

## Supplemental material for

“Elevation and Child Linear Growth in Nepal”, by Gerald Shively, Timothy Smith, and Megan Paskey, published in *Mountain Research and Development* 40(3), 2020. (See <https://bioone.org/toc/mred/40/3>)

**Table S1** Regression results for models 4–8 (with variable interactions).

	Dependent variable: HAZ				
	Model 4	Model 5	Model 6	Model 7	Model 8
Elevation	-0.234*** (0.032)	-0.183*** (0.031)	-0.532*** (0.137)	-0.165** (0.068)	-0.215*** (0.076)
Female child	0.031 (0.025)	0.032 (0.025)	0.031 (0.025)	0.031 (0.025)	0.031 (0.025)
Child age	-0.096*** (0.011)	-0.098*** (0.011)	-0.096*** (0.011)	-0.096*** (0.011)	-0.096*** (0.011)
Child age squared	0.001*** (0.0001)	0.001*** (0.0001)	0.001*** (0.0001)	0.001*** (0.0001)	0.001*** (0.0001)
Female-headed household	-0.053* (0.029)	-0.053* (0.029)	-0.053* (0.029)	-0.053* (0.029)	-0.057* (0.029)
Mother: primary education	0.065 (0.052)	0.083** (0.036)	0.085** (0.036)	0.082** (0.036)	0.073** (0.036)
Mother: secondary education	0.295*** (0.051)	0.331*** (0.037)	0.332*** (0.037)	0.331*** (0.037)	0.315*** (0.037)
Mother: above secondary education	0.419*** (0.090)	0.469*** (0.061)	0.473*** (0.061)	0.470*** (0.061)	0.451*** (0.061)
Household wealth	0.002*** (0.0003)	0.002*** (0.0003)	0.002*** (0.0003)	0.002*** (0.0003)	0.002*** (0.0003)
Child still breastfeeding	-0.236*** (0.036)	-0.237*** (0.036)	-0.236*** (0.036)	-0.237*** (0.036)	-0.238*** (0.036)
Child received vitamin A	-0.053 (0.040)	-0.057 (0.040)	-0.051 (0.040)	-0.053 (0.040)	-0.051 (0.040)
Child received any vaccination	-0.075** (0.032)	-0.073** (0.032)	-0.074** (0.032)	-0.074** (0.032)	-0.064** (0.032)
Access to safe water	0.057* (0.033)	0.049 (0.033)	0.054 (0.033)	0.057* (0.033)	0.051 (0.033)
Smoke fuel used in house	0.008	0.012	0.007	0.043	0.017

	(0.050)	(0.050)	(0.050)	(0.062)	(0.050)
Urban residency	0.009 (0.034)	0.0004 (0.034)	0.011 (0.033)	0.009 (0.034)	-0.005 (0.034)
Mother's BMI	0.037*** (0.005)	0.037*** (0.005)	0.026*** (0.007)	0.037*** (0.005)	0.036*** (0.005)
Mother's age at child's birth	-0.005** (0.002)	-0.005** (0.002)	-0.005** (0.002)	-0.005** (0.002)	-0.005** (0.002)
Road density	-0.00001 (0.00003)	-0.00004 (0.00004)	-0.00001 (0.00003)	-0.00002 (0.00004)	-0.0005 (0.0003)
Distance to Kathmandu	0.0001** (0.0001)	0.0002** (0.0001)	0.0002** (0.0001)	0.0001** (0.0001)	0.0002 (0.0003)

#### Interaction Terms:

Elevation x Primary	0.021 (0.049)				
Elevation x Secondary	0.043 (0.047)				
Elevation x Higher	0.061 (0.086)				
Elevation x Wealth		0.001*** (0.0003)			
Elevation x BMI			0.015** (0.006)		
Elevation x Smoke Fuel				-0.059 (0.068)	
Elevation x Road Density				0.0003 (0.0002)	
Elevation x Distance				-0.0002 (0.0002)	
Road Density x Distance				0.00000 (0.00000)	
Elevation x Density x Distance				0.00000 (0.00000)	
Constant	4.204*** (1.603)	4.443*** (1.605)	4.372*** (1.604)	4.145*** (1.601)	4.209*** (1.602)

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**Fixed effects:**

Year: 2006	-3.575*** (1.068)	-3.762*** (1.070)	-3.555*** (1.066)	-3.565*** (1.068)	-3.544*** (1.071)
Year: 2011	-1.728*** (0.640)	-1.837*** (0.641)	-1.718*** (0.639)	-1.729*** (0.640)	-1.745*** (0.642)
Agroecological zone: Hills	0.129*** (0.044)	0.107** (0.045)	0.135*** (0.044)	0.127*** (0.044)	0.086* (0.046)
Agroecological zone: Mountains	0.080 (0.069)	0.059 (0.069)	0.080 (0.068)	0.075 (0.069)	0.102 (0.071)
Observations	8,824	8,824	8,824	8,824	8,824
R <sup>2</sup>	0.25	0.25	0.25	0.25	0.25
Adjusted R <sup>2</sup>	0.24	0.24	0.24	0.24	0.24

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Note: standard errors of coefficients in parentheses; reference group (represented by the constant) is 2016 Terai zone; \*p<0.1; \*\*p<0.05; \*\*\*p<0.01.

**Table S2** Regression results for nonlinear elevation specifications.

Independent variables	Dependent variable: HAZ	
	Model 9	Model 10
Elevation	-0.502*** (0.161)	-0.309*** (0.080)
Elevation squared	0.295** (0.138)	
Elevation cubed	-0.077** (0.033)	
Elevation 1000–2000 MASL		-0.176 (0.137)
Elevation 2000–3000 MASL		1.176** (0.490)
Elevation 3000+ MASL		10.803 (8.043)
Female child	0.030 (0.025)	0.030 (0.025)
Child age	-0.096*** (0.011)	-0.095*** (0.011)
Child age squared	0.001*** (0.0001)	0.001*** (0.0001)
Female-headed household	-0.051* (0.029)	-0.051* (0.029)
Mother: primary education	0.083** (0.036)	0.081** (0.036)
Mother: secondary education	0.330*** (0.037)	0.328*** (0.037)
Mother: above secondary education	0.468*** (0.062)	0.466*** (0.062)
Household wealth	0.002*** (0.0003)	0.002*** (0.0003)
Child still breastfeeding	-0.236*** (0.036)	-0.236*** (0.036)

Child received vitamin A	-0.047 (0.040)	-0.046 (0.040)
Child received any vaccination	-0.074** (0.032)	-0.075** (0.032)
Access to safe water	0.057* (0.033)	0.055* (0.033)
Smoke fuel used in house	0.006 (0.050)	0.008 (0.050)
Urban residence	0.017 (0.034)	0.016 (0.034)
Mother's BMI	0.037*** (0.005)	0.037*** (0.005)
Mother's age at child's birth	-0.005** (0.002)	-0.005** (0.002)
Road density	-0.00001 (0.00003)	-0.00001 (0.00003)
Distance to Kathmandu	0.0001* (0.0001)	0.0001* (0.0001)
Elevation x 1000-2000 MASL		0.205* (0.118)
Elevation x 2000-3000 MASL		-0.444* (0.228)
Elevation X 3000+ MASL		-3.485 (2.627)
Constant	4.001** (1.611)	3.888** (1.617)

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**Fixed effects:**

Year: 2006	-3.437*** (1.075)	-3.375*** (1.079)
Year: 2011	-1.655** (0.645)	-1.620** (0.647)
Agroecological zone: Hills	0.138*** (0.048)	0.137*** (0.048)
Agroecological zone: Mountains	0.105 (0.069)	0.110 (0.070)
Observations	8,824	8,824
R <sup>2</sup>	0.25	0.25
Adjusted R <sup>2</sup>	0.24	0.24

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Note: standard errors of coefficients in parentheses; reference group (represented by the constant) is 2016, Terai zone; \* p<0.1; \*\* p<0.05; \*\*\* p<0.01.