

Supplementary Materials

Model selection for human connectome orderness curves utilized the Akaike information criterion (AIC), which allowed comparison of non-nested models [1-4]. The AIC ($2k-2\ln(L)$), where k = number of parameters and L = maximum likelihood of model) provides a goodness of fit estimation for different models when applied to the same data (Table S1). It takes into account both descriptive accuracy and parsimony, since it carries a penalty for increasing the number of free parameters. The AIC can be interpreted as the probability that a model is the best model among the set of examined models. Using these methods, four plausible models with either two or three or four parameters were analyzed (Table S1). And four fitting curves of whole-brain NEEs with age were shown in Figure S1.

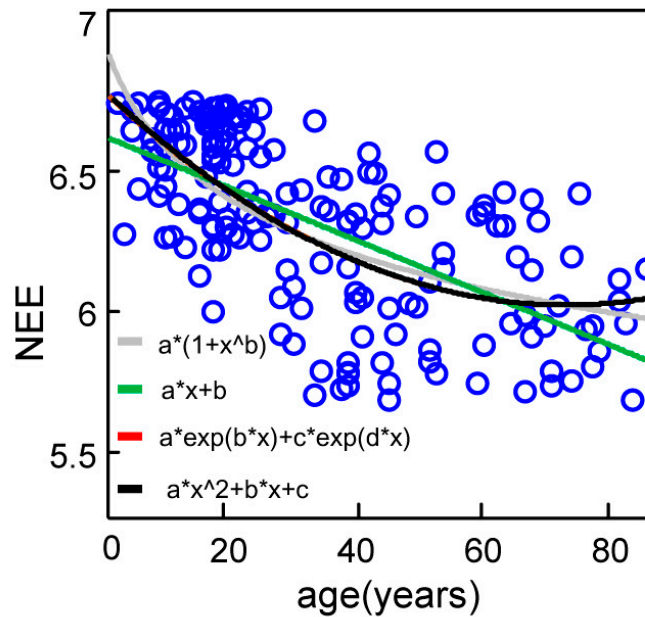


Figure S1. Individual NEE levels between the ages of 7 to 85 years. Chronological age is shown on the x-axis and the whole-brain NEE on the y-axis. The blue circles represent the adjusted results of each subject after regressing out head motion, sex and temporal signal-to-noise ratio. Fitted curves for functions included in model selection are shown (Power-light gray; linear-green; Quadratic-black; double Exponential-brown)

Table S1. Model selection and curve fitting

Node number	Fit name	Equation	R ²	Adj. R ²	AIC	Parameter			
						a	b	c	d
800	$a*(1+x^b)$	Power	0.40	0.39	160.46	0.55	-1.42	---	---
	$a*x+b$	Linear	0.38	0.37	165.98	-0.001	0.98	---	---
	$a*x^2+b*x+c$	Quadratic	0.42	0.41	156.82	1.86e-5	-0.03	1.01	---
	$a*exp(b*x) + c*exp(d*x)$	Exponential	0.42	0.41	158.91	0.75	-0.09	0.26	0.1

- S1. Akaike, H. In Second International Symposium on Inference Theory, 1973; Petrov, B.N.; F.Csaki, Eds. Akademiai Kiado, Budapest: pp 267-281.
- S2. Burnham, K.P.; Anderson, D.R. Model selection and multimodal inference: A practical information-theoretic approach, 2002; Springer-Verlag, New York.
- S3. Wagenmakers, E.; Farrell, S. Aic model selection using akaike weights. *Psychon. Bull. Rev.* **2004**, *11*.
- S4. Glatting, G.; Kletting, P.; Reske, S.; K. Hohl, C.R. Choosing the optimal fit function: Comparison of the akaike information criterion and the f-test. *Med. Phys.* **2007**, *34*.