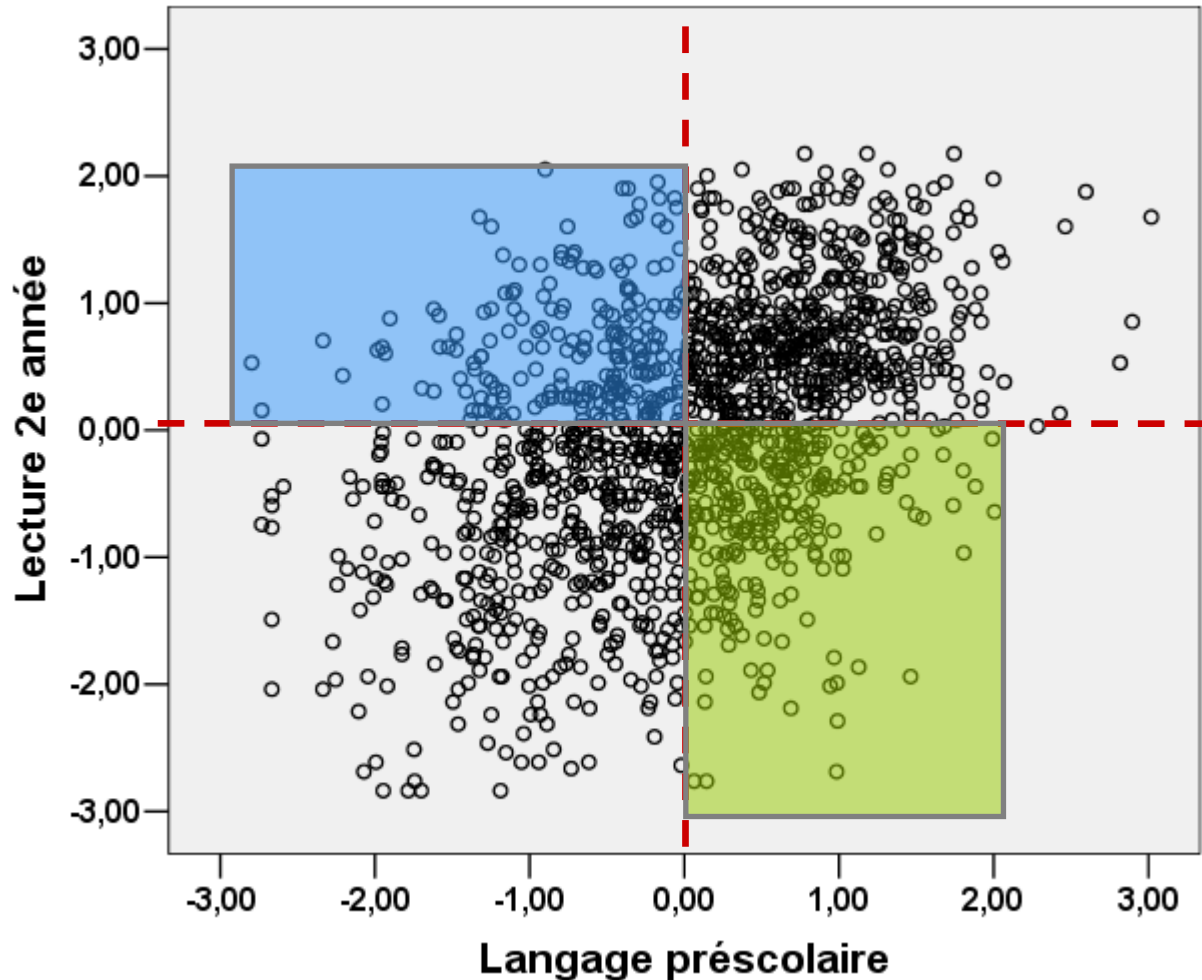
Heritability is a function of the difference in resemblance between identical and non-identical twins

- Language is more susceptible to environmental influences
- Part of the parental contribution to reading is of genetic origin

■ Jumeaux identiques
■ Jumeaux fraternels



This might explain why:



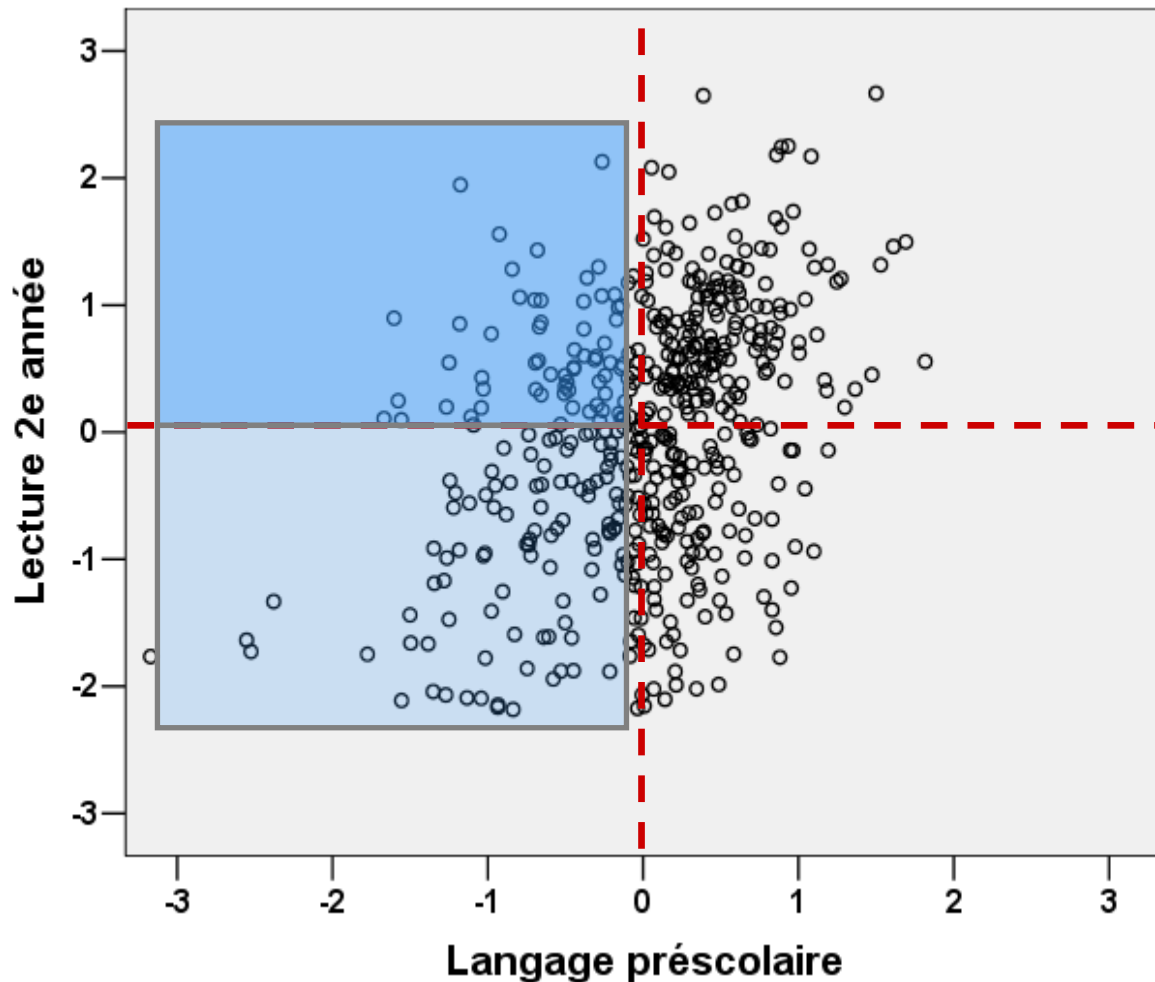
1. Some children are successful in reading despite below-average language
2. Some children have reading difficulties despite average or above-average language



What other factors are
predictive of reading
performance?



When language is below average...



Reading differences are linked to:

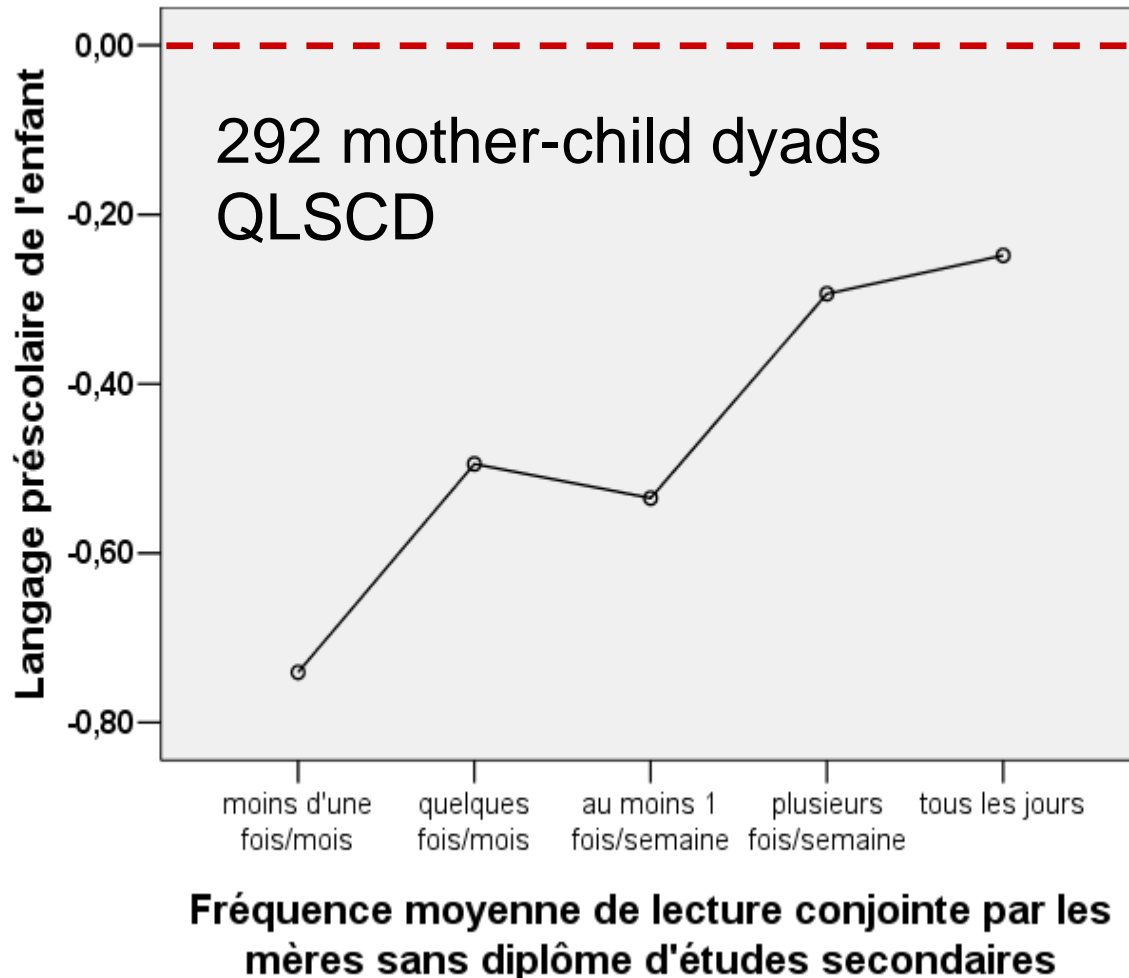
- Severity of the language delay
- School prerequisites (phono awareness, knowledge of letters)
- Non-verbal IQ
- Motor skills

But also to:

- Mother's education
- Income



Joint reading predicts language in children of mothers without a high school diploma



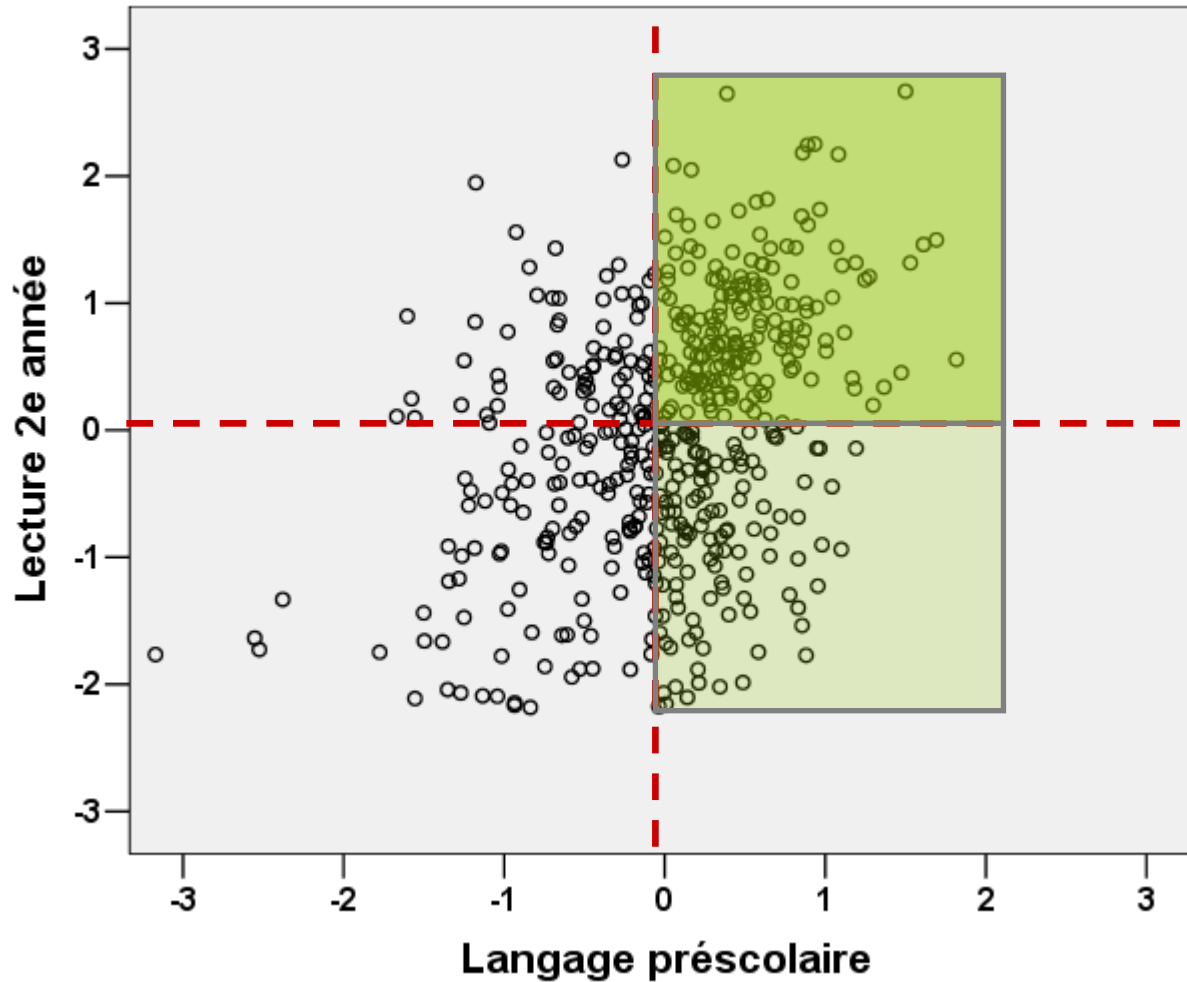
However, joint reading is not a direct predictor of reading outcomes.

The genetic risk in reading is greater in this group:

- Co-twin's score predicts 40% of the variation in reading compared to 22% in families where the mother has a higher educational attainment (QNTS)



When language is above-average...



Reading differences are linked to:

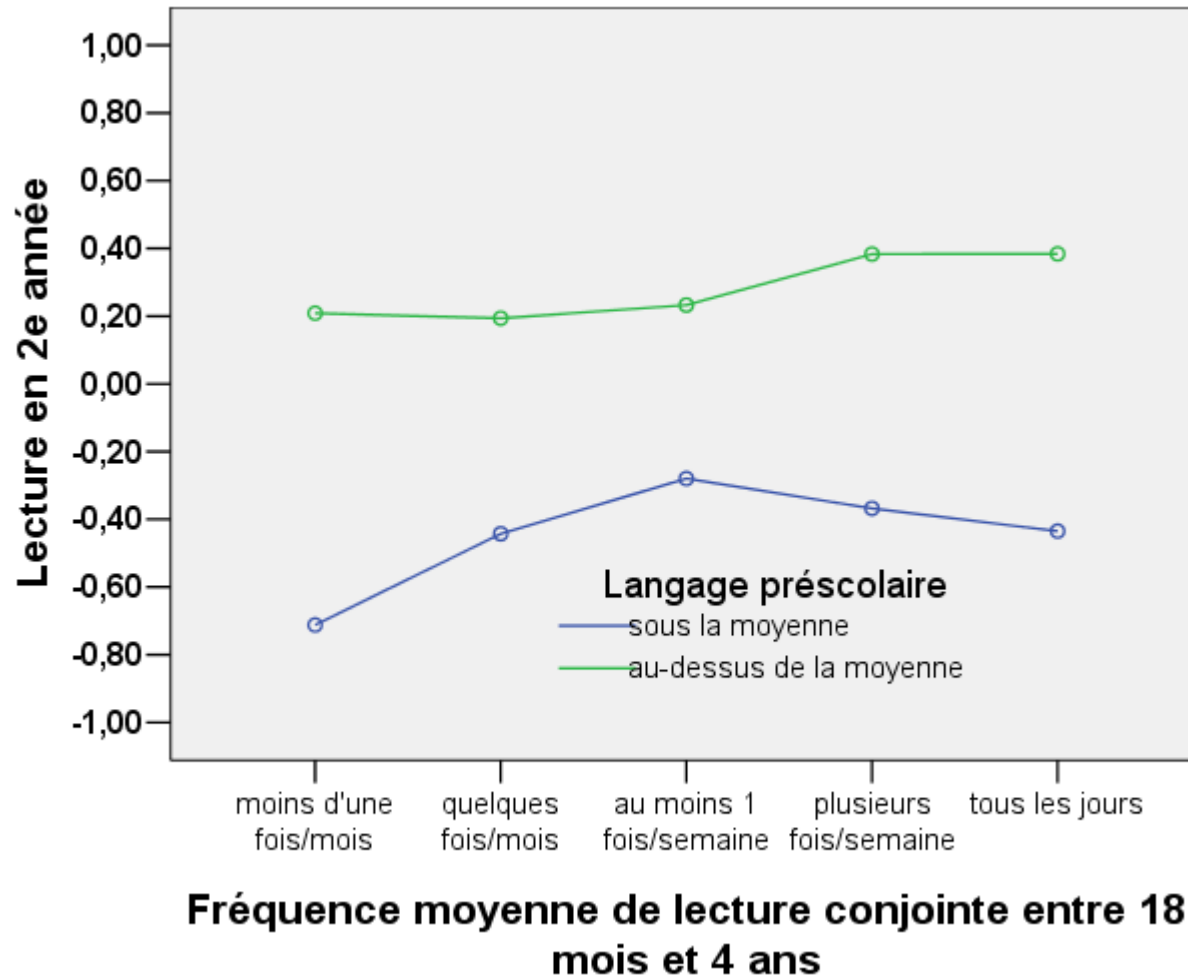
- Language level
- School prerequisites

But also to:

- The frequency of joint reading



Contribution of joint reading to reading according to the child's language level



Joint reading contributes to reading beyond language and socio-demographic variables in the group with above-average language only (QLSCD).



Therefore...

1. The child's (expressive) language prior to school entry is the best determinant of his or her reading performance at the start of primary school
2. Joint reading activities from 18 months contribute to the child's reading performance beyond the socio-economic level
 - This contribution is due to its effect on the child's language
 - It mostly benefits children who are less at risk
3. Even though reading is a highly heritable skill, family practices surrounding literacy help maximize the child's chances



