Perinatal risk factors for the onset of bipolar disorder in young adulthood: a 22-year birth cohort – Gnielka V et al.
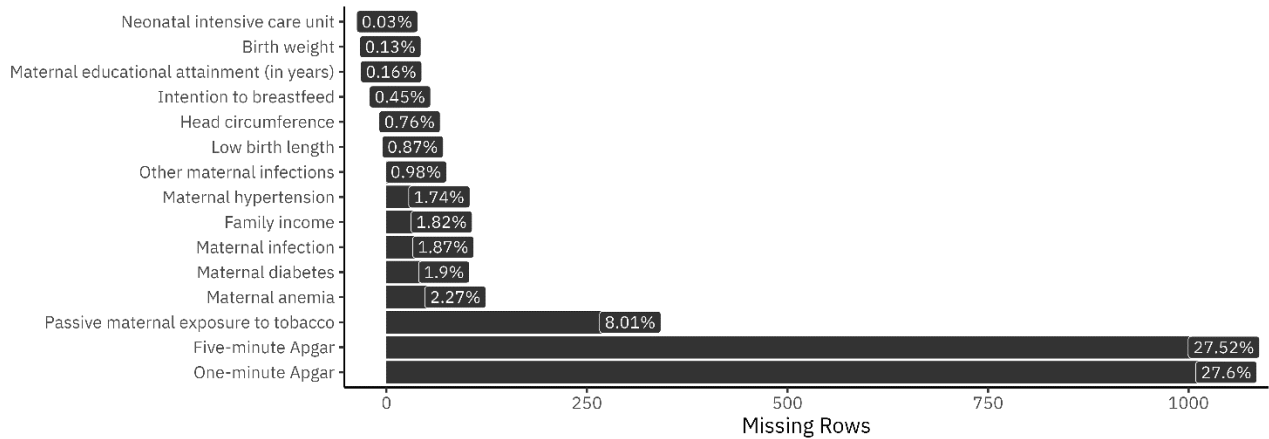
Figure S1 Frequency of missing values for each feature in the dataset

Only variables with one or more missing values are displayed. The x-axis shows the absolute number of missing values per variable, while the label shows the relative frequency (percentage) of missing values per variable.

Figure S2 Relative frequencies of (a) maternal smoking during pregnancy, (b) maternal exposure to tobacco during pregnancy, and (c) lifetime smoking at age 15 according to the onset of bipolar disorder in young adulthood in the cohort sample
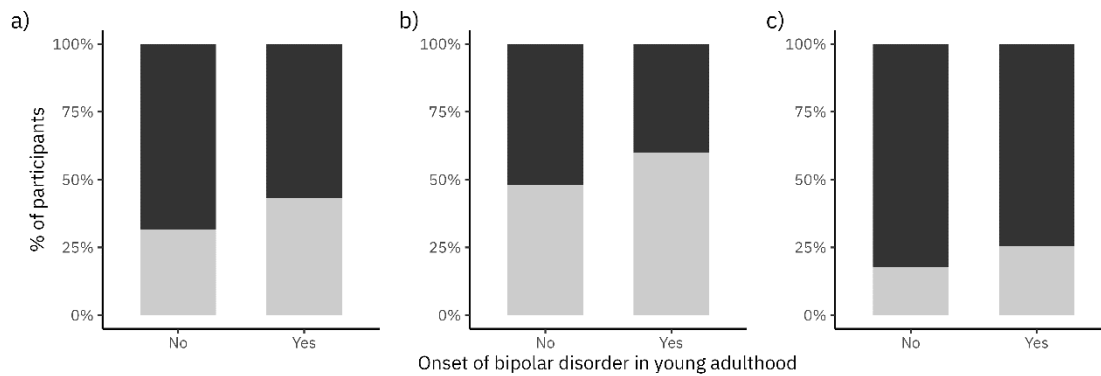
Perinatal risk factors for the onset of bipolar disorder in young adulthood: a 22-year birth cohort – Gnielka V et al.

Table S1 Perinatal data stratified according to the onset of bipolar disorder in young adulthood (n=3,794)

Variables	Individuals without BD (n=3,526)	Onset of BD in young adulthood (n=268)	p-value
Cesarean section			0.082
No	2,415 (68.5%)	198 (73.9%)	
Yes	1,111 (31.5%)	70 (26.1%)	
Induced labor			0.584
No	2,411 (68.4%)	188 (70.1%)	
Yes	1,115 (31.6%)	80 (29.9%)	
Neonatal ICU			0.286
No	3,446 (97.7%)	259 (96.6%)	
Yes	79 (2.2%)	9 (3.4%)	
Missing	1 (0.0%)	0 (0%)	
Maternal arterial hypertension			0.423
No	2,928 (83.0%)	224 (83.6%)	
Treated	409 (11.6%)	24 (9.0%)	
Untreated	135 (3.8%)	8 (3.0%)	
Missing	54 (1.5%)	12 (4.5%)	
Maternal diabetes mellitus			0.873
No	3,373 (95.7%)	247 (92.2%)	
Treated	76 (2.2%)	6 (2.2%)	
Untreated	18 (0.5%)	2 (0.7%)	
Missing	59 (1.7%)	13 (4.9%)	
Gestational infection			0.372
No	3,139 (89.0%)	226 (84.3%)	
Treated	316 (9.0%)	28 (10.4%)	
Untreated	43 (1.2%)	5 (1.9%)	
Missing	28 (0.8%)	9 (3.4%)	
Gestational anemia			0.237
No	1,868 (53.0%)	123 (45.9%)	
Treated	1,502 (42.6%)	123 (45.9%)	
Untreated	85 (2.4%)	7 (2.6%)	
Missing	71 (2.0%)	15 (5.6%)	
Intrapartum hemorrhage			0.506
No	3,493 (99.1%)	264 (98.5%)	
Yes	33 (0.9%)	4 (1.5%)	
Maternal smoking			<0.001
No	2,410 (68.3%)	152 (56.7%)	
Yes	1,116 (31.7%)	116 (43.3%)	

Variables	Individuals without BD (n=3,526)	Onset of BD in young adulthood (n=268)	p-value
Passive maternal exposure to tobacco			<0.001
No	1,688 (47.9%)	99 (36.9%)	
Yes	1,554 (44.1%)	149 (55.6%)	
Missing	284 (8.1%)	20 (7.5%)	
Heavy drinking during pregnancy			0.774
No	3,490 (99.0%)	266 (99.3%)	
Yes	36 (1.0%)	2 (0.7%)	
Parental structure			0.195
No	417 (11.8%)	39 (14.6%)	
Yes	3,109 (88.2%)	229 (85.4%)	
Low birth weight			0.107
No	3,215 (91.2%)	237 (88.4%)	
Yes	306 (8.7%)	31 (11.6%)	
Missing	5 (0.1%)	0 (0%)	
Low birth length			0.074
No	2,992 (84.9%)	216 (80.6%)	
Yes	504 (14.3%)	49 (18.3%)	
Missing	30 (0.9%)	3 (1.1%)	
Head circumference < 33 cm			0.373
No	3,191 (90.5%)	240 (89.6%)	
Yes	306 (8.7%)	28 (10.4%)	
Missing	29 (0.8%)	0 (0%)	
Paternal educational attainment (in years)			< 0.001
Mean (SD)	6.98 (3.54)	6.00 (3.21)	
Median (Min, Max)	6.00 (0, 19.0)	5.00 (0, 16.0)	
Missing	242 (6.9%)	18 (6.7%)	
Maternal educational attainment (in years)			< 0.001
Mean (SD)	6.93 (3.60)	5.82 (2.92)	
Median (Min, Max)	6.00 (0, 23.0)	5.00 (0, 16.0)	
Missing	6 (0.2%)	0 (0%)	
Family support			0.676
No	350 (9.9%)	29 (10.8%)	
Yes	3,176 (90.1%)	239 (89.2%)	
Intention to breastfeed			0.391
No	21 (0.6%)	0 (0%)	
Yes	3,488 (98.9%)	268 (100%)	
Missing	17 (0.5%)	0 (0%)	

Perinatal risk factors for the onset of bipolar disorder in young adulthood: a 22-year birth cohort – Gnielka V et al.

Variables	Individuals without BD (n=3,526)	Onset of BD in young adulthood (n=268)	p-value
One-minute Apgar < 7			0.399
No	2,360 (66.9%)	175 (65.3%)	
Yes	201 (5.7%)	11 (4.1%)	
Missing	965 (27.4%)	82 (30.6%)	
Five-minute Apgar < 7			0.234
No	2,535 (71.9%)	187 (69.8%)	
Yes	28 (0.8%)	0 (0%)	
Missing	963 (27.3%)	81 (30.2%)	
Respiratory dysfunction			0.114
No	3,458 (98.1%)	259 (96.6%)	
Yes	68 (1.9%)	9 (3.4%)	
Trauma during labor			0.229
No	3,523 (99.9%)	267 (99.6%)	
Yes	3 (0.1%)	1 (0.4%)	
Malformations			1
No	3,523 (99.9%)	268 (100%)	
Yes	3 (0.1%)	0 (0%)	
Fetal distress			0.416
No	3,511 (99.6%)	268 (100%)	
Yes	15 (0.4%)	0 (0%)	
Maternal age at delivery < 20 years			0.162
No	2,926 (83.0%)	213 (79.5%)	
Yes	600 (17.0%)	55 (20.5%)	
Maternal age at delivery > 34 years			0.277
No	3,132 (88.8%)	244 (91.0%)	
Yes	394 (11.2%)	24 (9.0%)	

BD = bipolar disorder; ICU = intensive care unit.
P-values were calculated using Student's t-test and chi-square test.