Appendices

Table A1. Association between Berry-Index and nutritional status

		height-for-age Z-scores		BMI-for-age Z-scores	
		Coef.	SE	Coef.	SE
dietary diversity score		0.253	(0.098)*	-0.045	(0.114)
sex	boys	ref.		ref.	
	girls	0.061	(0.026)*	0.009	(0.032)
age (in years)		-0.011	(0.007)	-0.003	(0.010)
sibling size		-0.115	(0.018)**	-0.061	(0.018)**
mother's education (in years)		0.015	(0.004)**	0.016	(0.005)**
real PCE (in million Rupiah)		0.164	(0.018)**	0.168	(0.022)**
residential area	urban	ref.		ref.	
	rural	-0.318	(0.031)**	-0.079	(0.038)*
Island	Java & Bali	ref.		ref.	
	outside Java & Bali	-0.098	(0.033)**	0.107	(0.039)**
Seasons	dry season	ref.		ref.	
	rainy season	-0.010	(0.025)	0.014	(0.032)
IFLS wave	IFLS-3 (2000)	ref.		ref.	
	IFLS-4 (2007/2008)	0.115	(0.034)**	0.156	(0.040)**
	IFLS-5 (2014/2015)	0.350	(0.039)**	0.322	(0.046)**
Constant		-1.469	(0.110)**	-0.836	(0.134)**
R^2		0.139		0.054	
R^2-adj		0.136		0.051	

* p<0.05; ** p<0.01

N of children=6,368; N of mothers=3,833

Birth order dummies were included in the models but are not presented to reduce the table size. Cluster-robust standard error at mother level in parentheses. The WHO growth standards were used to calculated height-for-age Z-scores and BMI-for-age Z-scores.

Table A2. Ethnic group differences in dietary diversity (Model 1)

		Berry-Index		tubers		vegetables		fruits		animal-source		dairy products	
		Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
ethnic group	Javanese	ref.		ref.		ref.		ref.		ref.		ref.	
	Batak	-0.017	(0.009)	-0.081	(0.093)	0.436	(0.141)**	-0.460	(0.132)**	1.204	(0.137)**	0.014	(0.156)
	Minangkabau	-0.031	(0.008)**	-0.241	(0.067)**	-1.336	(0.137)**	-0.037	(0.119)	-0.120	(0.121)	-0.075	(0.144)
sex	boys	ref.		ref.		ref.		ref.		ref.		ref.	
	girls	0.011	(0.004)**	0.094	(0.034)**	0.161	(0.058)**	0.037	(0.054)	-0.085	(0.052)	-0.058	(0.063)
real PCE (in million Rupiah)		0.015	(0.002)**	-0.047	(0.018)*	-0.003	(0.031)	0.127	(0.031)**	0.289	(0.030)**	0.586	(0.047)**
age (in years)		-0.002	(0.001)*	-0.009	(0.010)	0.031	(0.017)	-0.035	(0.015)*	-0.069	(0.015)**	-0.168	(0.018)**
mother's education (in years)		0.003	(0.001)**	-0.001	(0.006)	0.023	(0.009)**	0.003	(0.008)	0.023	(0.008)**	0.083	(0.010)**
sibling size		0.003	(0.002)	0.090	(0.030)**	0.063	(0.036)	0.046	(0.035)	0.024	(0.036)	-0.126	(0.039)**
residential area	urban	ref.		ref.		ref.		ref.		ref.		ref.	
	rural	-0.007	(0.004)	0.217	(0.041)**	0.186	(0.069)**	0.186	(0.065)**	-0.208	(0.064)**	-0.630	(0.077)**
	Java-Bali	ref.		ref.		ref.		ref.		ref.		ref.	
	outside Java-Bali	-0.002	(0.006)	-0.005	(0.057)	0.474	(0.085)**	-0.113	(0.082)	0.344	(0.086)**	-0.200	(0.099)*
seasonality	dry season	ref.		ref.		ref.		ref.		ref.		ref.	
	rainy season	0.006	(0.004)	0.009	(0.035)	0.009	(0.059)	0.015	(0.054)	0.058	(0.053)	0.087	(0.064)
IFLS wave	IFLS-3 (2000)	ref.		ref.		ref.		ref.		ref.		ref.	
	IFLS-4 (2007/2008)	0.008	(0.004)	0.103	(0.056)	-0.786	(0.077)**	-0.567	(0.078)**	0.111	(0.074)	0.228	(0.088)**
	IFLS-5 (2014/2015)	-0.097	(0.006)**	-0.485	(0.054)**	-2.536	(0.088)**	-1.236	(0.084)**	-0.233	(0.083)**	-0.274	(0.095)**
constant		0.621	(0.012)**	0.749	(0.124)**	4.623	(0.209)**	3.048	(0.188)**	4.356	(0.187)**	3.181	(0.240)**
R^2		0.110		0.065		0.206		0.065		0.071		0.149	
R^2-adj		0.107		0.061		0.203		0.062		0.068		0.146	

* p<0.05; ** p<0.01

N of children = 6,478; N of mothers = 3,878

Birth order dummies were included in the models but are not presented to reduce the table size. Cluster-robust standard error at mother level in parentheses.

Table A3. Predictive margins of dietary diversity differed by ethnic group

	Javanese		Batak		Minangkabau	
	margin	SE	margin	SE	margin	SE
within-ethnic-group:						
Berry-Index	0.614	(0.002)**	0.597	(0.009)**	0.583	(0.008)**
tubers	0.863	(0.025)**	0.782	(0.085)**	0.622	(0.057)**
vegetables	4.437	(0.037)**	4.873	(0.131)**	3.100	(0.128)**
fruits	2.402	(0.036)**	1.942	(0.120)**	2.365	(0.109)**
animal-source foods	4.227	(0.037)**	5.431	(0.125)**	4.108	(0.109)**
dairy products	1.993	(0.043)**	2.007	(0.144)**	1.918	(0.130)**
between-ethnic-groups:						
Berry-Index			-0.017	(0.009)	-0.031	(0.008)**
tubers			-0.081	(0.093)	-0.241	(0.067)**
vegetables			0.436	(0.141)**	-1.336	(0.137)**
fruits			-0.460	(0.132)**	-0.037	(0.119)
animal-source foods			1.204	(0.137)**	-0.120	(0.121)
dairy products			0.014	(0.156)	-0.075	(0.144)

* p<0.05; ** p<0.01

Berry-Index: 0–0.8. Food consumption freq.: 0–7 day(s). Predictive margins are from Model 1. Cluster-robust standard errors at mother level in parentheses. For between-ethnic-groups differences: Javanese children (ref.).

Table A4. Ethnic group differences in dietary diversity by gender (Model 2)

		Berry-Index		tubers		vegetables		fruits		animal-source		dairy products	
		Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
ethnic group	Javanese	ref.		ref.		ref.		ref.		ref.		ref.	
	Batak	-0.028	(0.012)*	-0.184	(0.101)	0.343	(0.163)*	-0.480	(0.151)**	1.156	(0.157)**	-0.054	(0.185)
	Minangkabau	-0.041	(0.011)**	-0.259	(0.078)**	-1.593	(0.163)**	0.045	(0.149)	-0.143	(0.145)	0.011	(0.171)
ethnic group × girls	Javanese	ref.		ref.		ref.		ref.		ref.		ref.	
	Batak	0.025	(0.013)*	0.231	(0.134)	0.205	(0.185)	0.047	(0.199)	0.106	(0.180)	0.154	(0.221)
	Minangkabau	0.023	(0.012)	0.040	(0.093)	0.583	(0.205)**	-0.185	(0.178)	0.054	(0.168)	-0.196	(0.200)
sex	boys	ref.		ref.		ref.		ref.		ref.		ref.	
	girls	0.007	(0.004)	0.069	(0.039)	0.079	(0.064)	0.053	(0.059)	-0.100	(0.058)	-0.051	(0.071)
PCE (in million Rupiah)		0.015	(0.002)**	-0.047	(0.018)*	-0.003	(0.032)	0.127	(0.031)**	0.289	(0.030)**	0.586	(0.047)**
age (in years)		-0.002	(0.001)*	-0.009	(0.010)	0.030	(0.017)	-0.034	(0.015)*	-0.069	(0.015)**	-0.168	(0.018)**
mother's education (in years)		0.003	(0.001)**	-0.001	(0.006)	0.022	(0.009)**	0.003	(0.008)	0.023	(0.008)**	0.084	(0.010)**
sibling size		0.003	(0.002)	0.088	(0.030)**	0.062	(0.036)	0.045	(0.035)	0.023	(0.036)	-0.128	(0.039)**
residential area	urban	ref.		ref.		ref.		ref.		ref.		ref.	
	rural	-0.007	(0.004)	0.216	(0.041)**	0.184	(0.069)**	0.186	(0.065)**	-0.208	(0.064)**	-0.630	(0.077)**
	Java-Bali	ref.		ref.		ref.		ref.		ref.		ref.	
	outside Java-Bali	-0.002	(0.006)	-0.005	(0.057)	0.476	(0.085)**	-0.114	(0.082)	0.344	(0.086)**	-0.201	(0.099)*
seasonality	dry season	ref.		ref.		ref.		ref.		ref.		ref.	
	rainy season	0.006	(0.004)	0.008	(0.036)	0.006	(0.059)	0.016	(0.054)	0.058	(0.053)	0.087	(0.064)
IFLS wave	IFLS-3 (2000)	ref.		ref.		ref.		ref.		ref.		ref.	
	IFLS-4 (2007/2008)	0.008	(0.004)	0.102	(0.056)	-0.787	(0.077)**	-0.568	(0.078)**	0.110	(0.074)	0.227	(0.088)*
	IFLS-5 (2014/2015)	-0.098	(0.006)**	-0.487	(0.054)**	-2.539	(0.088)**	-1.236	(0.084)**	-0.234	(0.083)**	-0.275	(0.095)**
constant		0.624	(0.012)**	0.763	(0.125)**	4.676	(0.211)**	3.037	(0.189)**	4.365	(0.188)**	3.174	(0.242)**
R^2		0.111		0.065		0.207		0.065		0.071		0.149	
R^2-adj		0.108		0.062		0.204		0.062		0.068		0.146	

* p<0.05; ** p<0.01

N of children = 6,478; N of mothers = 3,878

Birth order dummies were included in the models but are not presented to reduce the table size. Cluster-robust standard error at mother level in parentheses.

Table A5. Predictive marginal contrasts of dietary diversity differed by ethnic group × sex

	Javanese		Batak		Minangkabau	
	margin	SE	margin	SE	margin	SE
within-ethnic-group:						
Berry-Index	0.007	(0.004)	0.032	(0.012)**	0.029	(0.012)*
tubers	0.069	(0.039)	0.300	(0.128)*	0.109	(0.085)
vegetables	0.079	(0.064)	0.285	(0.173)	0.663	(0.195)**
fruits	0.053	(0.059)	0.100	(0.191)	-0.132	(0.168)
animal-source foods	-0.100	(0.058)	0.006	(0.170)	-0.047	(0.157)
dairy products	-0.051	(0.071)	0.104	(0.209)	-0.247	(0.187)
between-ethnic-groups:						
Berry-Index			0.025	(0.013)*	0.023	(0.012)
tubers			0.231	(0.134)	0.040	(0.093)
vegetables			0.205	(0.185)	0.583	(0.205)**
fruits			0.047	(0.199)	-0.185	(0.178)
animal-source foods			0.106	(0.180)	0.054	(0.168)
dairy products			0.154	(0.221)	-0.196	(0.200)

* p<0.05; ** p<0.01

Berry-Index: 0–0.8. Food consumption freq.: 0–7 day(s). Predictive marginal contrast is from Model 2. Cluster-robust standard errors at mother level in parentheses. For within-ethnic-group differences: boys (ref.); between-ethnic-groups differences: Javanese children (ref.).

Table A6. Ethnic group differences in dietary diversity by PCE (Model 3)

		Berry-Index		tubers		vegetables		fruits		animal-source		dairy products	
		Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
ethnic group	Javanese	ref.		ref.		ref.		ref.		ref.		ref.	
	Batak	-0.047	(0.014)**	-0.025	(0.153)	0.458	(0.230)*	-1.039	(0.217)**	1.394	(0.232)**	-0.570	(0.207)**
	Minangkabau	-0.041	(0.013)**	-0.282	(0.087)**	-1.621	(0.193)**	-0.294	(0.173)	-0.162	(0.170)	-0.061	(0.201)
ethnic group × PCE	Javanese	ref.		ref.		ref.		ref.		ref.		ref.	
	Batak	0.032	(0.011)**	-0.060	(0.105)	-0.029	(0.188)	0.607	(0.204)**	-0.202	(0.170)	0.617	(0.209)**
	Minangkabau	0.008	(0.006)	0.033	(0.038)	0.227	(0.116)*	0.202	(0.103)*	0.035	(0.090)	-0.014	(0.129)
sex	boys	ref.		ref.		ref.		ref.		ref.		ref.	
	girls	0.011	(0.004)**	0.094	(0.034)**	0.160	(0.058)**	0.038	(0.054)	-0.086	(0.052)	-0.057	(0.063)
PCE (in million Rupiah)		0.013	(0.002)**	-0.049	(0.020)*	-0.027	(0.032)	0.091	(0.031)**	0.291	(0.032)**	0.572	(0.050)**
age (in years)		-0.002	(0.001)*	-0.009	(0.010)	0.031	(0.017)	-0.035	(0.015)*	-0.069	(0.015)**	-0.169	(0.018)**
mother's education (in years)		0.003	(0.001)**	-0.001	(0.006)	0.022	(0.009)**	0.002	(0.008)	0.023	(0.008)**	0.083	(0.010)**
sibling size		0.004	(0.002)	0.089	(0.030)**	0.061	(0.036)	0.056	(0.035)	0.020	(0.036)	-0.114	(0.039)**
residential area	urban	ref.		ref.		ref.		ref.		ref.		ref.	
	rural	-0.006	(0.004)	0.215	(0.042)**	0.186	(0.069)**	0.201	(0.064)**	-0.213	(0.064)**	-0.615	(0.077)**
	Java-Bali	ref.		ref.		ref.		ref.		ref.		ref.	
	outside Java-Bali	-0.001	(0.006)	-0.005	(0.057)	0.476	(0.085)**	-0.110	(0.082)	0.344	(0.086)**	-0.198	(0.099)*
seasonality	dry season	ref.		ref.		ref.		ref.		ref.		ref.	
	rainy season	0.006	(0.004)	0.009	(0.036)	0.013	(0.059)	0.024	(0.054)	0.057	(0.053)	0.092	(0.064)
IFLS wave	IFLS-3 (2000)	ref.		ref.		ref.		ref.		ref.		ref.	
	IFLS-4 (2007/2008)	0.008	(0.004)	0.104	(0.056)	-0.785	(0.077)**	-0.570	(0.078)**	0.112	(0.074)	0.224	(0.088)*
	IFLS-5 (2014/2015)	-0.097	(0.006)**	-0.485	(0.054)**	-2.532	(0.088)**	-1.230	(0.083)**	-0.233	(0.083)**	-0.272	(0.095)**
constant		0.622	(0.012)**	0.755	(0.125)**	4.655	(0.210)**	3.063	(0.187)**	4.365	(0.187)**	3.167	(0.240)**
R^2		0.112		0.065		0.207		0.068		0.072		0.151	
R^2-adj		0.109		0.061		0.204		0.065		0.068		0.148	

* p<0.05; ** p<0.01

N of children = 6,478; N of mothers = 3,878

Birth order dummies were included in the models but are not presented to reduce the table size. Cluster-robust standard error at mother level in parentheses.

Table A7. Predictive marginal effects of dietary diversity differed by ethnic group × PCE

	Javanese		Batak		Minangkabau	
	margin	SE	margin	SE	margin	SE
within-ethnic-group:						
Berry-Index	0.013	(0.002)**	0.045	(0.011)**	0.021	(0.006)**
tubers	-0.049	(0.020)*	-0.109	(0.104)	-0.016	(0.034)
vegetables	-0.027	(0.032)	-0.055	(0.186)	0.201	(0.112)
fruits	0.091	(0.031)**	0.698	(0.203)**	0.293	(0.100)**
animal-source foods	0.291	(0.032)**	0.089	(0.168)	0.325	(0.085)**
dairy products	0.572	(0.050)**	1.189	(0.206)**	0.558	(0.121)**
between-ethnic-groups:						
Berry-Index			0.032	(0.011)**	0.008	(0.006)
tubers			-0.060	(0.105)	0.033	(0.038)
vegetables			-0.029	(0.188)	0.227	(0.116)*
fruits			0.607	(0.204)**	0.202	(0.103)*
animal-source foods			-0.202	(0.170)	0.035	(0.090)
dairy products			0.617	(0.209)**	-0.014	(0.129)

* p<0.05; ** p<0.01

Berry-Index: 0–0.8. Food consumption freq.: 0–7 day(s). Predictive marginal effects of PCE are from Model 3. Cluster-robust standard errors at mother level in parentheses. For between-ethnic-groups differences: Javanese children (ref.).