

The Prediction of Very Low Birth Weight Preterm at Five Years Old

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Dig into the development curve and find faith in the future

The development curve of very low birth weight preterm before two years old often infers a poor prognosis on the nerve growth. To prepare the parents with the best intervention plans as early as possible, we need to have the ability to predict a child's future development possibilities.

The Prediction of the Five-Year-old

The aim of this study is to find out the predicting factors of the cognitive ability of 5-year-old children, from their development curve before two years old. We used WPPSI-IV to evaluate Full Scale IQ as well as Verbal Comprehension Index, Visual Spatial Index, Fluid Reasoning Index, Working Memory Index and Processing Speed Index respectively at five years old.

We want to find out which age and which specific component of BSID-III can best predict the cognitive competence of a five-year-old child.

Table 2 · Multiple regression analysis 2-year-old BSID-III score and 5-year-old follow up WPPSI-IV score

	WPPSI-IV											
	Full Scale IQ		Verbal Comprehension Index		Visual Spatial Index		Fluid Reasoning Index		Working Memory Index		Processing Speed Index	
BSID-III	R ²	β	R ²	β	R ²	β	R ²	β	R ²	β	R ²	β
Composite	.392**		.469***		.317**		.261*		.055		.331**	
cognitive		.436 [†]		.222		.765**		.463 [†]		.272		.479*
language		.266		.541**		-.190		.036		.039		.060
motor		-.040		-.060		-.158		.034		-.200		.081
Inventory	.470**		.486***		.408**		.316*		.069		.405**	
cognitive		.333		.231		.640**		.405		.232		.380
receptive language		.267		.170		.112		-.005		.102		.452 [†]
expressive language		-.014		.388 [†]		-.340		-.002		-.078		-.354 [†]
fine motor		.291 [†]		.054		.235		.293		.023		.053
gross motor		-.202		-.120		.261		-.156		-.201		.118

[†]p < .10. *p < .05. **p < .01. *** p < .001

As the table above, the language ability at two years old would best predict the language competence at five years old. In addition, the cognitive performance at two

years old can predict the Visual Spatial Index, Fluid Reasoning Index, and Processing Speed at five years old.

Prospect for Future Research

The goal of the study group is to develop a tool which can predict the preterm infants' cognitive ability as early as possible through big data analysis. In the future, by utilizing the tool, doctors will be able to send encouraging message to the parents.