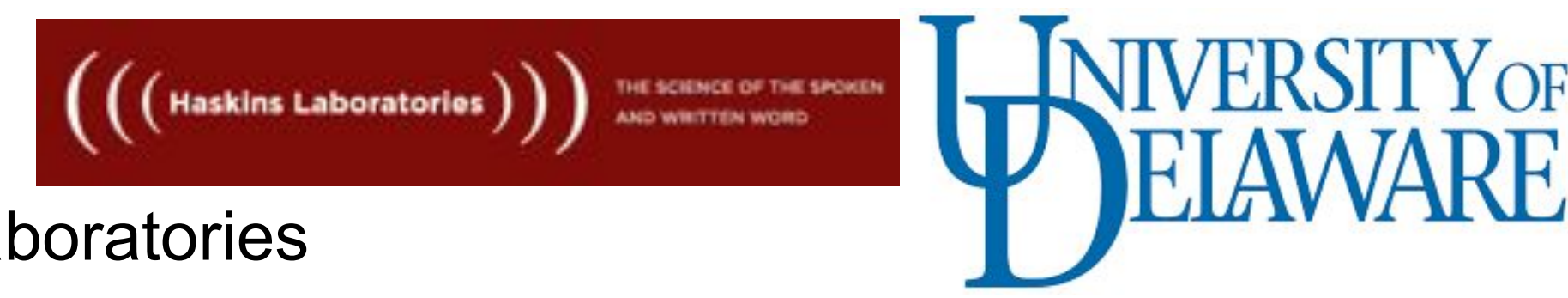


The impact of child labor on children's reading outcomes in rural cocoa-producing communities in Côte d'Ivoire



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INTRODUCTION

In Ivory Coast (40% of global cocoa production), child cocoa labor is common in impoverished rural communities (i.e. families live below the poverty line, ~1.9 USD/day¹) and impacts children's developmental and academic outcomes.





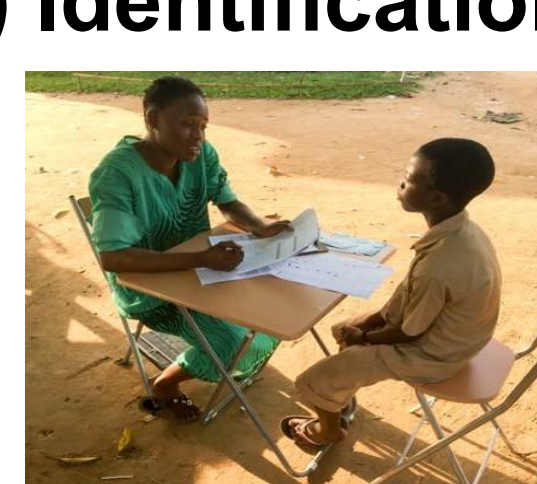
The negative impact of complex and multidimensional poverty on child developmental outcomes is well-established. However, the mechanisms that relate child poverty and labour (i.e. domestic, economic, and agricultural) with academic outcomes (i.e. literacy) remain unclear.

Specific Aim: To examine how children's literacy outcomes are influenced by family socioeconomic status (SES), child labor, and the complex dynamic relationship between the two.

Hypotheses: Low-resource environments (low SES, absence of books, and parental support for homework) and child labor will have a negative influence on children's learning outcomes. However, poor readers may have heterogeneous child labor profiles and family environments that influence reading in distinct ways.

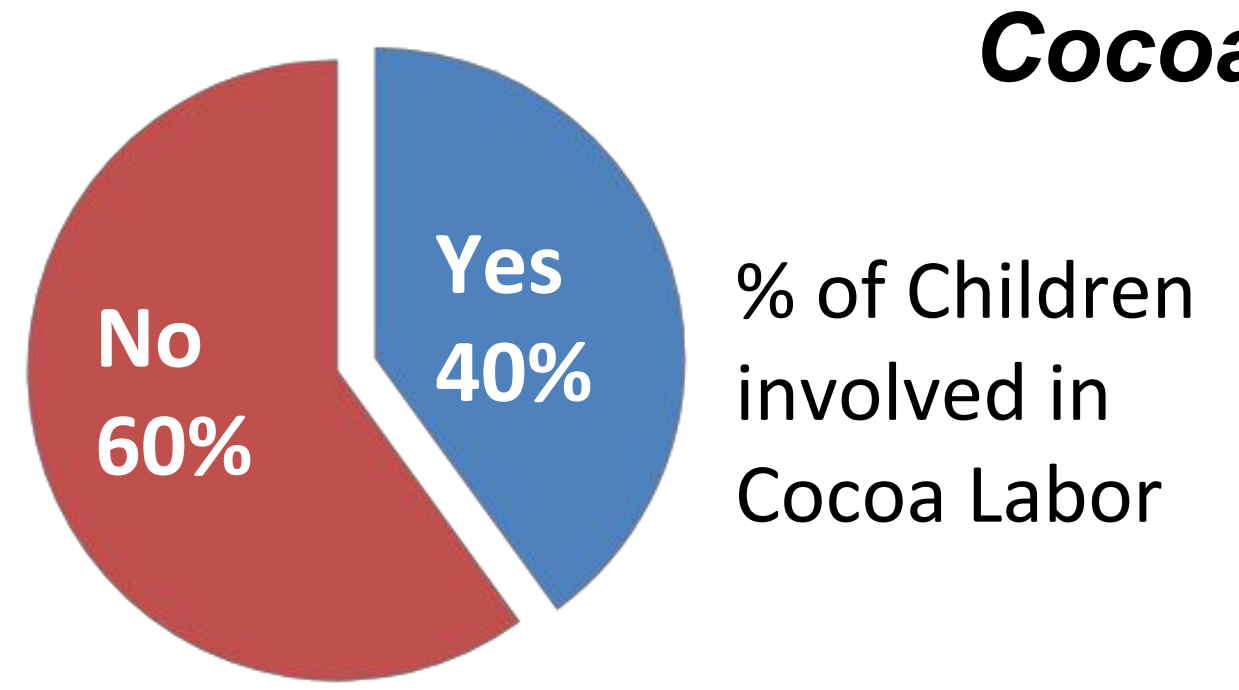
METHODS

Participants: 830 children (Ages 6-14, M=9.56; SD=2.13; grades: 1st, 3rd, 5th)
Tasks:

Measure	Description
Family SES ²	Household inventory (15 items) (eg. does the home have toys for children, books or other things to read, radio, electricity, water (pump), TV, fridge, toilets, bicycle, motorbike, a car, etc.
Literacy Resources ²	Presence of books at home, parent homework support
Child Labor ³	Inventory of cocoa agricultural work (including hazards) Normal work: e.g. preparing nurseries, spraying weeds, spreading fertilizer, picking up and piling cacao pods, breaking cacao pods to let them ferment  Hazardous work: e.g. spraying pesticide, cutting trees, burning trees, carrying heavy loads, using sharp objects 
	Inventory of domestic work 
	Inventory of economic activities 
	Letter (100 items) Word(50 Items) and Pseudoword(50 Items) Identification French Literacy Assessment ² L Vol Ciko Q Lire Vaf R Car Jasi 

RESULTS

Cocoa Labor & Hazardous Work



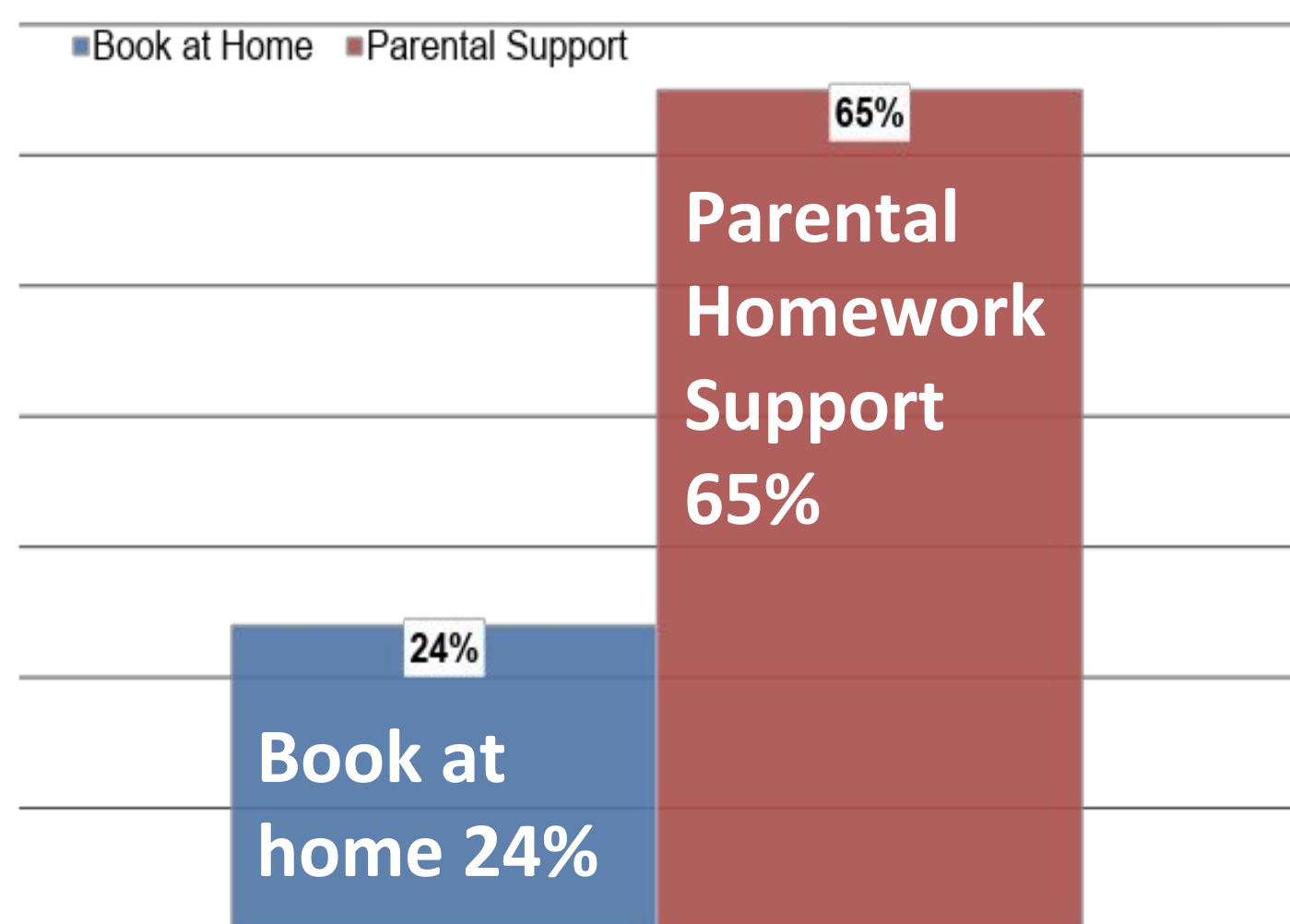
Predictors	Cocoa Labor		Hazardous Work	
	Std.beta	P.value	Std.beta	P.value
Economic work	0.69	<.001	0.12	<.0001
Domestic work	0.51	<.001	0.08	<.05
Gender (Boys)	2.14	<.001	0.38	<.0001
Age	0.26	<.001	0.04	<.05
Parental support	-1.96	0.32	-0.38	0.23
Family SES	0.10	0.16	0.01	0.16
Book at home	2.78	0.09	0.44	0.12

Gender and additional workload (domestic and other out-of-home economic activities) predict the likelihood of working on a cocoa plantation. Older children are also more likely to work on cocoa plantation.

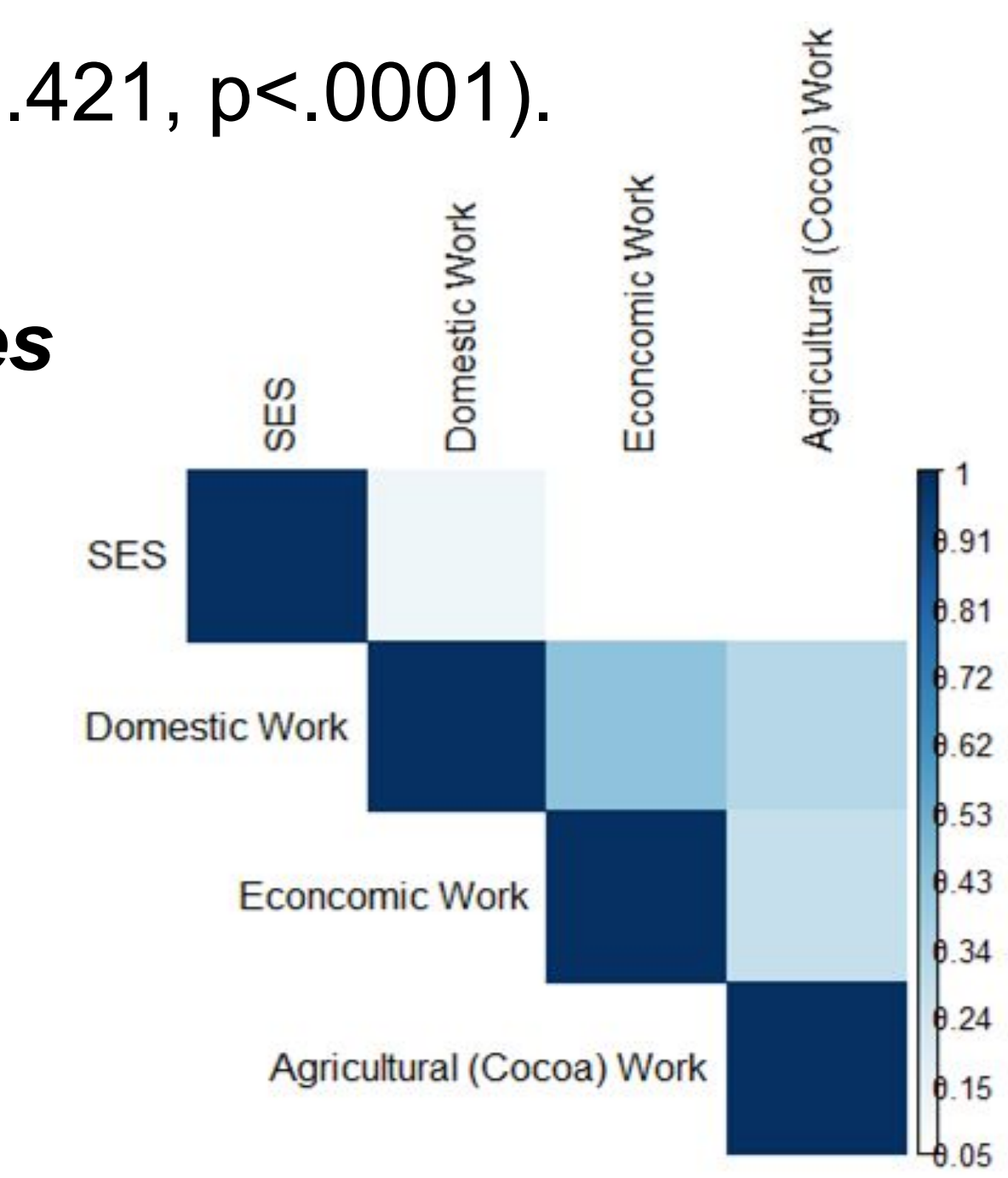
Boys are more likely to be exposed to hazardous work. (b=0.384, t(679)= 4.421, p<.0001).

Family SES and Home Literacy Resources

Only 24% of children had a book at home, and only 65% reported having parental homework support.



A high SES increases the possibility of having a book. Families with high SES are also more likely to provide support to help children study at home.

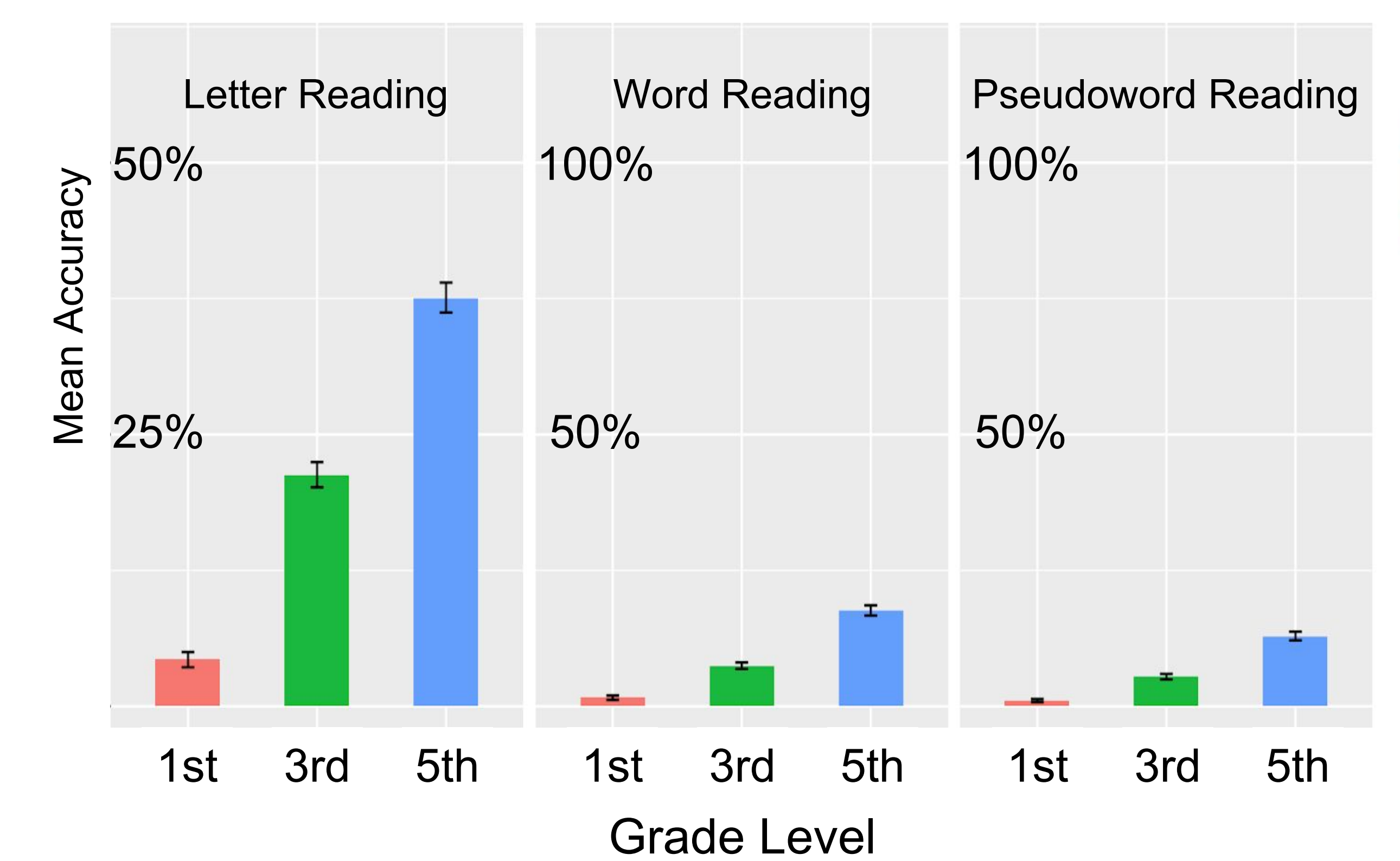


Predictors of SES	Std.beta	P.value
Parental support	0.769	<.05
Book at home	0.735	<.05

Children with no books in the home also have a higher probability of not receiving parental support to supplement their classroom exercises and lessons ($\chi^2(1, N = 830) = 133.16, p <.0001$).

How do Child Labor and Family Resources Predict Literacy Outcomes?

By 5th grade (CM1), students' average scores indicate little to no reading competency.



Literacy Predictors	Std.beta	P.value
Family SES	-0.01	0.25
Literacy support	0.30	0.28
Book at home	0.05	0.81
Cocoa labor	0.388	<.05
Hazardous work	-4.226	<.05

Hazardous labor is associated with poorer reading.

Child labor in general has a complex relationship with SES or household resources and thus literacy outcomes.

DISCUSSION

Children who perform hazardous work on a cocoa plantation are the poorest readers in communities that already have high illiteracy rates.

Specifically, engaging in hazardous work has a negative impact on a child's reading development, and the presence of literacy support at home does not appear to significantly offset these negative conditions.

Moreover, the conditions that lead to child cocoa labor are complex (i.e., gender and age determine which children work), and generally, child laborers are working across all domains: agricultural, economic and domestic.

Understanding the complex conditions that many rural Ivorian children grow up in can inform targeted policies to combat the child cocoa labor and illiteracy crisis.



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FUNDING

Jacobs Foundation

