

Table 1: Characteristics of participants in the Communicative Development Inventory and the Ages and Stages Questionnaire assessments in the EDEN cohort according to breastfeeding status (M ± SD or %)

		CDI			ASQ		
		Breastfed	Never breastfed	P-value†	Breastfed	Never breastfed	P-value†
		<i>n</i> = 1023	<i>n</i> = 364		<i>n</i> = 889	<i>n</i> = 310	
Assessments							
Age, months		24.3 ± 0.6	24.2 ± 0.6	0.32	37.8 ± 0.7	37.7 ± 0.8	0.07
Score, (0-100)		62.7 ± 29.2	56.1 ± 29.2	0.0002	272.6 ± 26.8	263.7 ± 32.3	<.0001
Child							
Gender, %	Male	52	52	0.95	53	51	0.61
Gestational age, week		39.3 ± 1.5	39.3 ± 1.4	0.55	39.4 ± 1.5	39.3 ± 1.4	0.55
Birth weight, kg		3.3 ± 0.5	3.3 ± 0.4	0.83	3.3 ± 0.5	3.3 ± 0.4	0.83
Mother							
Age at conception, year		29.4 ± 4.7	29.1 ± 4.8	0.26	29.6 ± 4.6	29.3 ± 4.8	0.26
Alcohol consumption, glasses/week		0.5 ± 1.6	0.5 ± 1.3	0.88	0.5 ± 1.7	0.5 ± 0.9	0.88
Smoker, %		20	32	<0.0001	20	29	0.001
Obese, %		7	10	0.06	7	9	0.36
Social environment							
Parental education, year		13.9 ± 2.3	12.8 ± 2.2	<0.0001	14.0 ± 2.2	12.8 ± 2.2	<0.0001
Household income class, %	1	2	4	<0.0001	2	3	<0.0001
	2	9	12		7	12	
	3	27	37		27	38	
	4	30	24		31	24	
	5	19	13		19	14	
	6	14	9		14	9	
Number of older siblings, %	0	49	43	0.12	49	42	0.12
	1	34	40		34	40	
	≥ 2	17	17		17	18	
Maternal activities with the child, %	< 1 / w	1	2	0.02	1	2	0.01
	1-2 / w	24	32		25	35	
	3-6 / w	33	32		35	29	
	7 / w	42	35		39	34	
Caretaker, %	Nursery	25	14	0.0003	23	12	0.0003

	Other	42	46		41	45		
	Mother	10	13		8	12		
	Family	23	27		28	32		
Pre-elementary schooled, %	Yes				64	70		0.06
School attendance, month					4.3 ± 3.1	4.3 ± 3.1		0.74
Recruitment center	Poitiers	40	69	<0.0001	46	73		<0.0001
Breastfeeding								
Duration, months	Exclusive	2.9 ± 2.9			2.9 ± 2.8			
	Any	4.7 ± 4.6			4.7 ± 4.5			

Abbreviations: CDI, communicative development inventory; ASQ, ages and stages questionnaire.

† P-value of t-test for quantitative variables and chi-square for categorical variable

Table II: Adjusted¹ multiple linear regression models showing the effects of predictors on cognitive assessments at 2 years by Communicative Development Inventory and 3 years by Ages and Stages Questionnaire

		CDI (2 years)		ASQ ² (3 years)	
		β	95% CI	β	95% CI
Model	<i>n</i>	1387		1199	
	R ²	0.15		0.13	
	Intercept	-194	(-268 ; -120)	117	(23 ; 212)
Recruitment center	Poitiers	-0.1	(-3.2 ; 3.0)	1.8	(-1.5 ; 5.1)
Mother					
	Age at conception (year)	-0.2	(-0.5 ; 0.2)	-0.1	(-0.5 ; 0.3)
	Alcohol consumption (glasses/week)	-0.3	(-1.3 ; 0.6)	-0.6	(-1.6 ; 0.5)
	Smoker	0.6	(-3.0 ; 4.2)	-2.2	(-6.0 ; 1.7)
	Obese	1.4	(-4.0 ; 6.9)	-5.5	(-11.3 ; 0.3)
Child					
	Girl	9.0	(6.1 ; 12.0)	11.1	(7.9 ; 14.2)
	Gestational age (weeks)	1.6	(0.5 ; 2.8)	0.4	(-0.9 ; 1.6)
	Birth weight (kg)	4.3	(0.6 ; 8.0)	3.7	(-0.4 ; 7.7)
	Age at assessment (months)	5.0	(2.4 ; 7.6)	1.9	(-0.2 ; 4.1)
Social environment					
	Parental education (year)	0.7	(0.0 ; 1.5)	1.0	(0.2 ; 1.8)
	Household income (per class)	1.2	(-0.3 ; 2.7)	1.8	(0.2 ; 3.4)
	Number of older siblings	-2.8	(-4.7 ; -1)	-0.8	(-2.7 ; 1.2)
	Caretaker ³ (ref: family)				
	Nursery	6.8	(2.3 ; 11.3)	5.1	(0.4 ; 9.8)
	Outside	8.8	(4.9 ; 12.8)	1.9	(-2.0 ; 5.8)
	Mother	-0.4	(-5.7 ; 5.0)	0.9	(-5.0 ; 6.8)
	Frequency of maternal stimulations	8.3	(6.2 ; 10.3)	5.1	(2.9 ; 7.3)
	Pre-elementary schooled			0.9	(0.4 ; 1.4)
Ever-breastfed		3.7	(0.2 ; 7.1)	6.2	(2.5 ; 9.9)

Abbreviations: CDI, communicative development inventory; ASQ, ages and stages questionnaire; CI, Confidence Interval.

¹ Adjusted for center, maternal age, alcohol consumption and smoking habits during pregnancy, obesity before pregnancy, child's gender, gestational age, birth weight, age, parental education, household income, number of older siblings, caretaker, frequency of maternal stimulations, breastfeeding initiation.

² Additionally adjusted for pre-elementary schooling.

³ Overall P-value: CDI, P<0.001; ASQ, ns.

Table III: Adjusted¹ associations between durations of breastfeeding and Communicative Development Inventory and Ages and Stages Questionnaire scores, among breastfed children

	Exclusive breastfeeding duration (month)			Any breastfeeding duration (month)		
	<i>n</i>	β	95% CI	<i>n</i>	β	95% CI
CDI	924	0.82	(0.18 ; 1.46)	1023	0.56	(0.18 ; 0.94)
Total ASQ ²	804	0.76	(0.11 ; 1.42)	889	0.47	(0.06 ; 0.87)
communication		0.06	(-0.10 ; 0.21)		0.06	(-0.04 ; 0.15)
gross motor		0.15	(-0.03 ; 0.33)		0.04	(-0.07 ; 0.15)
fine motor		0.21	(-0.05 ; 0.46)		0.20	(0.04 ; 0.35)
problem solving		0.21	(0.01 ; 0.42)		0.08	(-0.04 ; 0.21)
personal social		0.13	(-0.03 ; 0.30)		0.09	(-0.01 ; 0.19)

¹ Adjusted for recruitment center, maternal age, alcohol consumption and smoking habits during pregnancy, obesity before pregnancy, child's gender, gestational age, birth weight, age, parental education, household income, number of older siblings, caretaker, and frequency of maternal stimulations. ² Additionally adjusted for pre-elementary school attendance. Abbreviations: CDI, communicative development inventory; ASQ, ages and stages questionnaire; CI, Confidence Interval.

FIGURE LEGEND

Figure I: Flow chart of the children who performed the Communicative Development Inventory (CDI) at 2 and the Ages and Stages Questionnaire (ASQ) at 3 years in the EDEN Mother-Child Cohort Study.

