

Web appendix 1: The ELFE Cohort

Mode of selection of children from the ELFE cohort and strategy for correction of the non-representativeness of the reference sample

Term-born children were selected from the ELFE cohort, ¹ a contemporary national study of children born in 2011 in a random sample of maternity units in metropolitan France (<https://elfe-france.fr/>). Inclusion criteria were single or twin live births at ≥ 33 weeks of gestation during 25 selected days in four waves over 2011; 18329 children were included at birth and 11289 participated in the data collection planned for all participants in the ELFE study at 5 years through a phone interview. To obtain reference data for the EPIPAGE-2 cohort at 5 ½ years, the objective was to assess ELFE children with the EPIPAGE-2 follow-up protocol. For financial and organisational reasons, the assessment used in EPIPAGE-2 could only be offered to 600 children from the ELFE cohort. This size of reference group was sufficient to obtain good precision for estimated scores of the main scales used (FISQ (100 95%CI (98.8-101.2), MABC-2 (10 95%CI (9.8-10.2)) and SDQ (10 95%CI (9.6-10.4)) based on known means and standard deviations. Children from the ELFE cohort eligible for assessment were singletons, born between 37 and 41 weeks of gestation, during the 2 last inclusion periods in 2011 (between September 27th-29th and October 1st-4th or between November 28th-30th and December 1st-5th). Among the 3430 eligible children, parents of 2846 (83%) agreed to participate in the 5 ½ year EPIPAGE-2 assessment. Parents of 1405 children were contacted by telephone by the EPIPAGE-2 team and 237 declined participation. Recruitment was stopped when 600 children had been assessed. For 8 children, the consent form was invalid and the reference group was based on results of 592 children. The Wechsler Preschool and Primary Scale of Intelligence-Fourth edition (WPPSI-IV, allowing calculation of a full-scale intelligence quotient) was completed by 585 children, the Strengths and Difficulties Questionnaire was available for 584 children, and scores of the Movement Assessment Battery for Children-Second edition (MABC-2) were calculated for 543 children, following exclusion of children with cerebral palsy, severe or moderate sensory disabilities, and full-scale intelligence quotient < 2 standard deviations below the mean. A weighting procedure (simultaneous calibration) was used to correct for the non-representativeness of the sample taking into account the sampling plan and refusals at maternity unit or individual levels. ² Data were calibrated using marginal distributions obtained from national statistical data and the 2010 French National Perinatal study ³ for the following variables for mothers: maternal age, region of birth, immigration status, level of education, marital status, parity, attendance at antenatal courses, cohabitation status at birth, alcohol consumption during pregnancy, occupational status at the time of delivery; and, for fathers: age, occupational status at the time of delivery. Calibration was performed with CALMAR macro using SAS v9.4 software. ⁴ Tables below show maternal level of education, socioeconomic status, and paternal socioeconomic status after weighting in the reference sample and in the total ELFE cohort together with parents' assessment of child health, behavioural difficulties, and use of complex developmental interventions at 5 years.

1. Charles M-A, Thierry X, Lanoe J-L, et al. Cohort Profile: The French National cohort of children ELFE: birth to 5 years. *Int J Epidemiol* 2019. PMID 31747017. DOI: [10.1093/ije/dyz227](https://doi.org/10.1093/ije/dyz227)

2. https://pandora-elfe.inserm.fr/doc/Pondérations_enquêtes_nationales.pdf. Accessed March 31, 2021

3. Blondel B, Coulm B, Bonnet C et al. Trends in Perinatal Health in Metropolitan France From 1995 to 2016: Results From the French National Perinatal Surveys. *J Gynecol Obstet Hum Reprod*, 46 (10), 701-713. DOI: [10.1016/j.jogoh.2017.09.002](https://doi.org/10.1016/j.jogoh.2017.09.002)

4. La macro SAS CALMAR. <https://www.insee.fr/fr/information/2021902>. Accessed October 1, 2020

Maternal and paternal characteristics at birth in the total ELFE cohort and in the reference sample*: weighted percentages.

	ELFE total cohort Weighted %	ELFE reference sample* Weighted %
Maternal age		
<25 years	12.7	12.4
25-34 years	65.6	67.0
≥ 35 years	21.8	20.6
Primiparous	44.4	44.8
Mother born in France	81.4	81.6
Living in a couple	92.7	93.9
Maternal level of education		
≤ Secondary school	25.3	22.0
High school Degree	20.0	21.2
Post graduate or higher	54.1	56.5
Missing	0.6	0.3
Maternal socio-economic status		
Professional	15.3	15.6
Intermediate	20.3	24.9
Employee, service workers, manual workers	55.1	54.8
Other	8.0	4.4
Missing	1.3	0.3
Paternal socio-economic status		
Professional	20.0	20.0
Intermediate	12.5	16.1
Employee, service workers, manual workers	52.1	48.0
Other	12.0	12.7
Missing	3.3	3.2

* Reference sample based on the 592 children evaluated at 5 ½ years of age

Parents' assessment of child health, behavioural difficulties and complex developmental interventions at 5 years of age in the total ELFE cohort and in the reference sample*: weighted percentages.

	ELFE total cohort Weighted %	ELFE reference sample* Weighted %
Child health assessed by parents		
Good health	78.8	74.9
Rather healthy	19.5	24.3
Rather unhealthy	0.6	0.1
Poor health	0.2	0.7
Missing	1.0	0.0
Behavioural difficulties		
Total SDQ score, mean (standard deviation)	8.8 (4.9)	10.1 (5.6)
Complex developmental interventions		
Psychologist	9.0	10.4
Speech therapist	15.2	17.1
Psychomotor therapist	3.8	5.0

SDQ= Strengths and Difficulties Questionnaire (Goodman, 1997)

* Reference sample based on the 592 children evaluated at 5 ½ years of age

Web appendix 2. Type of variables, models used to predict missing data, and percentages of missing values for each variable included in the imputation model (N=4441 survivors at 5 ½ years eligible for follow-up in the EPIPAGE-2 study).

Variables	Type of variable	Model used to predict missing data	Percentages of missing values among survivors at 5½ years
Perinatal characteristics			
Birth region of the child	Categorical	No missing data	0%
Gestational age	Continuous	No missing data	0%
Maternal age at birth	Categorical (3 categories)	No missing data	0%
Primiparity	Binary	Logistic regression	1%
Maternal birth outside France	Binary	Logistic regression	1%
Parents' socio-economic status*	Categorical (5 categories)	Multinomial regression	5%
Maternal level of education	Categorical (5 categories)	Multinomial regression	7%
Living in a couple	Binary	Logistic regression	5%
Antenatal steroids	Binary	Logistic regression	2%
Multiple pregnancy	Binary	No missing data	0%
Caesarean section	Binary	Logistic regression	<1%
Sex	Binary	Logistic regression	<1%
Small-for-gestational age [†]	Binary	Logistic regression	<1%
Major congenital malformation	Binary	No missing data	0%
Inborn	Binary	No missing data	0%
Surfactant	Binary	Logistic regression	1%
Severe cerebral lesions	Binary	Logistic regression	1%
Severe bronchopulmonary dysplasia	Binary	Logistic regression	3%
Severe necrotising enterocolitis	Binary	Logistic regression	2%
Severe retinopathy of prematurity	Binary	Logistic regression	1%
Late onset sepsis	Binary	Logistic regression	1%
Breast milk at discharge	Categorical (3 categories)	Multinomial regression	7%
At 2 years corrected age			
Cerebral Palsy	Categorical (5 categories)	Multinomial regression	19%
Other abnormal neuro motor signs	Binary	Logistic regression	19%
Hearing disabilities	Categorical (3 categories)	Logistic regression	21%
Visual disabilities	Categorical (3 categories)	Logistic regression	23%
ASQ Communication score	Continuous	Predictive mean matching	18%
ASQ Gross motor score	Continuous	Predictive mean matching	20%
ASQ Fine motor score	Continuous	Predictive mean matching	21%
ASQ Problem solving score	Continuous	Predictive mean matching	21%
ASQ Personal-social score	Continuous	Predictive mean matching	21%
Small lexical size	Binary	Logistic regression	23%
At 5 ½ years			
Cerebral Palsy	Categorical (5 categories)	Multinomial regression	31%
Hearing disabilities	Categorical (4 categories)	Multinomial regression	32%
Visual disabilities	Categorical (4 categories)	Multinomial regression	34%
MABC-2 Manual Dexterity score	Continuous	Predictive mean matching	41%
MABC-2 Aiming & Catching score	Continuous	Predictive mean matching	41%
MABC-2 Balance score	Continuous	Predictive mean matching	41%
MABC-2 Total score	Continuous	Predictive mean matching	42%

Web appendix 2. Type of variables, model used to predict missing data, and percentages of values missing for each variable included in the imputation model (N=4441 survivors at 5½ years eligible for follow-up in the EPIPAGE-2 study). **(Continued)**

Variable	Type of variable	Model used to predict missing data	Percentages of missing values among survivors at 5½years
WPPSI-IV Verbal Comprehension Index score	Continuous	Predictive mean matching	40%
WPPSI-IV Visio-spatial Index score	Continuous	Predictive mean matching	40%
WPPSI-IV Fluid Reasoning Index score	Continuous	Predictive mean matching	40%
WPPSI-IV Working memory index score	Continuous	Predictive mean matching	41%
WPPSI-IV Processing speed index score	Continuous	Predictive mean matching	41%
WPPSI-IV FSIQ score	Continuous	Predictive mean matching	41%
SDQ Emotional difficulties score	Continuous	Predictive mean matching	40%
SDQ Peer relations score	Continuous	Predictive mean matching	40%
SDQ Hyperactivity score	Continuous	Predictive mean matching	40%
SDQ Conduct problems score	Continuous	Predictive mean matching	40%
School enrolment	Binary	Logistic regression	32%
Support at school, special schooling	Categorical (3 categories)	Multinomial regression	32%
Complex developmental intervention‡	Binary	Logistic regression	33%
Request to “MDPH”	Binary	Logistic regression	34%
Parents’ concerns about child development	Binary	Logistic regression	33%-34%

ASQ=Ages and Stages questionnaire (Squire, 2009); WPPSI-IV=Wechsler Preschool and Primary Scale of Intelligence-Fourth edition (Wechsler, 2014); FSIQ= Full-Scale Intelligence quotient; MABC-2=Movement Assessment Battery for Children- Second Edition (Henderson, 2007); SDQ= Strengths and Difficulties Questionnaire (Goodman, 1997); MDPH= « Maison départementale des personnes handicapées », a French institution that provides educational support or grants money to parents according to the level of disability.

All variables were included as predictors in all imputation models.

* Defined as the highest occupational status between occupations of the mother and the father, or mother only if living alone.

† Small-for- gestational age was defined as birth weight less than the 10th percentile for gestational age and sex based on French intrauterine growth curves (Ego, 2016).

‡ At least two consultations with psychologist, psychiatrist, orthoptist, speech therapist, occupational therapist, physiotherapist, during the twelve previous months or care in a rehabilitation centre.

Web appendix 3. Comparison of participating and non-participating children to the 5 years follow-up in the EPIPAGE-2 study. Values are number of events/number in groups and percentages*.

	24-26 weeks					27-31 weeks					32-34 weeks				
	Participating children		Non-participating children		Chi2 p-value	Participating children		Non-participating children		Chi2 p-value	Participating children		Non-participating children		Chi2 p-value
	n=379		n=164			n=1934		n=776			n=770		n=417		
Maternal characteristics at birth															
Maternal age															
<25 years	58/379	15.3	48/164	29.3	<0.001	298/1934	15.4	208/776	26.8	<0.001	78/770	10.1	93/417	22.3	<0.001
25-34 years	242/379	63.9	83/164	50.6		1194/1934	61.7	402/776	51.8		499/770	64.8	247/417	59.2	
≥35 years	79/379	20.8	33/164	20.1		442/1934	22.9	166/776	21.4		193/770	25.1	77/417	18.5	
Birth in France	293/378	77.5	102/157	65.0	0.003	1544/1927	80.1	516/755	68.3	<0.001	669/769	87.0	293/409	71.6	<0.001
Live with partner	327/360	90.8	122/152	80.3	0.001	1698/1827	92.9	637/727	87.6	<0.001	700/738	94.9	333/396	84.1	<0.001
Parents' socio-economic status‡															
Professional	97/359	27.0	16/149	10.7	<0.001	450/1857	24.2	93/709	13.1	<0.001	203/743	27.3	62/382	16.2	<0.001
Intermediate	80/359	22.3	14/149	9.4		433/1857	23.3	104/709	14.7		191/743	25.7	61/382	16.0	
Administrative, public service, self-employed, students	76/359	21.2	43/149	28.9		505/1857	27.2	215/709	30.3		185/743	24.9	125/382	32.7	
Shop assistants, service workers	58/359	16.2	31/149	20.8		225/1857	12.1	135/709	19.0		87/743	11.7	65/382	17.0	
Manual workers, unemployed	48/359	13.4	45/149	30.2		244/1857	13.1	162/709	22.8		77/743	10.4	69/382	18.1	
Maternal level of education†															
Primary or no education	37/366	10.1	28/129	21.7	<0.001	181/1870	9.7	123/648	19.0	<0.001	65/746	8.7	59/352	16.8	<0.001
Secondary school	55/366	15.0	30/129	23.3		341/1870	18.2	158/648	24.4		120/746	16.1	79/352	22.4	
High school	80/366	21.9	31/129	24		383/1870	20.5	158/648	24.4		147/746	19.7	91/352	25.9	
Degree	85/366	23.2	28/129	21.7		441/1870	23.6	100/648	15.4		180/746	24.1	53/352	15.1	
Post graduate or higher	109/366	29.8	12/129	9.3		524/1870	28.0	109/648	16.8		234/746	31.4	70/352	19.9	
Obstetric factors															
Primiparous	226/374	60.4	78/162	48.1	0.001	1068/1915	55.8	374/766	48.8	<0.001	430/763	56.4	215/407	52.8	<0.001
Multiple pregnancy	128/379	33.8	48/164	29.3	0.30	646/1934	33.4	232/776	29.9	0.078	305/770	39.6	137/417	32.9	0.022
Antenatal steroids	307/374	82.1	132/162	81.5	0.87	1630/1898	85.9	623/760	82.0	0.011	565/755	74.8	289/406	71.2	0.18
Caesarean section	186/375	49.6	74/162	45.7	0.40	1370/1926	71.1	515/768	67.1	0.037	434/769	56.4	213/413	51.6	0.11
Neonatal characteristics at birth															
Male gender	190/379	50.1	86/164	52.4	0.62	1013/1934	52.4	411/776	53.0	0.78	435/770	56.5	203/417	48.7	0.01
Small-for-gestational age‡	76/379	20.1	29/164	17.7	0.52	739/1934	38.2	291/776	37.5	0.73	254/769	33.0	127/417	30.5	0.36
Severe neonatal morbidities¶	134/360	37.2	67/152	44.1	0.15	225/1844	12.2	83/744	11.2	0.46	17/732	2.3	6/381	1.6	0.41
At 2 years corrected age															
Cerebral palsy	20/352	5.7	11/96	11.5	0.048	75/1803	4.2	22/462	4.8	0.57	9/693	1.3	0/191	0.0	-
ASQ scores below threshold**	168/322	52.2	40/83	48.2	0.52	681/1722	39.5	182/399	45.6	0.026	229/688	33.3	60/194	30.9	

* Observed data. Denominators vary according to the number of missing data for each variable.

† Defined as the highest occupational status between occupations of the mother and the father, or mother only if living alone.

‡ Small-for-gestational age was defined as birth weight less than the 10th percentile for gestational age and sex based on French intrauterine growth curves (Ego, 2016).

§ Intraventricular haemorrhage grade III or IV or cystic periventricular leukomalacia.

¶ Severe neonatal morbidity was defined as severe bronchopulmonary dysplasia or necrotizing enterocolitis stage 2-3 or severe retinopathy of prematurity stage >3 or any of the following severe cerebral abnormalities on cranial ultrasonography: intraventricular haemorrhage grade III or IV or cystic periventricular leukomalacia (Ancel, 2015).

** Ages and Stages Questionnaire. For each domain, a score lower than 2 standard deviations from the mean, using established screening cut-off points (Squire, 2009), was reported. If a score was below threshold in at least one domain, the global ASQ score was considered below threshold.

Web appendix 4. Comparison of children with data collected during a clinical examination or with a postal questionnaire at 5½ years in the EPIPAGE-2 study. Values are number of events/number in groups and weighted percentages*.

	Clinical examination n=2718		Postal questionnaire [†] n=365		Chi2 p-value
<u>Neonatal characteristics at birth</u>					
Gestational age					
24-26 weeks	340/2718	4.6	39/365	3.8	0.61
27-29 weeks	790/2718	14.5	101/365	13.2	
30-31 weeks	916/2718	16.8	127/365	16.6	
32-34 weeks	672/2718	64.1	98/365	66.5	
Male gender	1453/2718	55.1	185/365	53.8	0.72
Small-for-gestational age[‡]	943/2718	33.9	126/364	35	0.75
<u>Maternal characteristics at birth</u>					
Maternal age					
<25 years	376/2718	11.6	58/365	15	0.18
25-34 years	1710/2718	63.7	225/365	64.7	
≥35 years	632/2718	24.7	82/365	20.3	
Born in France	2214/2710	84.3	292/364	85	0.79
Living with partner	2407/2577	94.5	318/348	90.9	
Parents' socio-economic status[§]					
Professional	671/2607	26.9	79/352	22.2	0.003
Intermediate	644/2607	25.8	60/352	18.2	
Administrative, public service, self-employed, students	666/2607	25.3	100/352	26.1	
Shop assistants, service workers	322/2607	11.5	48/352	16	
Manual workers	304/2607	10.5	65/352	17.5	
Maternal level of education					
Primary or no education	236/2636	8.5	47/346	13.2	0.027
Secondary school	442/2636	16.2	74/346	20.6	
High school	532/2636	19.8	78/346	21.6	
Degree	636/2636	24.2	70/346	21.8	
Post graduate or higher	790/2636	31.3	77/346	22.7	
<u>Obstetric factors</u>					
Primiparous	1531/2691	56.3	193/361	57	0.15
Multiple pregnancy	946/2718	37.6	133/365	36	0.66
Antenatal steroids	2209/2669	79.1	293/358	74.9	0.2
Caesarean section	1755/2706	61.3	235/364	56.3	0.18
<u>Neonatal period</u>					
Severe neonatal morbidities[¶]	337/2600	7.1	39/336	6.4	0.63
<u>At 5 ½ years</u>					
Cerebral palsy	134/2705	3.6	18/353	2.9	0.48
Moderate or severe visual disability^{**}	15/2599	0.5	6/345	2	0.02
Moderate or severe hearing disability^{††}	24/2661	0.7	4/339	1.7	0.19

* Observed data, denominators vary according to the number of missing data for each variable. Percentages are weighted to take into account the differences in survey design between gestational age groups. Due to this, proportions are not exactly n/N.

[†]Postal questionnaires were proposed in one region (13 subjects), and elsewhere for parents refusing formal assessment or if the assessment team was not available (n=345)

[‡] Small-for-gestational age was defined as birth weight less than the 10th percentile for gestational age and sex based on French intrauterine growth curves (Ego, 2016).

[§]Defined as the highest occupational status between occupations of the mother and the father, or mother only if living alone.

[¶] Severe neonatal morbidity was defined as severe bronchopulmonary dysplasia or necrotizing enterocolitis stage 2-3 or severe retinopathy of prematurity stage >3 or any of the following severe cerebral abnormalities on cranial ultrasonography: intraventricular haemorrhage grade III or IV or cystic periventricular leukomalacia (Ancel, 2015).

^{**} Blindness or binocular visual corrected acuity <3.2/10.

^{††} Uni- or bilateral deafness, hearing loss > 40 dB not corrected or partially corrected with hearing aid.

Web appendix 5. Classification of neurodevelopmental disabilities at 5½ years by gestational age group among survivors in the EPIPAGE-2 study. Values are percentages (95% confidence interval). Data are corrected for study design and respondent selection*.

	Preterm children						P for trend†	Reference sample born at term
	24-26 weeks		27-31 weeks		32-34 weeks			
	No./Total % (95% CI)	Multiple imputation % (95% CI)	No./Total % (95% CI)	Multiple imputation % (95% CI)	No./Total % (95% CI)	Multiple imputation % (95% CI)		
Neurodevelopmental disabilities §								
No.	327		1636		655			
Severe	8.3 (5.5 to 11.8)	11.9 (8.6 to 15.3)	5.2 (4.2 to 6.4)	6.7 (5.5 to 8.0)	1.5 (0.7 to 2.8)	3.0 (1.7 to 4.4)	<0.001‡	1.1 (0.2 to 3.6)
Moderate	11.6 (8.4 to 15.6)	15.8 (12.1 to 19.6)	9.5 (8.2 to 11.1)	12.0 (10.4 to 13.6)	6.3 (4.5 to 8.4)	8.6 (6.5 to 10.7)		3.9 (1.6 to 8.0)
Mild								
with cerebral palsy-GMFC1 and/or mild sensory or cognitive impairments	32.4 (27.4 to 37.8)	31.6 (27 to 36.3)	29 (26.8 to 31.2)	30.0 (27.6 to 32.3)	27.2 (23.8 to 30.8)	28.7 (25.2 to 32.2)		15.7 (11.4 to 20.9)
with DCD and/or behavioural difficulties only	8.0 (5.3 to 11.4)	6.9 (4.5 to 9.4)	6.2 (5.1 to 7.5)	5.8 (4.7 to 6.9)	4.9 (3.4 to 6.8)	5.1 (3.4 to 6.7)		7.3 (4.4 to 11.1)
None	39.8 (34.4 to 45.3)	33.7 (29.2 to 38.2)	50.1 (47.6 to 52.5)	45.5 (43.1 to 48.0)	60.2 (56.3 to 63.9)	54.6 (50.6 to 58.7)		72.0 (66.0 to 77.5)
Impaired domains in the group with mild NDD								
No.	110		192		92			
Cerebral palsy-GMFC1 and/or mild sensory or cognitive impairments only	53.6 (43.9 to 63.2)	49.0 (40.7 to 57.3)	62.7 (58.3 to 66.9)	61.7 (57.8 to 65.7)	69.3 (62.2 to 75.7)	67.6 (61.1 to 74)	0.001‡	48.0 (34.1 to 62.1)
Cerebral palsy-GMFC1 and/or mild sensory or cognitive impairments and DCD or behavioural difficulties	25.5 (17.6 to 34.6)	33.0 (25.6 to 40.5)	18.4 (15.1 to 22)	22.1 (18.9 to 25.3)	15.1 (10.4 to 21.0)	17.4 (12.6 to 22.2)		19.2 (8.6 to 34.4)
DCD and/or behavioural difficulties only	20.9 (13.7 to 29.7)	18.0 (12.0 to 24.0)	18.9 (15.6 to 22.6)	16.2 (13.2 to 19.1)	15.6 (10.8 to 21.5)	15.1 (10.4 to 19.8)		32.8 (20.7 to 46.9)

NDD= Neurodevelopmental disabilities; GMFC1= Gross Motor Function Classification System (Ghassabian, 2016); DCD=Developmental coordination disorders.

* For the group of preterm-born children, results of both observed data and imputed data were reported. For term-born children (37-41 weeks), data are weighted using calibration weighting (Web appendix 1).

† Test for linear trend across gestational age groups, after multiple imputation. GEE based test to account for non-independence of outcomes related to multiple births.

‡ Chi-squared test for difference between 24-26 weeks, 27-31 weeks and 32-34 weeks, after multiple imputation. GEE based test to account for non-independence of outcomes related to multiple births.

§ Include cerebral palsy, vision, hearing, full-scale intelligence quotient, developmental coordination disorders and behavioural difficulties (see Box 1).

Web appendix 6. Factors associated with neurodevelopmental disabilities at 5½ years in the EPIPAGE-2 study, among preterm children survivors. Observed data.

	Neurodevelopmental disabilities*				Model 1			Model 2		
	None	Mild	Severe or Moderate	Mild	Severe or Moderate	p-value	Mild	Severe or Moderate	p-value	
	N	%	%	%	aOR (95%CI)		aOR (95%CI)	aOR (95%CI)		aOR (95%CI)
Gestational age (weeks)										
24	36	38.9	36.1	25.0	1.36 (0.58 to 3.18)	4.67 (1.71 to 12.78)	<.001	1.43 (0.60 to 3.40)	4.35 (1.40 to 13.58)	<.001
25	101	39.6	41.6	18.8	1.54 (0.93 to 2.54)	3.45 (1.57 to 7.58)		1.52 (0.90 to 2.56)	4.26 (1.88 to 9.64)	
26	190	40.0	40.5	19.5	1.48 (0.98 to 2.25)	3.53 (1.89 to 6.62)		1.51 (0.99 to 2.31)	4.11 (2.14 to 7.89)	
27	208	33.2	43.8	23.1	1.93 (1.28 to 2.91)	5.05 (2.72 to 9.39)		1.76 (1.16 to 2.67)	4.14 (2.15 to 7.99)	
28	259	47.9	35.5	16.6	1.09 (0.75 to 1.57)	2.52 (1.40 to 4.53)		1.04 (0.71 to 1.51)	2.60 (1.41 to 4.82)	
29	290	50.3	35.5	14.1	1.03 (0.72 to 1.48)	2.04 (1.13 to 3.67)		0.99 (0.68 to 1.43)	2.10 (1.13 to 3.91)	
30	399	51.1	36.8	12.0	1.06 (0.76 to 1.47)	1.71 (0.96 to 3.04)		0.99 (0.71 to 1.39)	1.70 (0.94 to 3.09)	
31	480	57.5	29.8	12.7	0.76 (0.55 to 1.05)	1.60 (0.92 to 2.79)		0.71 (0.50 to 0.99)	1.74 (0.98 to 3.09)	
32	153	62.7	28.1	9.2	0.66 (0.42 to 1.03)	1.06 (0.51 to 2.21)		0.58 (0.36 to 0.91)	0.93 (0.43 to 2.02)	
33	198	66.2	26.8	7.1	0.59 (0.39 to 0.90)	0.78 (0.38 to 1.60)		0.62 (0.41 to 0.94)	0.83 (0.39 to 1.75)	
34	304	54.9	37.5	7.6	1	1		1	1	
Sex										
Female	1213	53.3	34.1	12.6	1	1	0.072	1	1	0.020
Male	1405	49.6	35.9	14.5	1.16 (0.97 to 1.38)	1.30 (1.01 to 1.66)		1.19 (0.99 to 1.43)	1.43 (1.10 to 1.87)	
Pregnancy										
Single	1701	50.2	35.8	14.0	1	1	0.59	1	1	0.92
Multiple	917	53.3	33.7	13.0	0.91 (0.75 to 1.10)	0.91 (0.69 to 1.21)		1.03 (0.84 to 1.26)	1.06 (0.79 to 1.43)	
Small-for-gestational age†										
No	1709	53.5	36.0	11.9	1	1	<.001	1	1	<.001
Yes	909	47.2	34.6	16.8	1.25 (1.04 to 1.50)	1.75 (1.37 to 2.25)		1.24 (1.02 to 1.50)	1.75 (1.35 to 2.28)	
Parents' socio-economic status‡										
Professional	651	65.4	27.8	6.8	1	1	<.001	1	1	<.001
Intermediate	623	54.7	35.8	9.5	1.50 (1.16 to 1.94)	1.66 (1.06 to 2.61)		1.50 (1.16 to 1.94)	1.65 (1.05 to 2.59)	
Administrative, public service, self-employed, students	647	48.1	36.2	15.8	1.73 (1.34 to 2.23)	3.18 (2.09 to 4.83)		1.71 (1.33 to 2.21)	3.10 (2.04 to 4.73)	
Shop assistants, service workers	305	41.0	40.3	18.7	2.20 (1.60 to 3.02)	4.15 (2.57 to 6.69)		2.19 (1.59 to 3.01)	4.11 (2.55 to 6.64)	
Manual workers, unemployed	284	32.7	43.0	24.3	2.99 (2.13 to 4.21)	6.96 (4.32 to 11.19)		3.01 (2.13 to 4.24)	7.00 (4.36 to 11.24)	

Model 1 : adjusted for gestational age. GEE for multinomial outcome model to account for non-independence of outcomes related to multiple births.

Model 2: adjusted for gestational age, gender, single or multiple pregnancy, small-for-gestational age and parents' socio-economic status. GEE for multinomial outcome model to account for non-independence of outcomes related to multiple births.

*Include cerebral palsy, vision, hearing, full-scale intelligence quotient, developmental coordination disorders and behavioural difficulties (see Box 1).

† Small-for- gestational age was defined as birth weight <10th percentile for gestational age and sex based on French intrauterine growth curves (Ego 2016).

‡ Defined as the highest occupational status between occupations of the mother and the father, or mother only if living alone.