Supplementary materials

Anonymized

Contents

SM1: Review of published tactile choice paradigms

In this section, we summarized published tactile choice work in terms of SES effects (Table SM1) and language exposure effects (Table SM2).

Paper	Group	Country	Age	Accuracy	RT
Schmitt 2011	E-mono (some with ME)	USA	18	no	NA
Friend 2012	E-mono (some with ME)	USA	18	yes	NA
De Anda 2016 (a)	E-F ME	Can	17	no	NA
	E-S ME	USA	17	no	NA
De Anda 2016 (b)	E-mono (some with ME)	USA	16	yes	NA
	S-mono (some with ME)	USA & Mex	16	no	NA
Friend 2017	E-mono (some with ME)	USA	23	yes	NA
	S-mono (some with ME)	USA & Mex	23	no	NA
De Anda 2018	E-S bi, E mono, S mono	USA	16	no	no
			23	no	no
Legacy 2018	E-F bi, F mono	Can & Swi	16 & 23	no	no
Friend 2018	E-mono	USA	22	yes	NA
	F-mono	Swi	22	no	NA
	E-F bi	Can	22	no	NA
Friend 2019	E-mono	USA	16	no	NA
			23	yes	NA
	F-mono	Swi	16	no	NA
			23	no	NA
Patrucco-Nanchen 2019	F-mono	Swi	16 & 22	no	NA
Rosemberg 2021	S-mono	Arg	39	yes	no

Table SM1.Summary of studies reporting analyses of tactile choice performance as a function of socioeconomic status (mostly maternal education). Papers are indicated by first last name of first author and year regardless of how many authors there are. E stands for English, S for Spanish, F for French. Mono stands for monolingual, bi for bilingual, ME for minimal exposure to another language. Mex stands for Mexico, Can for Canada, Swi for Switzerland. Age is average age in months. Under accuracy and RT, yes indicates that the authors found a significant effect of socioeconomic status on infant performance, no that they did not. Studies where no SES analysis was reported are not listed. Please note that many of these studies mention the data are part of a larger longitudinal study, so points may not be mutually independent.

Paper	Group	Country	Age	Accuracy	RT
Friend 2012	E-mono vs ME	USA	18	no	NA
Poulin-Dubois 2013	F-m or E-m vs various bi	Can	24	no	no
Legacy 2016	F-mono vs E-F Bi	Swi - Can	16	yes	no
	L1 vs L2	Can	16	no	no
De Anda 2016 (b)	E-mono vs ME	USA	16	yes	NA
	S-mono vs ME	USA & Mex	16	yes	NA
Legacy 2018	F-mono vs E-F Bi	Swi - Can	16 & 22	yes	no
	L1 vs L2	Can	16 & 22	yes	no
De Anda 2018	F-m or E-m vs E-F bi	USA	16 & 23	marginal	no

Table SM2. Summary of studies reporting analyses of tactile choice performance as a function of lingual status. Papers are indicated by first last name of first author and year regardless of how many authors there are. E stands for English, S for Spanish, F for French; m for monolingual, bi for bilingual, ME for minimal exposure to another language. Papers are indicated by last name of first author and year regardless of how many authors there are. Mex stands for Mexico, Can for Canada, Swi for Switzerland. Age is average age in months. Under accuracy and RT, yes indicates that the authors found a significant effect of lingual status on infant performance, no that they did not. Studies where no lingual status analysis was reported are not listed. Please note that many of these studies mention the data are part of a larger longitudinal study, so points may not be mutually independent. *Note that this analysis collapsed across CCT and other measures of vocabulary.

References of Tables SM1 and SM2

DeAnda, S., Bosch, L., Poulin-Dubois, D., Zesiger, P., & Friend, M. (2016a). The language exposure assessment tool: Quantifying language exposure in infants and children. Journal of Speech, Language, and Hearing Research, 59(6), 1346-1356.

Deanda, S., Arias-Trejo, N., Poulin-Dubois, D., Zesiger, P., & Friend, M. (2016b). Minimal second language exposure, SES, and early word comprehension: New evidence from a direct assessment. Bilingualism: Language and Cognition, 19(1), 162-180.

DeAnda, S., Hendrickson, K., Zesiger, P., Poulin-Dubois, D., & Friend, M. (2018). Lexical access in the second year: a study of monolingual and bilingual vocabulary development. Bilingualism: Language and Cognition, 21(2), 314-327.

Friend, M., Schmitt, S. A., & Simpson, A. M. (2012). Evaluating the predictive validity of the computerized comprehension task: comprehension predicts production. Developmental psychology, 48(1), 136.

Friend, M., DeAnda, S., Arias-Trejo, N., Poulin-Dubois, D., & Zesiger, P. (2017). Developmental changes in maternal education and minimal exposure effects on vocabulary in English-and Spanish-learning toddlers. Journal of experimental child psychology, 164, 250-259.

Friend, M., Smolak, E., Liu, Y., Poulin-Dubois, D., & Zesiger, P. (2018). A cross-language study of decontextualized vocabulary comprehension in toddlerhood and kindergarten readiness. Developmental psychology, 54(7), 1317.

Friend, M., Smolak, E., Patrucco-Nanchen, T., Poulin-Dubois, D., & Zesiger, P. (2019). Language status at age 3: Group and individual prediction from vocabulary comprehension in the second year. Developmental psychology, 55(1), 9.

Legacy, J., Zesiger, P., Friend, M., & Poulin-Dubois, D. (2016). Vocabulary size, translation equivalents, and efficiency in word recognition in very young bilinguals. Journal of child language, 43(4), 760-783.

Legacy, J., Zesiger, P., Friend, M., & Poulin-Dubois, D. (2018). Vocabulary size and speed of word recognition in very young French–English bilinguals: A longitudinal study. Bilingualism: Language and Cognition, 21(1), 137-149.

Patrucco-Nanchen, T., Friend, M., Poulin-Dubois, D., & Zesiger, P. (2019). Do early lexical skills predict language outcome at 3 years? A longitudinal study of French-speaking children. Infant Behavior and Development, 57, 101379.

Poulin-Dubois, D., Bialystok, E., Blaye, A., Polonia, A., & Yott, J. (2013). Lexical access and vocabulary development in very young bilinguals. International Journal of Bilingualism, 17(1), 57-70.

Rosemberg, C. R., & Alam, F. (2021). Socioeconomic disparities in the comprehension of lexical categories. A study with Spanish-speaking Argentinian toddlers. European Journal of Psychology of Education, 1-20.

Schmitt, S. A., Simpson, A. M., & Friend, M. (2011). A longitudinal assessment of the home literacy environment and early language. Infant and Child Development, 20(6), 409-431.

Table SM3. Some broad indicators of countries in which SES-word comprehension data have been collected. GDPpc stands for Gross Domestic Product per capita, expressed in US dollars (from OECD Data, 2020). Before indicated percentage of children living in poverty before social transfers, after the percentage in poverty after social transfers (from Thévenon et al., 2018). All values correspond to the year 2018.

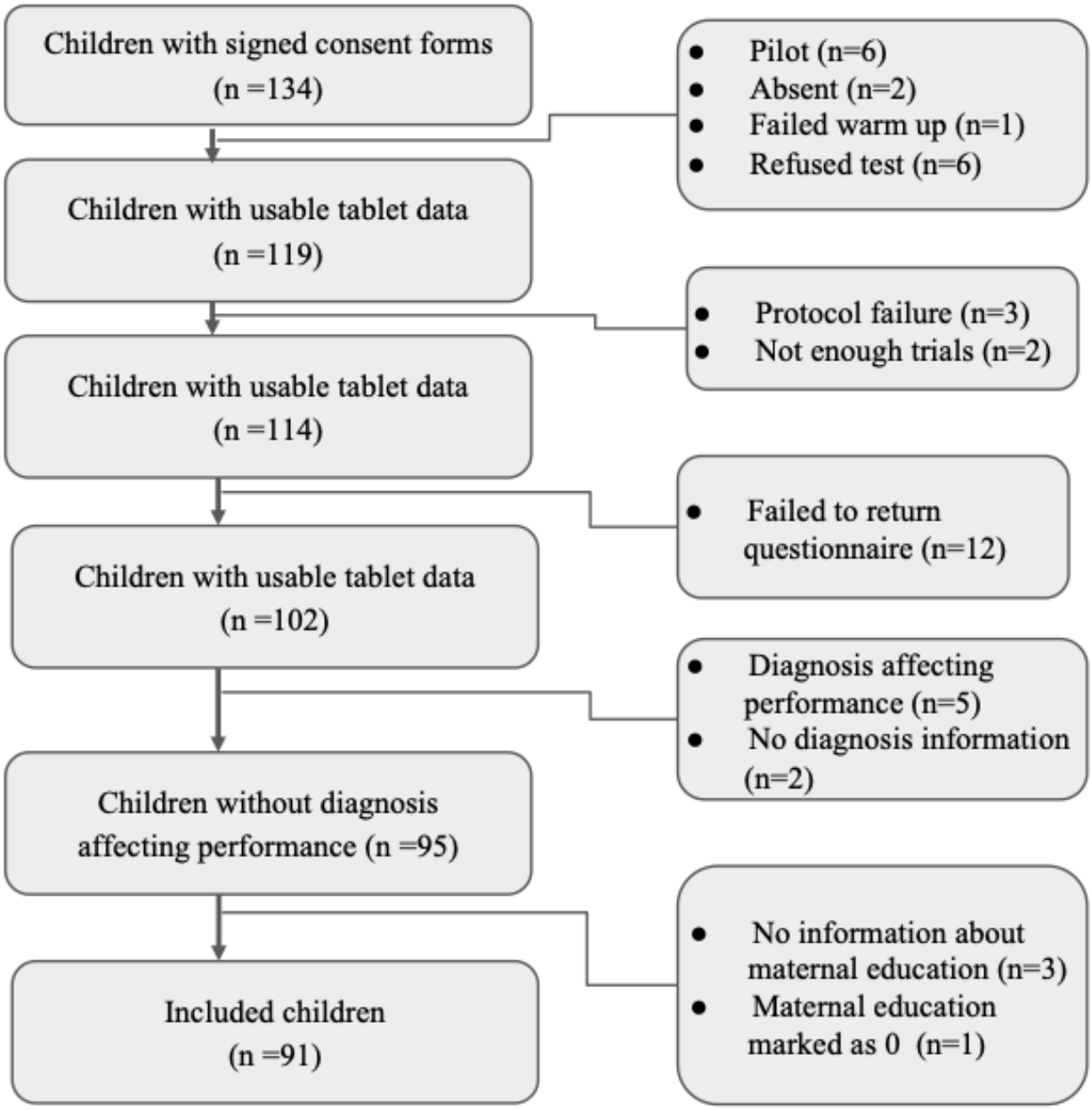
Country	GDPpc	Before	After
Canada	50,078	24.9	17.1
Switzerland	69,358	12.2	9.9
Spain	40,542	28.2	22.1
France	46,242	27.1	11.3
Mexico	20,660	24.7	19.7
USA	62,853	27.2	19.9

SM2: France GDP per capita and poverty levels compared to other countries

Collecting data in France contributes to extending the diversity of the collection sites for data on correlations between SES and direct measures of children's word comprehension. Most previous such data were collected in USA and Mexico, two countries that are very different in their overall level of wealth (as indicated by their Gross Domestic Product per capita, GDPpc) but similar in that a high proportion of children live in poverty even after social transfers are taken into account (see Table SM3, data from Thévenon et al. 2018; OECD 2020). France exhibits intermediate levels of GDPpc, with a much lower proportion of childhood poverty (Alesina and Glaeser 2004). Most relevant to this paper's goals, French families with lower incomes benefit from much greater degrees of support than their North American analogues, which is evident in terms of the living aid, health care, and child care that are accessible to the population (Bennett and Tayler 2006).

SM3: Further information on participants

SM3.1 Inclusion/exclusion flowchart



SM3.2: Language background of children whose language background was documented via a questionnaire filled in by parents

We did not have linguistic background data for 16 children. Among the remaining ones, 52 heard only French, and for an additional 11, parents did not specify the other language or languages infants were exposed to. Among infants exposed to exactly two languages, the language other than French was: Arabic (7), Bambara (2), Chinese (variety not specified further: 6, Mandarin specified: 2), Corsican (1), English (9), Fon (1), German (1), Haitian Creole (1), Italian (1), Japanese (3), Kabyle (2), Malian (1), Mandingue (1), Russian (1), Sonninké (2), Souqua (1), Spanish (2), Wolof (1). Among infants exposed to more than two lanugages, the languages other than French were combinations of: Arabic, Catalan, English Ilacano, Finnish, Kabyle, Portuguese, Romanian, Russian, Spanish, Tagalog, Tibetan, Wolof. The precise combinations are not provided because they could uniquely identify the family.

SM4: Stimuli

Our full list of stimuli is provided in Table SM4.1.

We originally estimated frequencies at the lexeme level in the Paris and Lyon corpus, both available from CHILDES. In order to compare frequencies with CCT in a more reproducible manner, we re-calculated frequencies using all French corpora in CHILDES accessible via the "childesr" package. Notice this does not include the Lyon and Paris corpora on which we originally based our estimations, and that it is based on precisely matching forms (i.e., only `chat` "cat" counts, not `chats` "cats"). Results are portrayed in Table SM4.1.

For comparison, Table SM4.2 shows the frequencies of the words in the French CCT (calculated in the same way in the same corpora). The list of the French CCT items was found in Claire Angles' master thesis from 2009, entitled "L'évaluation du lexique en compréhension chez l'enfant de 15 à 18 mois : comparaison des version 2006 et 2009 de la Computerized Comprehension Task," Appendix B.

We notice that the distribution of frequencies is more extreme in our task, since we have some items that never occur in French childesr, whereas all items in the CCT list shown here have at least 20 occurrences. Thus, the low frequency range may be lower in our case. The maximum of frequency is similar, with `jouer`, `chien`, and `chat` appearing in both lists. Overall, it may be the case that our list is, on average, harder because of the presence of relatively infrequent words.

Table SM4.1. Stimuli list. Trial indicates the trial type and rank (i.e., order of presentation). Range indicates to which rough frequency grouping the item pair belonged (see main text for details). TargetA items served as targets in list A, competitors in list B. An approximate English translation is provided. Freq indicates the frequency we estimated using CLAN at the lexeme level; FreqNew indicates the frequency when recalculated using childes-db.

Trial	Range	Type	TargetA	Eng	Freq	FreqNew	TargetB	Eng	Freq	FreqNew
Tr1	High	Noun	poisson	fish	590	1653	lapin	bunny	490	1293
Tr2	High	Adj	jaune	yellow	510	1002	petit	small	5681	14768
Tr3	High	Verb	ouvrir	open	575	1851	manger	eat	1596	8546
Te1	High	Noun	train	train	428	1197	bateau	boat	356	1122
Te2	Mod	Noun	ciseaux	scissors	121	0	vélo	bike	97	0
Te3	High	Verb	sauter	jump	158	654	pleurer	cry	255	842
Te4	Low	Noun	rivière	river	59	92	forêt	forest	50	256
Te5	Low	Verb	téléphoner	phone	30	197	coiffer	hair style	17	0
Te6	High	Noun	chat	cat	414	3610	cochon	pig	1165	817
Te7	Low	Noun	pingouin	penguin	24	64	kangourou	kangaroo	71	87
Te8	High	Adj	debout	standing	292	460	assis	sitting	231	1
Te9	Low	Noun	groupe	group	11	27	médecin	doctor	25	57
Te10	Low	Noun	perroquet	parrot	54	171	moustique	mosquito	15	43
Te11	High	Noun	tête	head	819	1525	bouche	mouth	501	992
Te12	Low	Verb	plonger	dive	19	141	pêcher	fish	25	195
Te13	Mod	Adj	propre	clean	127	227	sale	dirty	156	337
Te14	High	Noun	chaussures	shoes	365	0	lits	beds	504	0
Te15	Low	Adj	pieds-nus	shoeless	19	0	jeune	young	3	79
Te16	High	Noun	livre	book	1016	1687	ballon	ball	395	967
Te17	Mod	Noun	serpent	serpent	132	220	papillon	butterfly	170	405
Te18	Mod	Noun	couteau	knife	139	327	crayon	crayon	146	394
Te19	High	Adj	rouge	red	209	1358	grand	large	1027	3081
Te20	Mod	Noun	avion	plane	195	603	camion	truck	184	541
Te21	Low	Noun	cloche	bell	38	56	bougie	candle	55	140
Te22	High	Noun	chien	dog	420	1933	bébé	baby	1165	3686
Te23	Low	Adj	rayé	striped	13	6	poilu	hairy	11	17
Te24	Low	Noun	griffes	claws	13	0	plumes	feathers	15	0
Te25	Mod	Verb	croquer	bite	86	225	lancer	throw	46	243
Te26	High	Noun	fleur	flower	400	944	maison	house	647	3260
Te27	Low	Verb	gonfler	blow up	10	122	sourire	smile	29	103
Te28	Mod	Adj	lourd	heavy	102	213	fermé	closed	119	194
Te29	Low	Noun	hélicoptère	helicopter	51	175	accident	accident	59	0
Te30	High	Adj	rond	round	252	262	cassé	broken	362	2
Te31	Mod	Noun	château	castle	146	401	panier	basket	126	643
Te32	High	Verb	toucher	touch	176	444	casser	break	159	1874
Te33	Mod	Verb	rigoler	laugh	59	140	colorier	color	65	81
Te34	Mod	Noun	tortue	turtle	121	429	girafe	giraffe	153	229
Te35	High	Verb	jouer	play	1351	3223	dormir	sleep	347	0
Te36	Mod	Verb	nager	swim	67	365	courir	run	63	261
Te37	Mod	Adj	fatigué	tired	175	0	triste	sad	48	149
Te38	High	Verb	tirer	pull	334	986	lire	read	480	0
Te39	Low	Noun	robinet	faucet	12	105	meuble	furniture	45	98
Te40	Mod	Verb	coller	glue	80	335	mélanger	mix	85	192
Te41	High	Noun	cadeau	present	192	662	bouton	button	122	402

Table SM4.2. Frequency in all French corpora accessible through childesr of words used in the French version of the CCT.

Item	Frequency	Item	Frequency
balai	141	lire	639
ballon	859	lit	1672
banane	315	livre	1425
bavette	42	manger	3916
bleu	998	manteau	232
boire	602	marcher	259
bouteille	176	nager	129
bras	479	nez	914
canard	506	nourrir	8
carotte	222	ouvrir	458
cassé	2	pain	571
chaise	956	pantoufle	27
chapeau	618	papillon	326
chat	3168	petit	8586
chaussette	65	pied	583
chemise	47	pingouin	54
cheval	850	pizza	62
chien	1764	pleurer	114
content	448	poisson	1334
courir	79	pomme	620
couverture	102	poney	89
crayon	232	porte	1311
cuillère	559	pousser	235
danser	80	poussette	461
dessiner	300	propre	198
doigt	413	pyjama	298
donner	936	rouge	1204
dormir	670	salopette	57
écrire	249	sauter	180
endormi	54	sec	44
essuyer	84	souffler	74
fourchette	226	soupe	331
froid	590	tartine	71
gâteau	1170	tirer	223
girafe	207	tortue	405
grand	1628	train	1144
jeter	181	vélo	374
jouer	1844	veste	55
lapin	1062	voiture	3337
laver	413	dégoutant	0
lion	466	mouillé	0

SM5: Comparison of results across years

Different experimenters collected the data across two different academic years; and moreover, the first year, we interspersed some trials from a different experiment. Therefore, we checked whether there were differences in children's performance across the two years. For both proportion correct and response time, declaring all the interactions with year resulted in a model matrix that was rank-defficient. Only age was significant for proportion correct; for response time, not factor had a t greater than two. We read these results as suggesting that the models are too complex, and we do not have enough power to detect all effects.

Table SM6.1. Education as father's education.

	Prop. Seen	Prop. Att.	Prop. Corr.	Log RT	Comp CDI	Prod CDI
DF	41	41	41	41	24	22
Ed (median)	71.83***	0.03	10.94***	0.29	50.52***	147.06***
Mono	7.27*	4.48	46.53***	0.31	24161.7***	131.92***
Age	14.15***	24.26***	76.27***	15.06***	13.56***	12.64***
E*M	11.78**	5.69	14.13***	0.05	19836.46***	128.57***
E*Age	23.89***	12.67***	18.91***	0.32	70.28***	9.45**
M*Age	120.52***	4.93	22.43***	1.71	8302.49***	36.04***
E:M:A	34.47***	26.59***	18.24***	0.11	35839.84***	35.86***

SM6: Analyses with alternative implementations of education level

The original analysis pipeline was decided upon by reading previous literature and making some basic tests of the data distribution. We provide further analyses here to inform certain readers who may have wished we had decided differently. However, we did not inspect the results of analyses in order to decide on which analysis to fit; choosing one of the analyses here after inspecting results will produce a biased reading of these data.

SM6.1: Using father's education (continuous)

We carry out an analysis identical to the one in the main manuscript, but using father's education level rather than mother's education level. Please note that in many cases, this was not reported by the families, so all of the degrees of freedom are much lower than in the main analysis. As a result, fitting some of these model leads to a warning, which arises because there are too few data points in some of the cells, which makes the significance estimation highly erratic (see explanation here). For completeness, Table SM6.1 contains not only accuracy and response times, but also other metrics that we collected, namely number of trials completed, proportion for which a response was attempted, comprehension CDI and production CDI.

Table SM6.2. Education as an average of mother's and father's education.

	Prop. Seen	Prop. Att.	Prop. Corr.	Log RT	Comp CDI	Prod CDI
DF	74	74	71	74	23	23
Ed (median)	29.04***	0.17	15.7***	0.9	28.84***	200.07***
Mono	29.37***	5.42	45.31***	0.12	22930.33***	90.67***
Age	29.02***	65.41***	163.54***	25.84***	17.29***	7.69**
E*M	8.72*	1.21	7.51*	0.02	22.87***	27.84***
E*Age	0.03	11.12***	15.32***	0.06	54.7***	4.54*
M*Age	152.19***	5.3	24.83***	1.95	90.8***	48.55***
E:M:A	25.93***	24.08***	2.93	0.15	55.45***	12.4**

SM6.2: Using education averaged between mother and father (continuous)

We carry out an analysis identical to the one in the main manuscript, but using an average of the father and mother's education levels. Please note that when father's education was missing, we used the mother's education only. For completeness, Table SM6.2 contains not only accuracy and response times, but also other metrics that we collected, namely number of trials completed, proportion for which a response was attempted, comprehension CDI and production CDI. Fitting some of these model leads to a warning, which arises because there are too few data points in some of the cells, which makes the significance estimation highly erratic (see explanation here).

SM6.3. Education as binary (median split)

	Prop. Seen	Prop. Att.	Prop. Corr.	Log RT	Comp CDI	Prod CDI
DF	75	78	73	77	26	26
Ed (median)	3	10**	6.6*	0.49	2.48	40.21***
Mono	9.61**	17.68***	23.66***	0.5	3.23	29.37***
Age	42.17***	61.15***	77.29***	14.34***	3.6	0.92
E*M	21.47***	11.67**	4.56	0.25	30.09***	35.62***
E*Age	13.26***	21.83***	4.65*	0.84	8.87**	0.03
M*Age	31.54***	33.18***	4.99	4.16*	6.76*	10.72**
E:M:A	1.24	34.67***	2.2	2.4	21.61***	16.79***

SM6.3: Using a median split for maternal education

In this section, we fit a different regression: ed_cat stands for whether mother is in the top or the bottom median group for education. Otherwise, the regression structure is the same. Notice df may change given exclusion of datapoints with high leverage. For completeness, Table SM6.3 contains not only accuracy and response times, but also other metrics that we collected, namely number of trials completed, proportion for which a response was attempted, comprehension CDI and production CDI. Fitting some of these model leads to a warning, which arises because there are too few data points in some of the cells, which makes the significance estimation highly erratic (see explanation here).

Talbe SM7.1. Binary French exposure

	Prop. Seen	Prop. Att.	Prop. Corr.	Log RT	Comp CDI	Prod CDI
DF	80	80	80	79	27	27
Ed (cont)	0.74	12.83***	14.22***	1.09	6.19*	18.12***
Fr mono	38.5***	18.08***	53.95***	0	21.89***	15.18***
Age	165.67***	53.04***	71.6***	3.37	68.8***	52.56***
E*F	0.61	22***	1.72	0.04	33.1***	41.02***
E*Age	14.77***	7.67**	26.46***	0.67	2.2	0.71
F*Age	114.52***	0.05	26.03***	4.45*	55.4***	49.25***
E:F:A	25.65***	15.71***	2.38	0.07	18.32***	55.22***

SM7: Analyses with alternative implementations of lingual status

The original analysis pipeline was decided upon by reading previous literature and making some basic tests of the data distribution. We provide further analyses here to inform certain readers who may have wished we had decided differently. However, we did not inspect the results of analyses in order to decide on which analysis to fit; choosing one of the analyses here after inspecting results will produce a biased reading of these data.

SM7.1: Exposure to French as binary

In this section, we fit an alternative regression: Fr mono stands for whether children were monolingual or not. Otherwise, the regression models are the same as in the main paper. For completeness, Table SM7.1 contains not only accuracy and response times, but also other metrics that we collected, namely number of trials completed, proportion for which a response was attempted, comprehension CDI and production CDI. Fitting some of these model leads to a warning, which arises because there are too few data points in some of the cells, which makes the significance estimation highly erratic (see explanation here).

Table SM7.2. Continous French exposure

	Prop. Seen	Prop. Att.	Prop. Corr.	Log RT	Comp CDI	Prod CDI
DF	79	80	81	79	27	28
Ed (cont)	3.66	4.11*	1.05	0.01	5.68*	21.01***
% Fr	0.01	0.01	62.9***	0.35	167.88***	105.97***
Age	86.28***	0	8.63**	0.69	78.76***	42.18***
E*%	5.89*	4.99*	0.15	0.05	6.79**	45.67***
E*Age	49.95***	1.31	6.43*	0	16.52***	8.32**
%*Age	62.4***	5.84*	39.56***	3.62	55.14***	22.06***
E:%:A	56.03***	2.71	1.75	0.01	25.33***	11.19***

SM7.2: Exposure to French as continuous

In this section, we fit an alternative regression: French % stands for the percentage of French exposure, averaged over 3 years - centered. For completeness, Table SM7.2 contains not only accuracy and response times, but also other metrics that we collected, namely number of trials completed, proportion for which a response was attempted, comprehension CDI and production CDI. Fitting some of these model leads to a warning, which arises because there are too few data points in some of the cells, which makes the significance estimation highly erratic (see explanation here).

SM 7.3: Age and language exposure combined as "cumulative exposure to French"

The goal of this section is to explore the intuition that the effects of age and lingual status can be modeled as a single variable, exposure to French.

This generated variable that reflects "cumulative exposure to French" makes the following assumptions: - amount of input is the same at all ages - and more generally, amount of input is the same for all children

The questionnaire asked "proportion of exposure 0-1 years" etc. We did not require parents to state precise percentages of exposure to French, but instead to self-classify into several groups (lower than 30%, 30-70%, >70%, 100%). When they did this, we took the percentage that was the midpoint of the range (15%, 50%, 85%, 100% respectively). Sometimes, they only provided a precise percentage - when this happened, we took that percentage. We then multiplied this proportion by the number of months the child had experienced in each phase; e.g. if a parent responded <30% for 0-1 years and 30-70% for 1-2 years, and the child was 18 months, then: total cumulated exposure to French = .15 * 12 + .5 * 6 = (15% for the first 12 months, 50% for the following 6 months).

We used R's anova function to compare model fit between the model presented in the manuscript and this model and found the model in the manuscript was only marginally better for accuracy ($p = 0.09$, and for response times ($p = 0.1$).

SM8: CDI analyses

We asked parents to fill in a short-form French adaptation of the MacArthur-Bates Communicative Development Inventory for 18-month-olds (Bovet et al., 2005). In this vocabulary checklist, parents tick a box if the child says a word, and another if the child understands it, or leaves both boxes blank if the child neither understands nor says the word. The decision to use the 18-month-old instrument was made prior to data collection, and it revealed itself to be an inappropriate decision, since most children were well above 18 months of age when they were tested. As a result, there were strong ceiling effects in both comprehension and production scores.

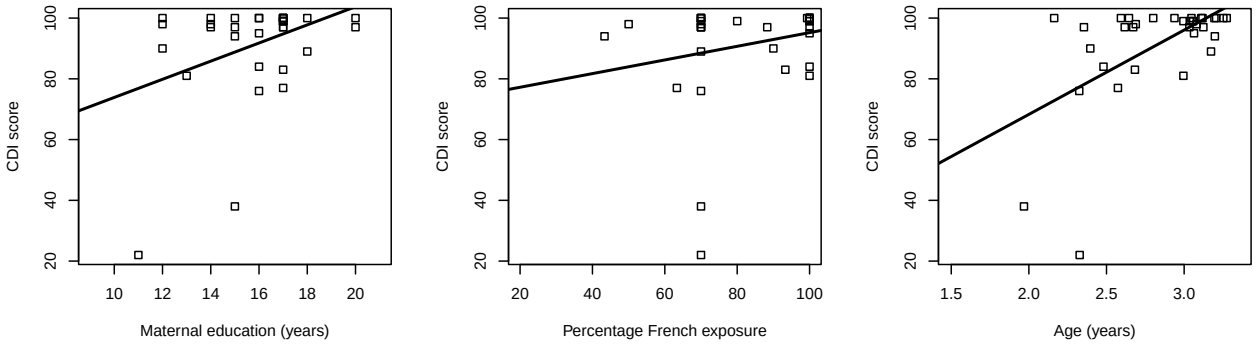


Figure SM8. CDI scores as a function of our different measures of interest. Lines are simple regression lines.

Table SM9. Chi-square (Acc) or F-value (log(RT)) and significance level from a type III ANOVA. In each case, the dependent variable (Corr. stands for Correct; Log RT is the logarithm of the response times) is predicted from: maternal education (Mat. Ed. or E for short); lingual status (Ling. or L for short); age (A for short). N indicates the number of children included in the analysis, Int. is the fitted intercept. The level of significance is cued as follows: * p <.05; ** p < .01; *** p < .001.

	Acc	Log RT
N	91	91
Int.	28.64***	24152.93***
Mat. Ed.	4.85*	0.58
Ling.	5	0.47
Age	52.24***	17.13***
E*L	1.12	2.12
E*A	2.37	0.02
L*A	7.39*	1.29
E*L*A	0.69	2.97

SM9: Analyses treating failure to respond within 7 seconds as an incorrect answer

In this analysis, we treat failure to respond within 7 seconds as an incorrect answer. Table SM9 shows the results of the regressions on these data, and Figure SM9 shows the corresponding graphs. RTs do not change here because they are based on correct trials, and those data do not change.

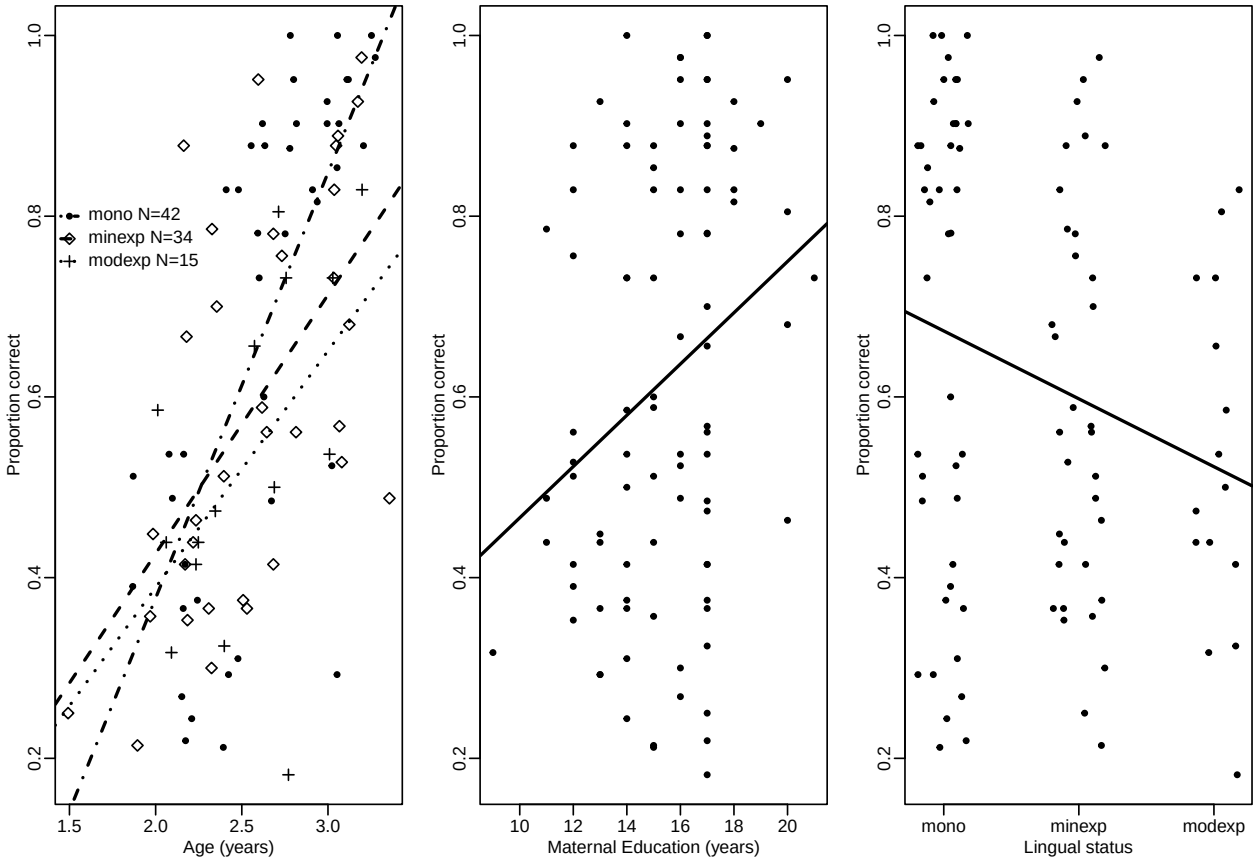


Figure SM9. Accuracy (across all trials for a given child) as a function of age (left, split by lingual status), maternal education (middle, collapsing across lingual status), and lingual status (right). Lines are simple regression lines fit to all the data, for the middle and right panels, and to subsets corresponding to the three lingual status groups in the left panel.

Table SM10. Chi-square (Acc) or F-value (log(RT)) and significance level from a type III ANOVA. In each case, the dependent variable (Corr. stands for Correct; Log RT is the logarithm of the response times) is predicted from: maternal education (Mat. Ed. or E for short); lingual status (Ling. or L for short); age (A for short); sex (S for sex). N indicates the number of children included in the analysis, Int. is the fitted intercept. The level of significance is cued as follows: * p <.05; ** p < .01; *** p < .001.

	Acc	Log RT
N	91	91
Int.	57.56***	55761.28***
Mat. Ed.	3.69	0.05
Ling.	13.59**	0.31
Age	56.57***	18.6***
Sex	6.14*	1.76
E*L	2.58	0.33
E*A	3.19	0.1
L*A	7.1*	4.41
E*L*A	0.19	1.29

SM10: Analyses including sex as a fixed effect

Following a reviewer's suggestion, we ran an additional analysis declaring Sex as a fixed effect. Previous work on similar forced choice visual or tactile tasks had typically not included Sex as regressor, an example we followed as we were concerned about lack of power. In a nutshell, our main conclusions hold, other than the fact that maternal education's effect becomes marginal (p = .055), consistent with our interpretation that this effect is relatively small.

SM11 Potential confounds

SM11.1: Tablet exposure is not correlated with maternal education

One could wonder whether higher accuracy in children whose parents report higher levels of education may not be due to these children having more exposure to tablets. Figure SM11.1 shows maternal education as a function of children's reported frequency of tablet use.

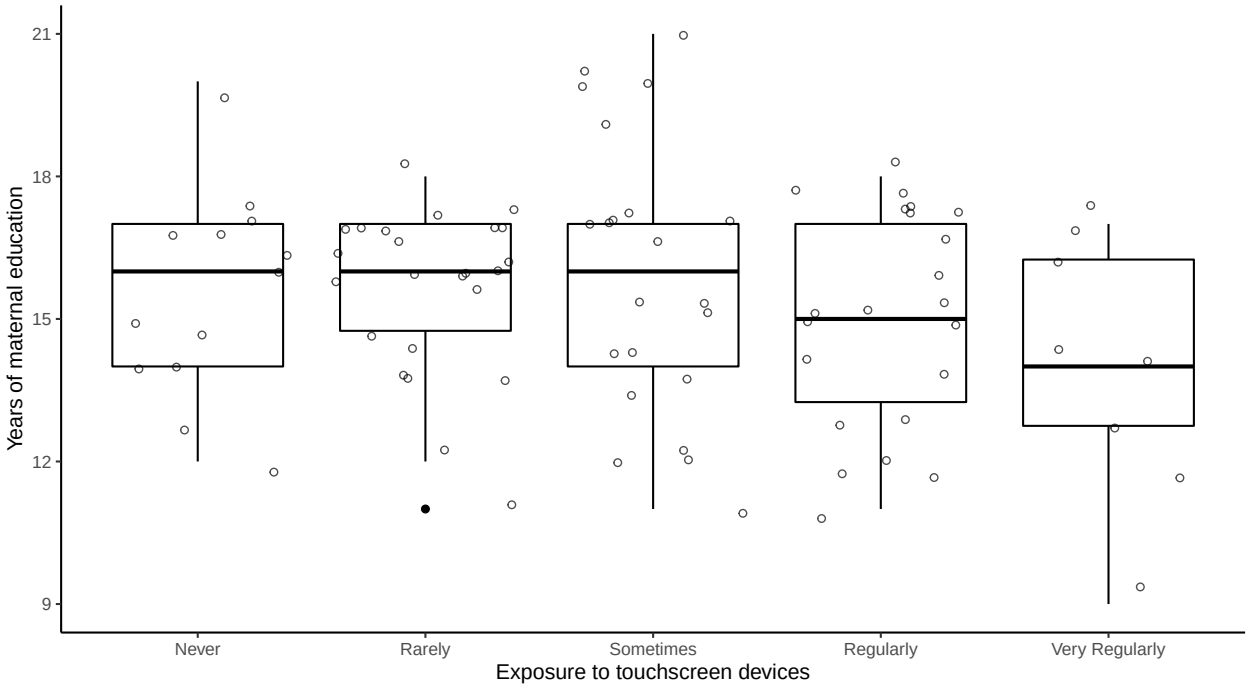


Figure SM11.1. Maternal education as a function of children's frequency of tablet use

SM11.2 Maternal education is not correlated with lingual status

One may wonder whether children with exposure to other languages tend to have more educated mothers. Figure SM11.2 shows this not to be the case.

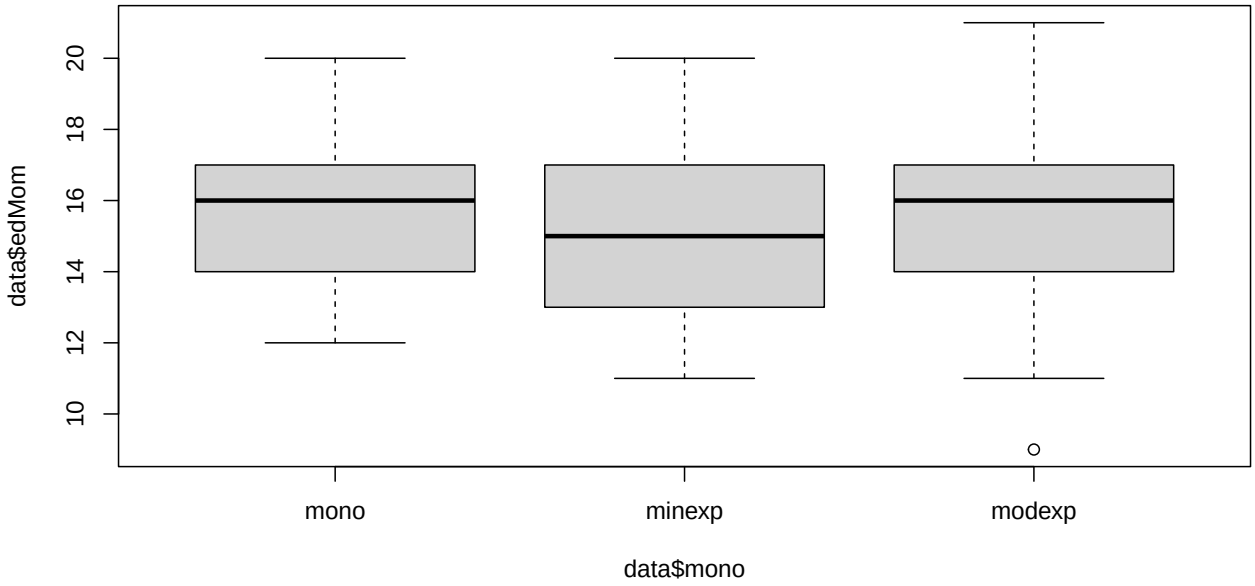


Figure SM11.2. Maternal education as a function of lingual status

SM12: Correlations between response times and accuracy

```
##
##  Pearson's product-moment correlation
##
## data:  log(data$rt_corr) and data$difcor
## t = 2, df = 89, p-value = 0.08
## alternative hypothesis: true correlation is not equal to 0
## 95 percent confidence interval:
##  -0.019  0.379
## sample estimates:
##  cor
## 0.19
```

SM13: Additional analyses

SM13.1: Alternative outcome measures

Our task also yields a number of other metrics. In this section, we produce the equivalent of Figure 1 in the main manuscript for these alternative metrics. Figure SM13.1.1 shows the number of trials completed – which indicates mainly how long the child is willing to stay in the task.

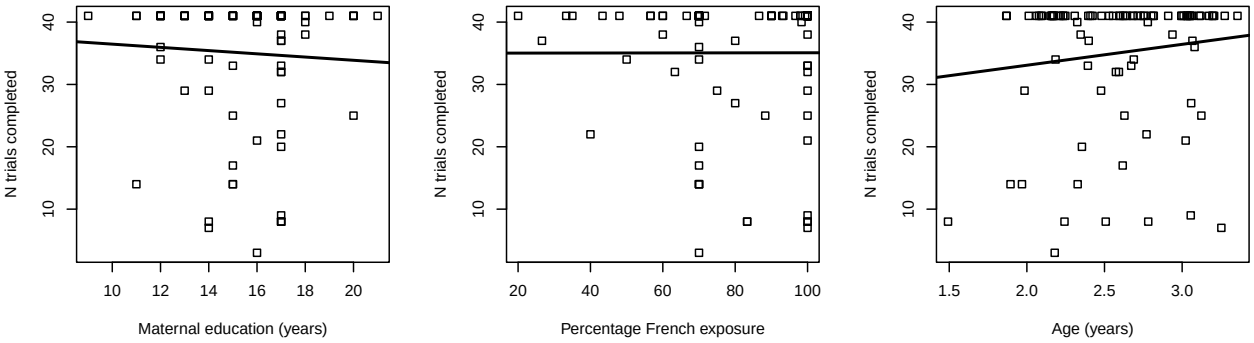


Figure SM13.1.1. Trials completed as outcome metric

Figure SM13.1.2 shows the proportion of trials attempted – that is, out of the trials that were completed, what proportion the child produced a response for within 7 seconds (regardless of whether the response was accurate or not).

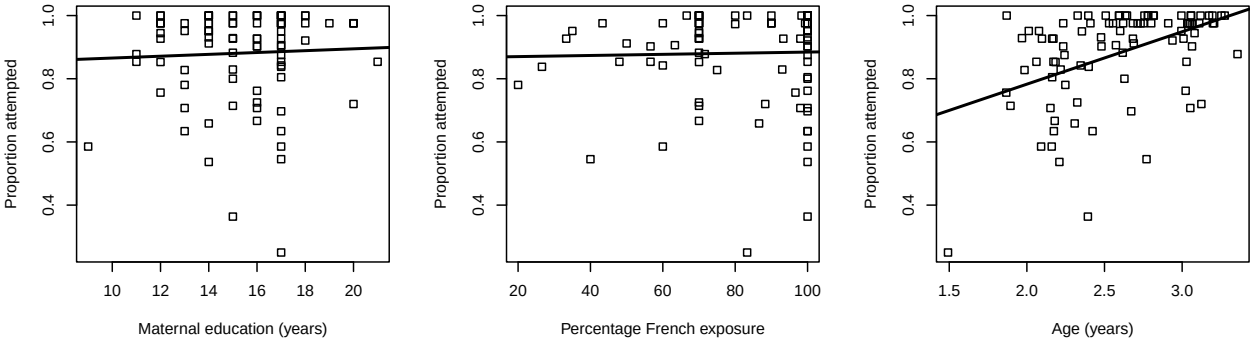


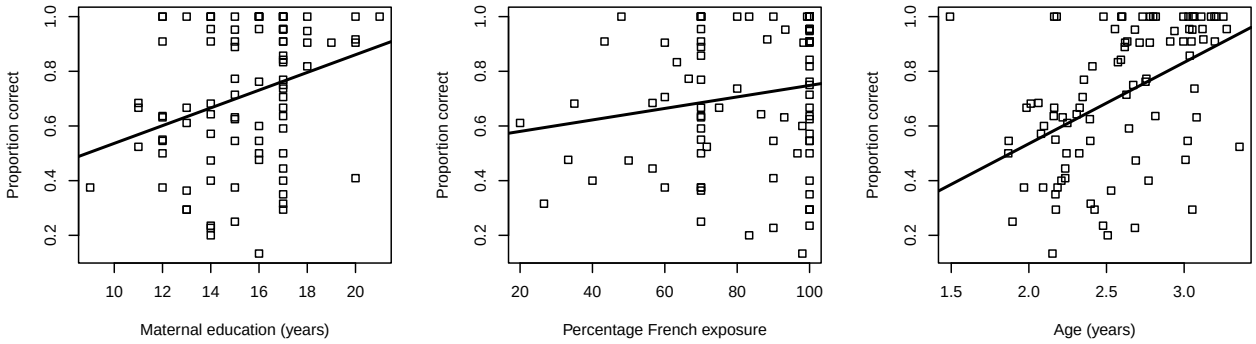
Figure SM13.1.2 Proportion attempted as outcome metric

SM13.2: Analyses per word type

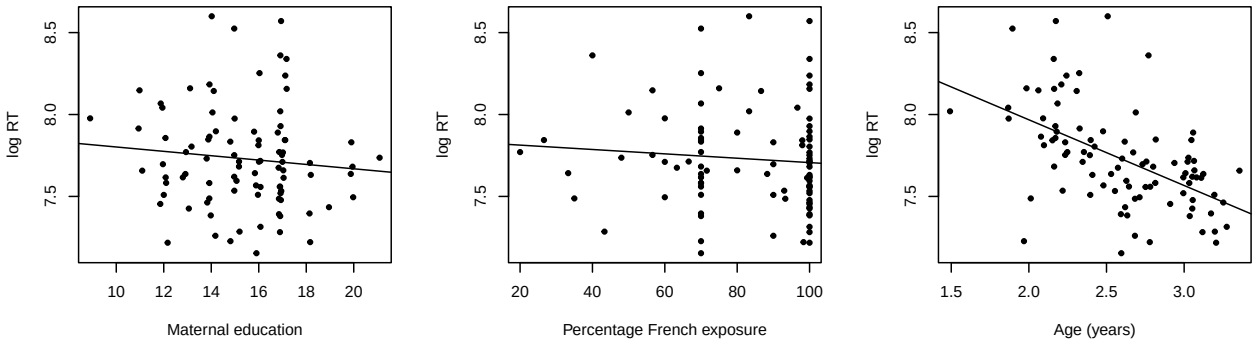
In this section, we illustrate potential correlations between performance and background variables focusing on different subsets of the stimuli. Please note that we designed the experiment as a whole, and although many posthoc explanations can always be put forward, the effects of input quantity via maternal education, French exposure, and age should affect equally words of high, moderate, and low frequency; and nouns, adjectives, and verbs. These analyses are therefore reported on for interested readers, but the same caveat mentioned above should be noted here: Choosing an analysis based on its results biases the data interpretation, and thus these analyses, which are not directly in link with our original predictions, should be deemed purely exploratory.

Prior to data inspection, the minimum number of trials for these subset analyses was set at 4. This was well below the first quartile for difficulty level (9 trials, out of a possible maximum of 13-14) and lexical category (6 trials, out of a possible maximum of 8-22).

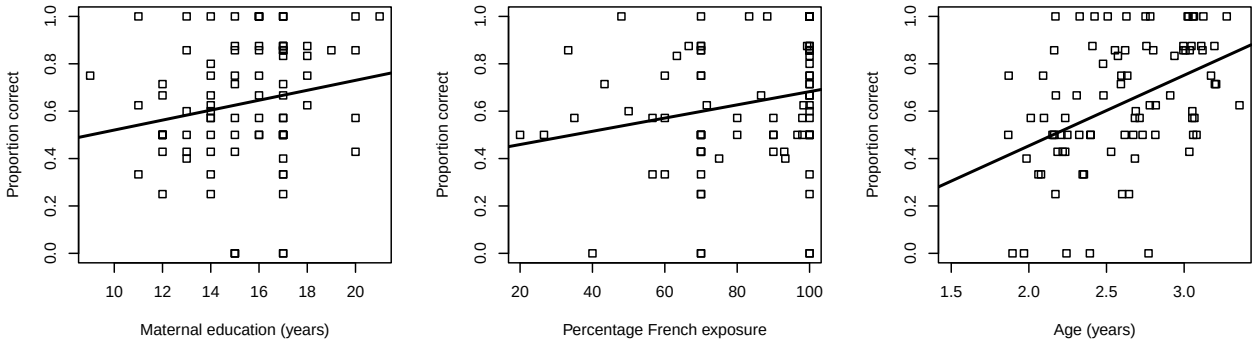
####As a function of word type: Nouns



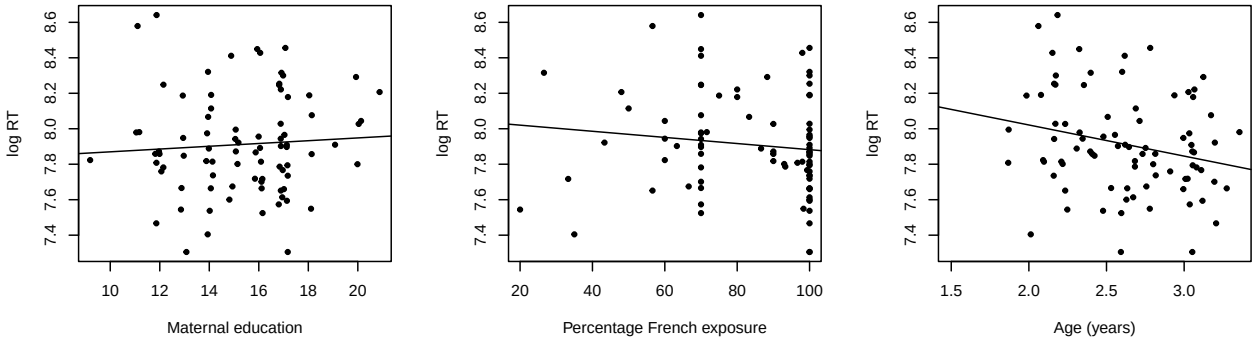
SM13.2.1. Accuracy for noun trials



SM13.2.2. RTs for noun trials

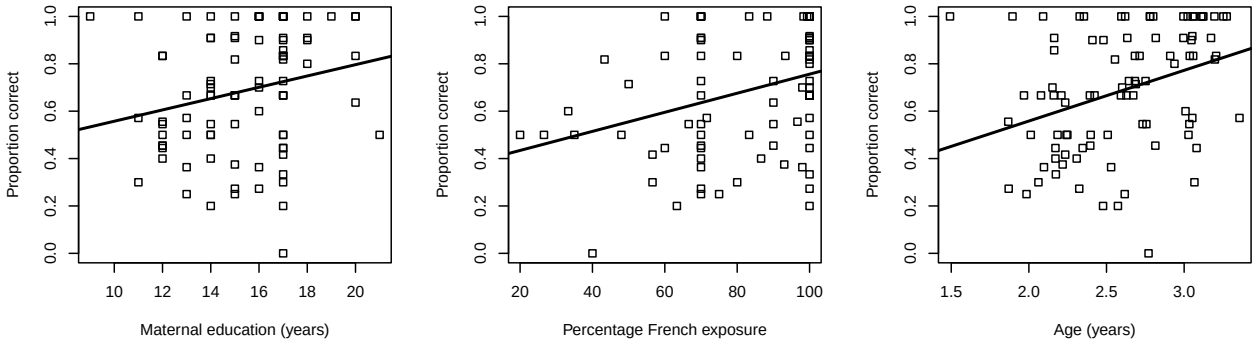


SM13.2.3. Accuracy for adjective trials

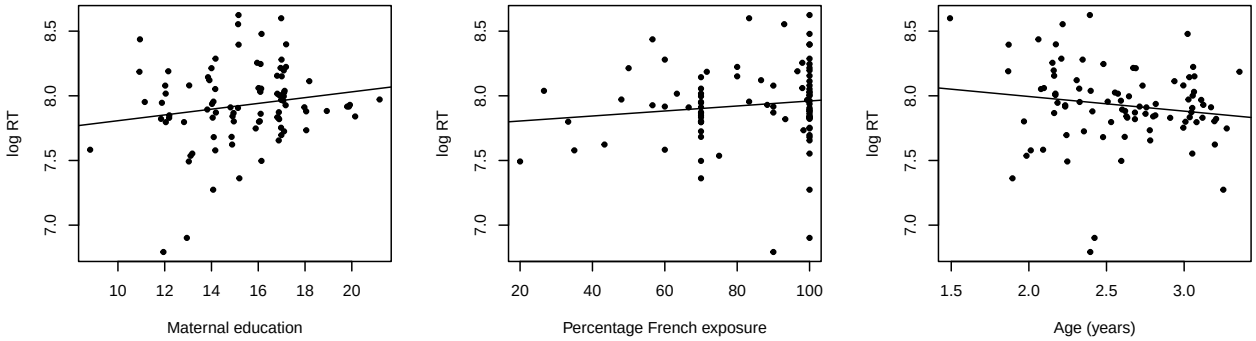


SM13.2.4. RTs for noun trials

As a function of word type: Adjectives



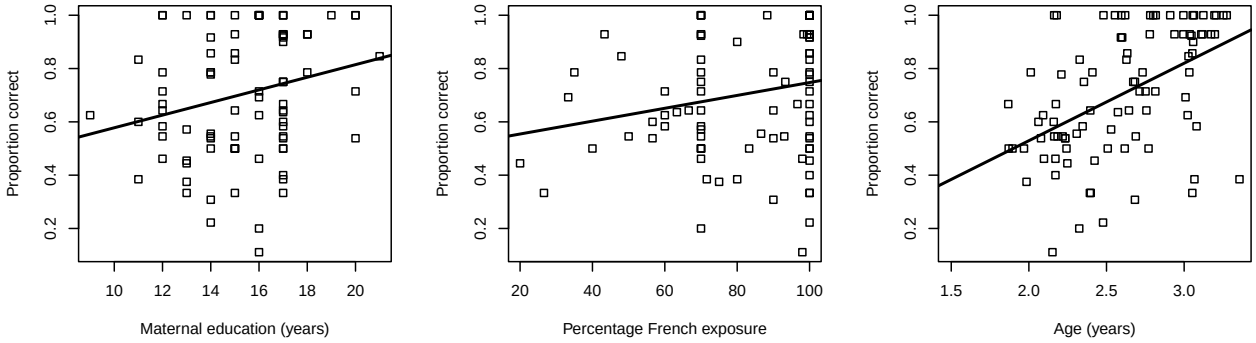
SM13.2.5. Accuracy for verb trials



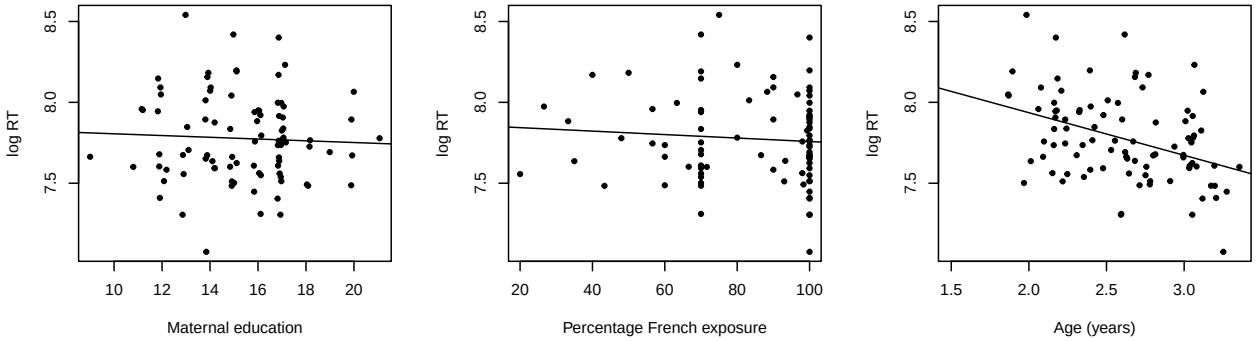
SM13.2.6.RT for noun trials

As a function of word type: Verbs

SM13.3: Analyses per item frequency

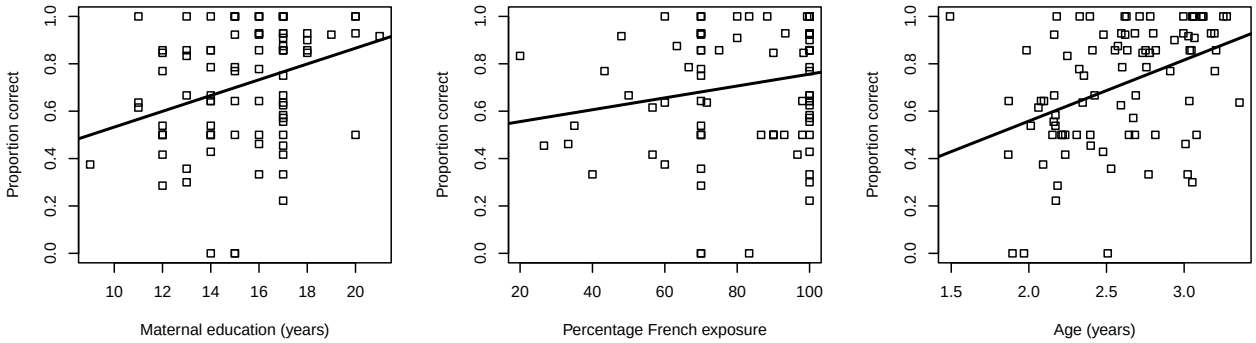


SM13.3.1. Accuracy for easy/high frequency trials

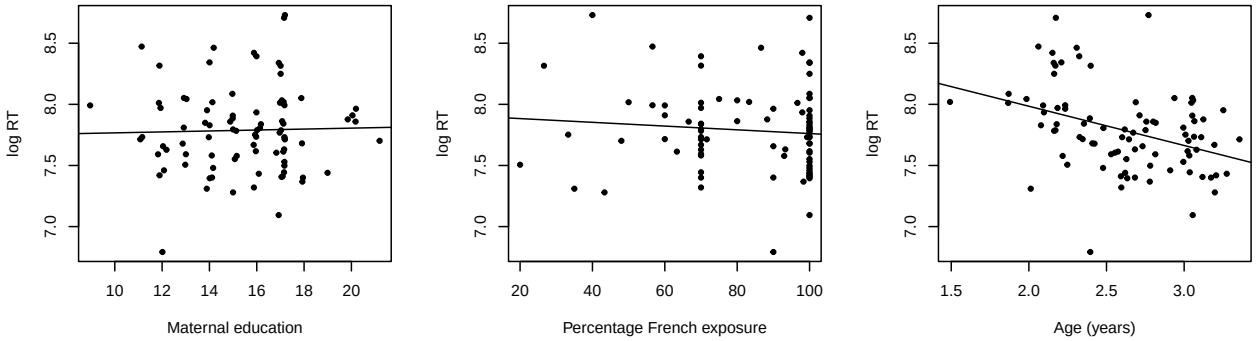


SM13.3.2. RTs for easy/high frequency trials

As a function of item frequency: High

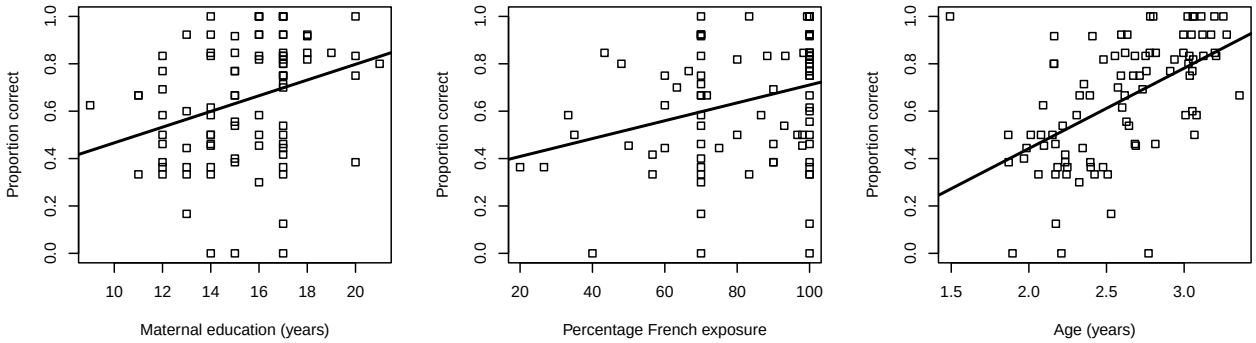


SM13.3.3. Accuracy for moderate trials

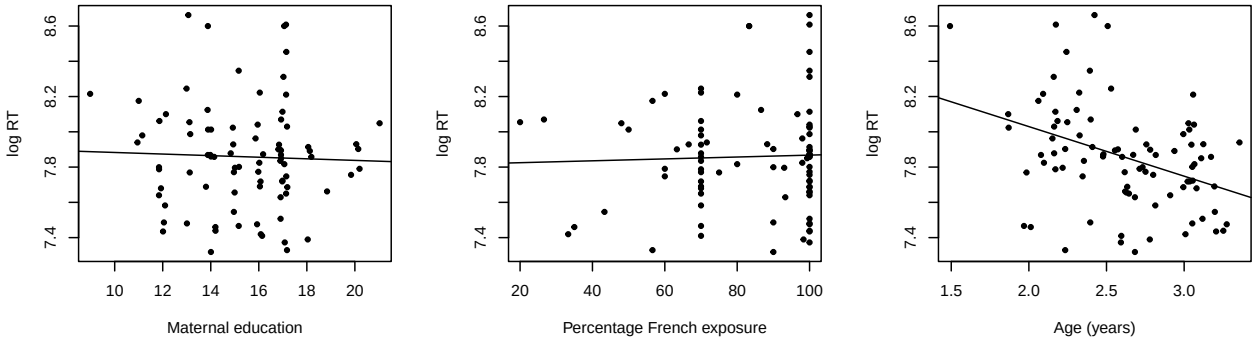


SM13.3.4. RTs for moderate trials

As a function of item frequency: Moderate



SM13.3.5. Accuracy for hard/low frequency trials



SM13.3.6. RTs for hard/low frequency trials

As a function of item frequency: Low

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