Conversion (cross-walking) of body-mass index (BMI) metrics

NCD-RisC work on body-mass index (BMI) pools and analyses population-based studies that had measured height and weight in people aged 5 years and older to estimate prevalence in the following BMI ranges in 200 countries and territories: for children and adolescents (aged 5-19 years), prevalence of BMI <-2SD, -2SD to <-1SD, -1SD to 1SD, >1SD to 2SD, and >2SD; for adults (aged 20 years and older), prevalence of BMI <18.5 kg/m^2, 18.5 kg/m^2 to <20 kg/m^2, 20 kg/m^2 to <25 kg/m^2, 25 kg/m^2 to <30 kg/m^2, 30 kg/m^2 to <35 kg/m^2, 35 kg/m^2 to <40 kg/m^2, and ≥40 kg/m^2.

In ~2% of our data points for children and adolescents and ~10% of our data points for adults (a data point being an age-sex-study-specific prevalence in a BMI category) the prevalence of interest is missing but data are available for mean BMI and/or for other BMI categories. These data are mostly extracted from published reports or from a previous pooling analysis.[1] In order to use these data, we developed conversion (or cross-walking) regressions to estimate missing primary outcome from the available data.

Estimating prevalence of different BMI categories

The dependent variable in each regression is the prevalence of a BMI category. The independent variable (predictor) is mean BMI and/or the prevalence of one or more BMI categories. All regressions include terms for age, sex, year of study, and country's income (natural logarithm of per-capita gross domestic product in 2011 international dollars), as well as regional random intercepts and interactions between predictors and age and sex, based on the Bayesian Information Criterion (BIC).[2] There are 21 regions used for regional random intercepts, which are based on geography and national income.[3] For children and adolescents, we used the prevalence of BMI <-1SD and >1SD as the dependent variables, because they had better linear relationship with the predictors than the prevalence of BMI of -2SD to <-1SD, -1SD to 1SD, and >1SD to 2SD. Mean BMI is inversed when used as an independent variable because the relationship between inverse mean BMI and probit-transformed prevalence is

closer to linear than relationships between other functions of mean BMI. The coefficients of these regressions are estimated using data sources from 1975 onwards, and national studies from the 3 years prior to 1975 used as 1975 studies. We excluded data points with fewer than 25 participants when estimating the coefficients.

Cut-offs used to define underweight, overweight, and obesity for children and adolescents are different from those for adults and vary by age and sex because of the natural growth in childhood and adolescence. This is taken into account when developing the cross-walking models. The regression coefficients and number of data points we use to estimate the coefficients are shown in Table 1 for children and adolescents and in Table 2 for adults.

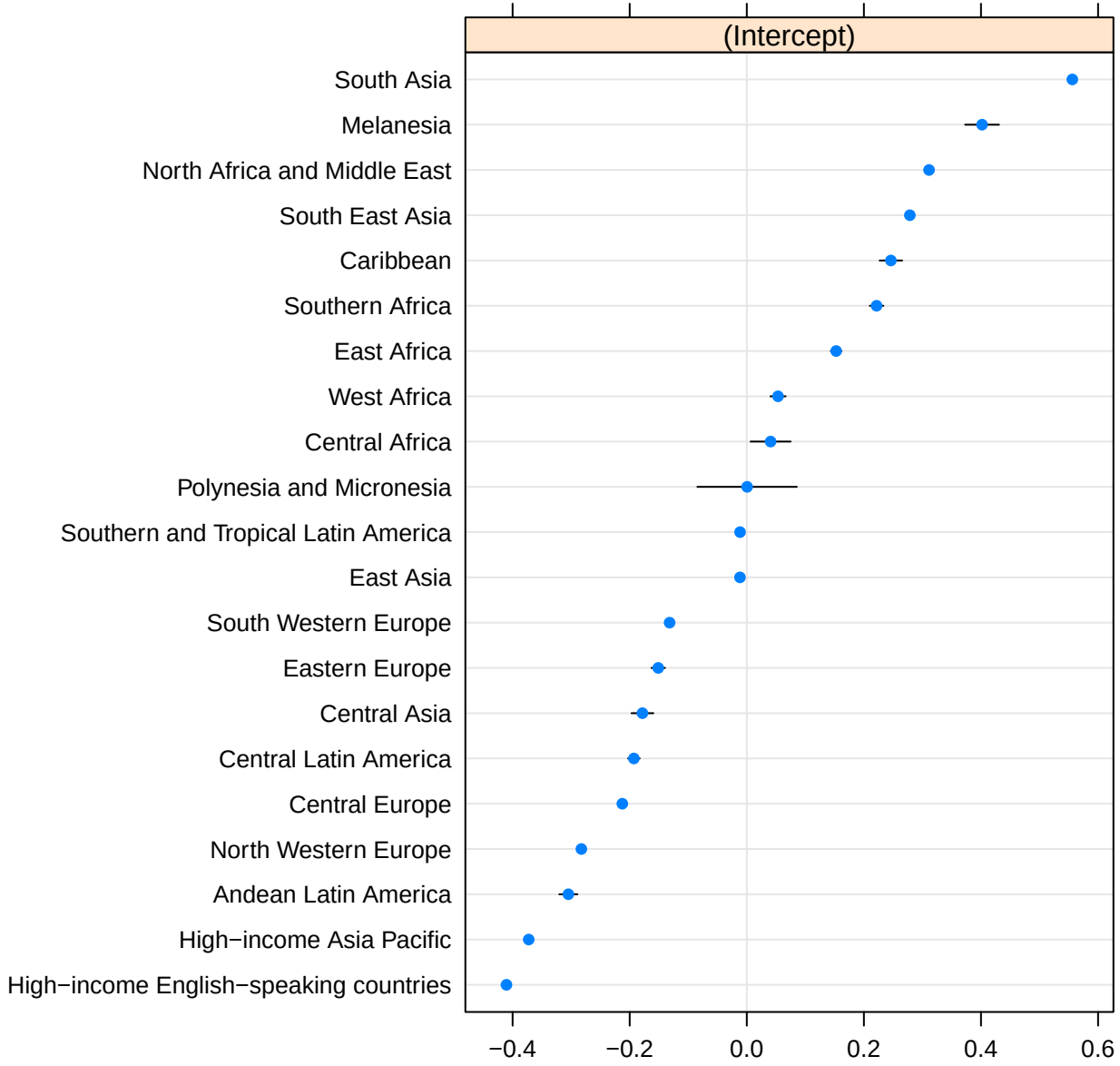
Table 1: Model specifications and regression coefficients to estimate prevalence of different BMI categories from other metrics for children and adolescents (aged 5-19 years).

The dependent variable in all regressions was the prevalence of a BMI category, fitted using a generalised linear mixed model with a probit link function. Random intercepts for regions in regression are presented after the table of coefficients.

* denotes statistical interaction. CI: confidence interval.

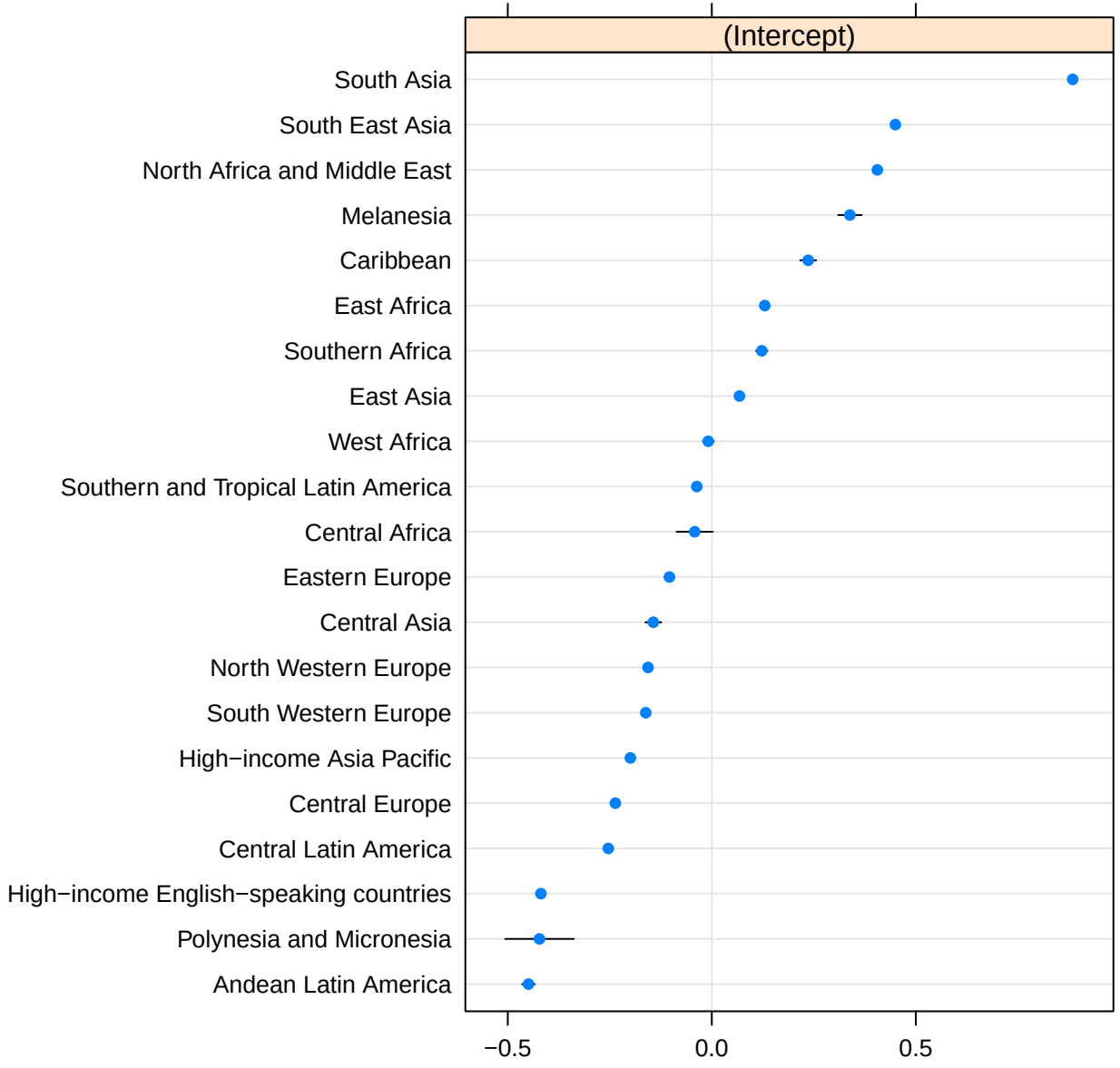
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	-3.98 (-4.10, -3.85)
Inverse mean BMI	21.90 (21.40, 22.40)
Mid-age of age group	-0.11 (-0.12, -0.11)
Male sex	0.57 (0.56, 0.58)
Study mid-year (per one more recent year since 1975)	0.0053 (0.0052, 0.0054)
Natural logarithm of per-capita gross domestic product	-0.020 (-0.022, -0.017)
Inverse mean BMI * mid-age of age group	3.80 (3.77, 3.84)
Inverse mean BMI * male sex	-7.82 (-8.04, -7.60)
Number of data points used to fit the model = 16,542	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.858.


(Intercept)
South Asia
Melanesia
North Africa and Middle East
South East Asia
Caribbean
Southern Africa
East Africa
West Africa
Central Africa
Polynesia and Micronesia
Southern and Tropical Latin America
East Asia
South Western Europe
Eastern Europe
Central Asia
Central Latin America
Central Europe
North Western Europe
Andean Latin America
High−income Asia Pacific
High−income English−speaking countries
−0.4
−0.2
0.0
0.2
0.4
0.6

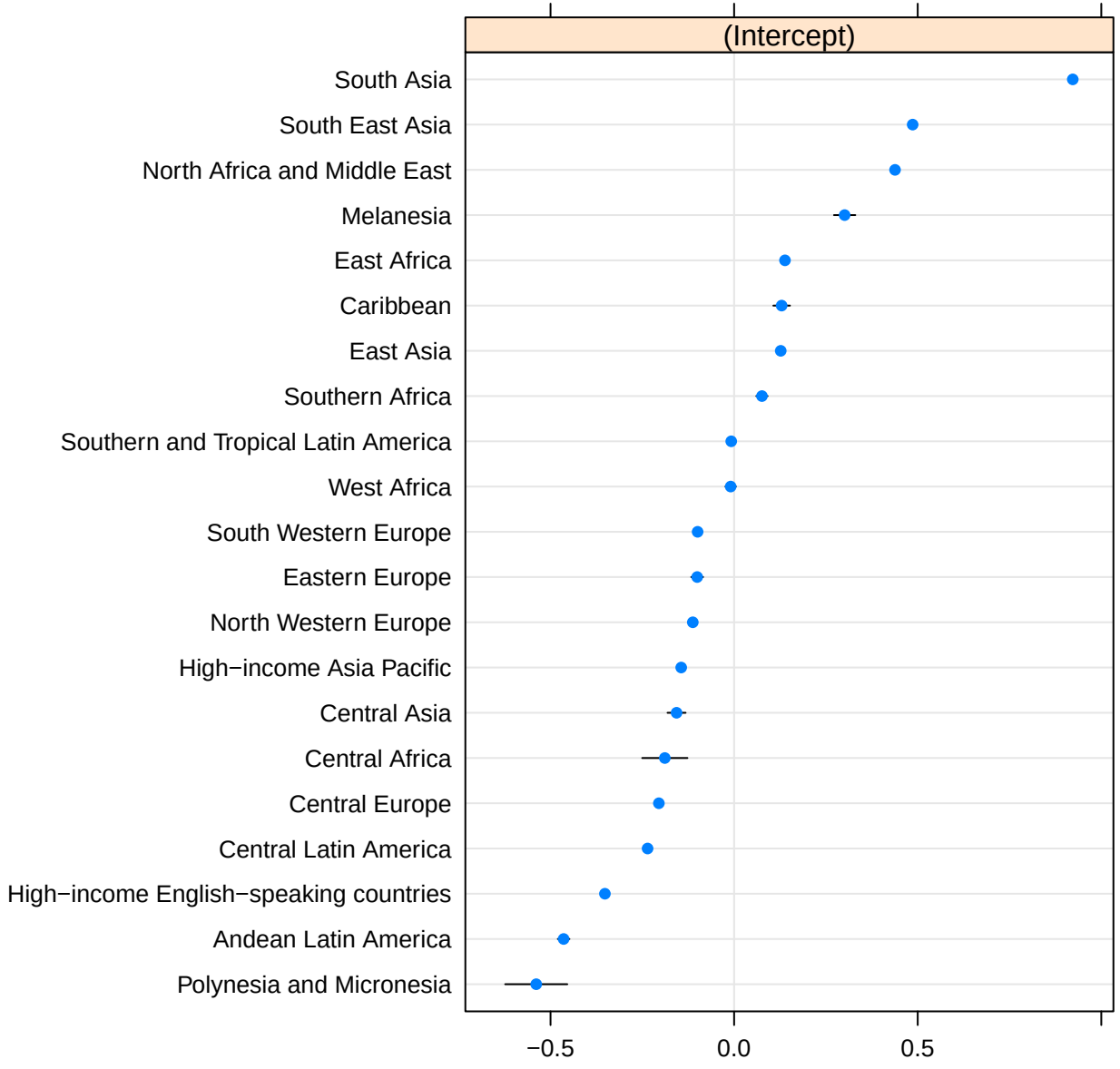
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.12 (-0.017, 0.27)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	0.26 (0.25, 0.26)
Mid-age of age group	-0.058 (-0.059, -0.058)
Male sex	0.24 (0.23, 0.24)
Study mid-year (per one more recent year since 1975)	0.0029 (0.0028, 0.0030)
Natural logarithm of per-capita gross domestic product	-0.15 (-0.15, -0.14)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.025 (-0.026, -0.025)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.054 (0.051, 0.057)
Number of data points used to fit the model = 13,809	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.838.


(Intercept)
South Asia
South East Asia
North Africa and Middle East
Melanesia
Caribbean
East Africa
Southern Africa
East Asia
West Africa
Southern and Tropical Latin America
Central Africa
Eastern Europe
Central Asia
North Western Europe
South Western Europe
High−income Asia Pacific
Central Europe
Central Latin America
High−income English−speaking countries
Polynesia and Micronesia
Andean Latin America
−0.5
0.0
0.5

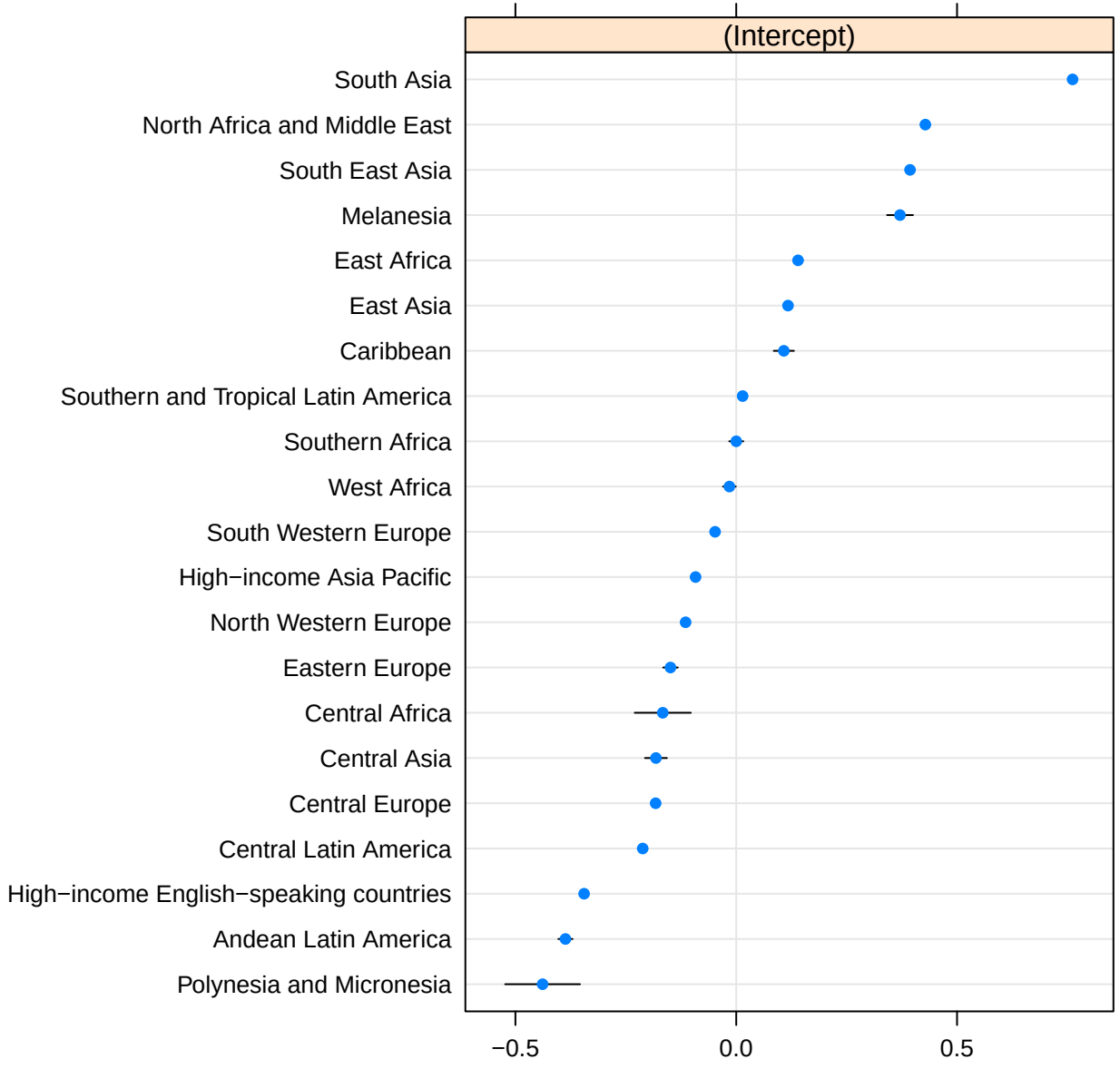
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.87 (0.73, 1.02)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	0.29 (0.29, 0.30)
Mid-age of age group	-0.075 (-0.076, -0.074)
Male sex	0.33 (0.32, 0.34)
Study mid-year (per one more recent year since 1975)	0.0019 (0.0018, 0.0020)
Natural logarithm of per-capita gross domestic product	-0.18 (-0.18, -0.18)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	-0.018 (-0.019, -0.018)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.083 (0.080, 0.087)
Number of data points used to fit the model = 10,324	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.851.


(Intercept)
South Asia
South East Asia
North Africa and Middle East
Melanesia
East Africa
Caribbean
East Asia
Southern Africa
Southern and Tropical Latin America
West Africa
South Western Europe
Eastern Europe
North Western Europe
High−income Asia Pacific
Central Asia
Central Africa
Central Europe
Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.5
0.0
0.5

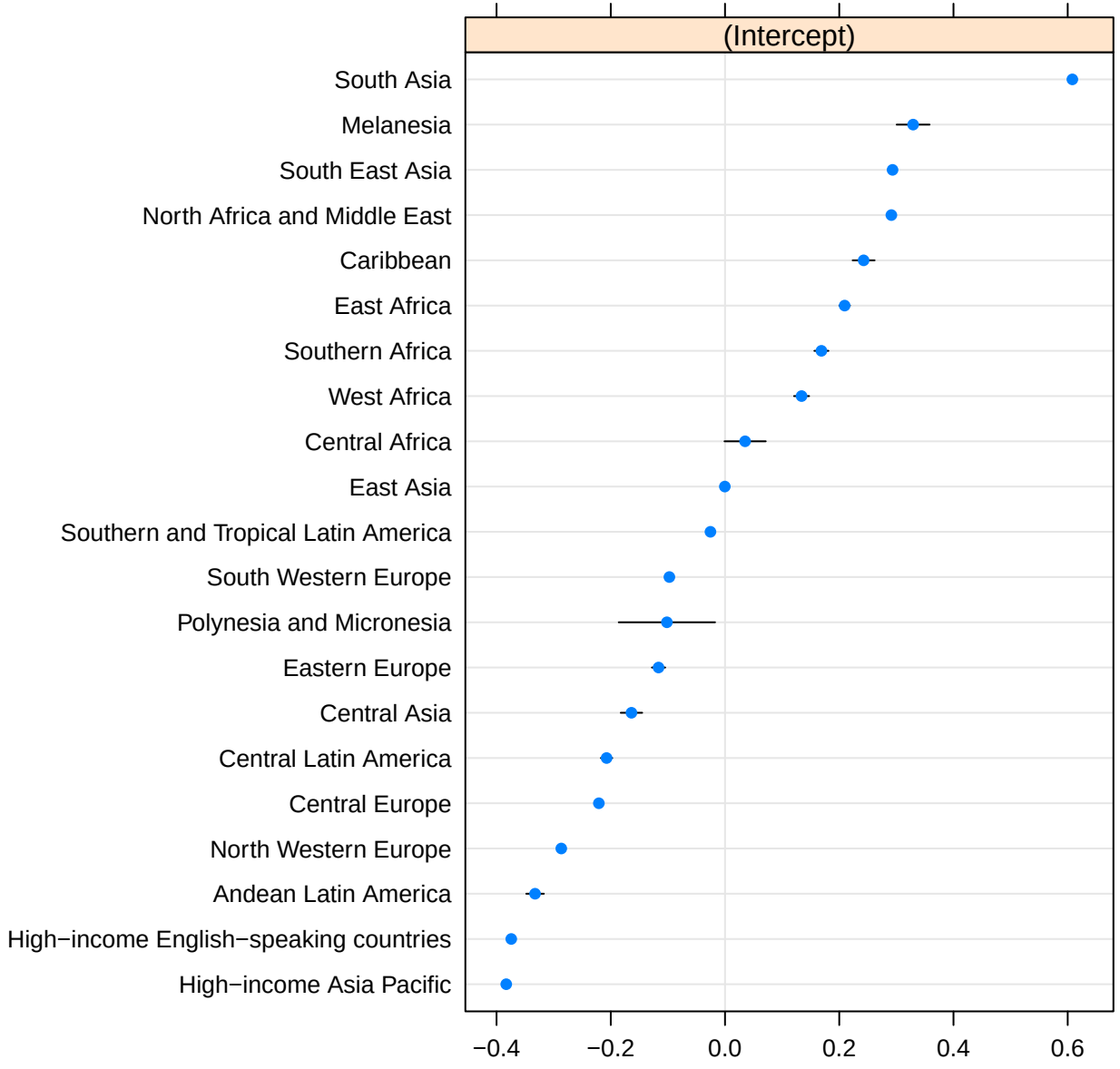
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.35 (0.22, 0.48)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	-0.22 (-0.24, -0.20)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	0.51 (0.49, 0.53)
Mid-age of age group	-0.060 (-0.061, -0.058)
Male sex	0.49 (0.48, 0.50)
Study mid-year (per one more recent year since 1975)	0.0018 (0.0016, 0.0019)
Natural logarithm of per-capita gross domestic product	-0.13 (-0.13, -0.13)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.030 (-0.031, -0.028)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	-0.00010 (-0.0016, 0.0014)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	-0.17 (-0.18, -0.16)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.26 (0.25, 0.27)
Number of data points used to fit the model = 10,139	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.869.


(Intercept)
South Asia
North Africa and Middle East
South East Asia
Melanesia
East Africa
East Asia
Caribbean
Southern and Tropical Latin America
Southern Africa
West Africa
South Western Europe
High−income Asia Pacific
North Western Europe
Eastern Europe
Central Africa
Central Asia
Central Europe
Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.5
0.0
0.5

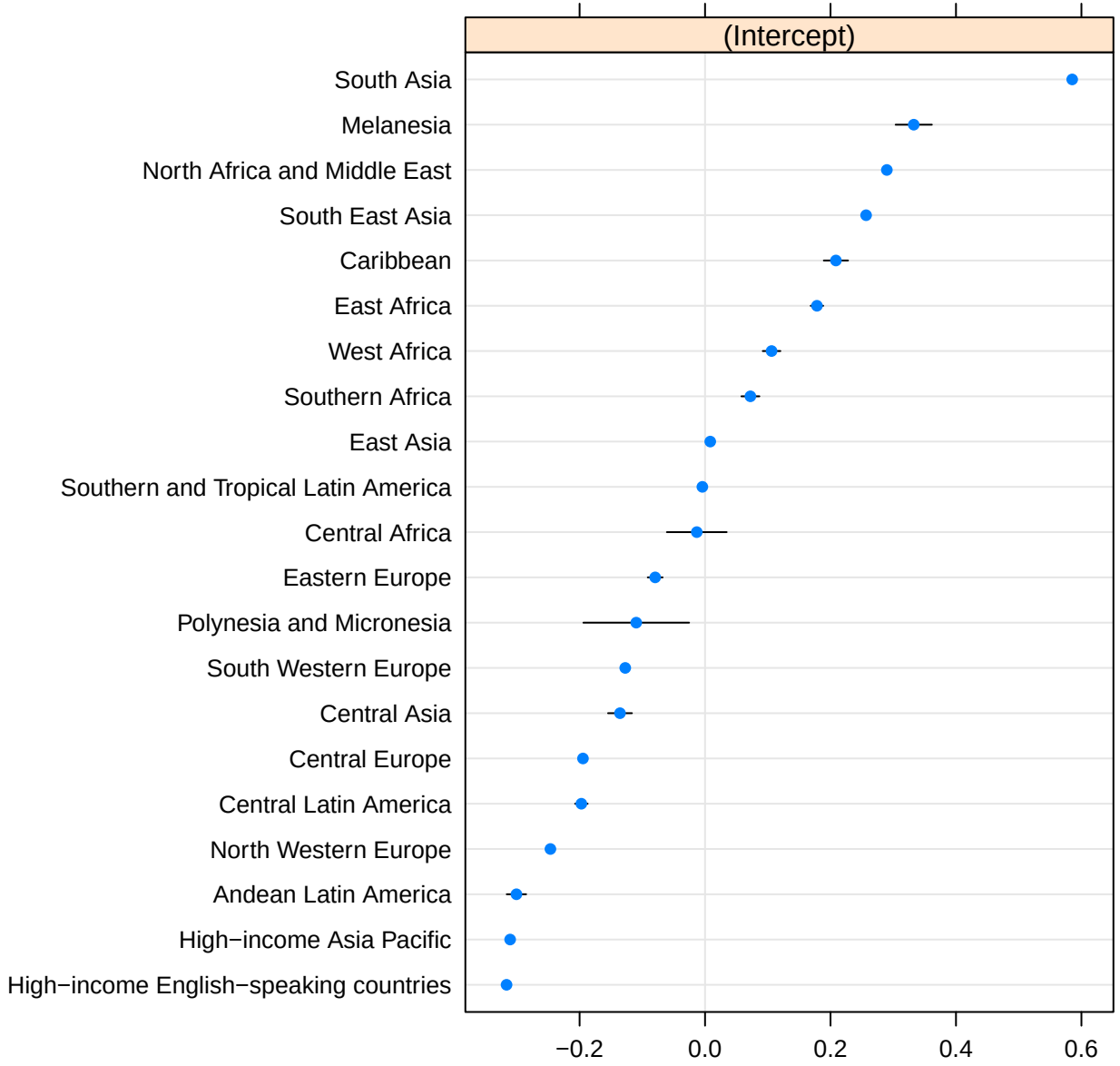
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI > +1SD)	
Variables	**Coefficients (95% CI)**
Intercept	-3.58 (-3.71, -3.46)
Inverse mean BMI	6.92 (6.13, 7.70)
Probit-transformed prevalence (BMI > +1SD)	-0.47 (-0.48, -0.46)
Mid-age of age group	-0.13 (-0.13, -0.13)
Male sex	0.47 (0.46, 0.48)
Study mid-year (per one more recent year since 1975)	0.0052 (0.0051, 0.0053)
Natural logarithm of per-capita gross domestic product	-0.016 (-0.018, -0.012)
Inverse mean BMI * mid-age of age group	4.88 (4.85, 4.92)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.048 (0.048, 0.048)
Inverse mean BMI * male sex	-9.83 (-10.10, -9.60)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.22 (-0.22, -0.22)
Number of data points used to fit the model = 16,347	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.882.


(Intercept)
South Asia
Melanesia
South East Asia
North Africa and Middle East
Caribbean
East Africa
Southern Africa
West Africa
Central Africa
East Asia
Southern and Tropical Latin America
South Western Europe
Polynesia and Micronesia
Eastern Europe
Central Asia
Central Latin America
Central Europe
North Western Europe
Andean Latin America
High−income English−speaking countries
High−income Asia Pacific
−0.4
−0.2
0.0
0.2
0.4
0.6

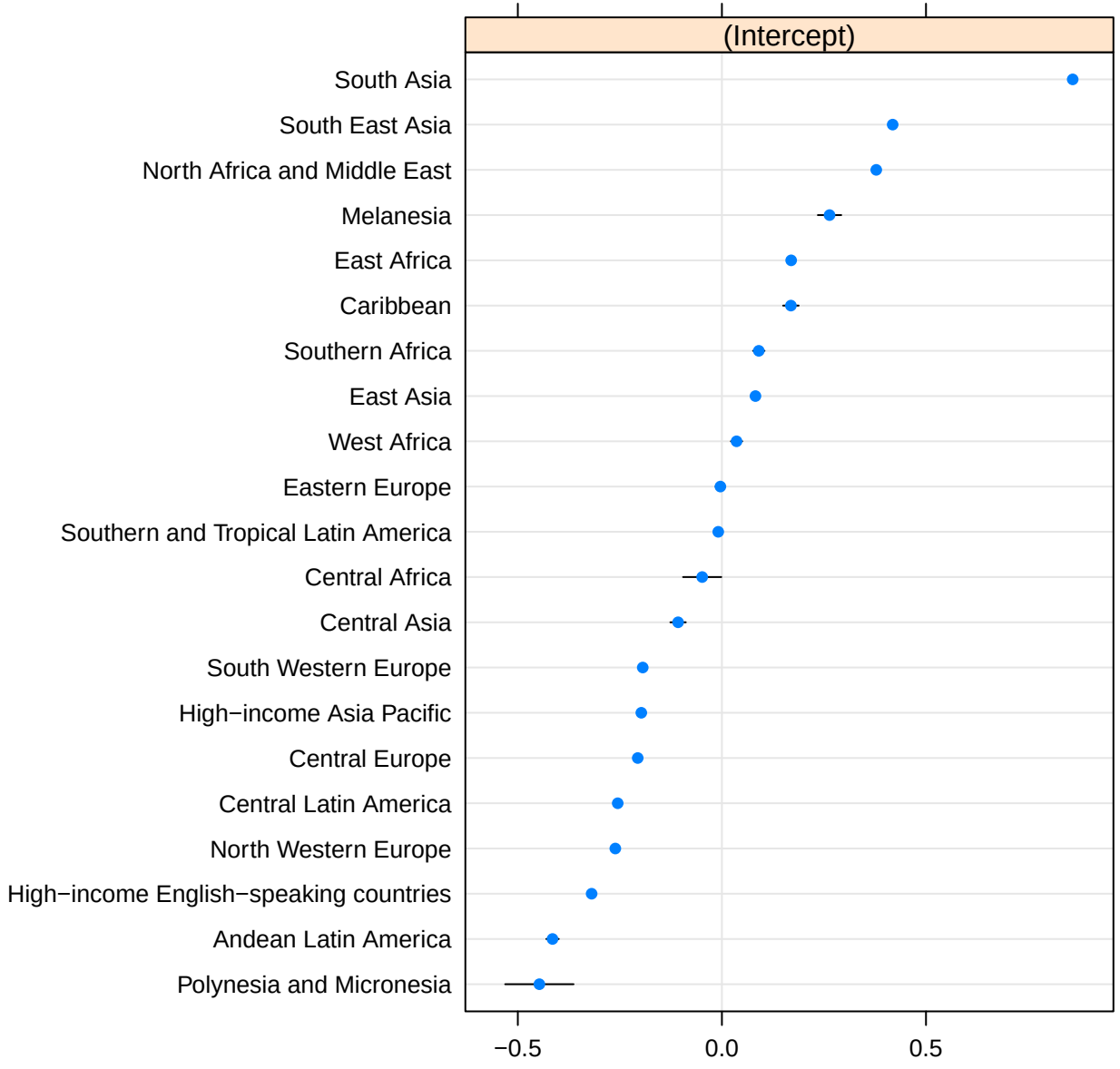
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI > +1SD) and prevalence (BMI > +2SD)	
Variables	**Coefficients (95% CI)**
Intercept	-2.86 (-2.98, -2.74)
Inverse mean BMI	5.38 (4.55, 6.21)
Probit-transformed prevalence (BMI > +1SD)	-0.75 (-0.77, -0.73)
Probit-transformed prevalence (BMI > +2SD)	0.37 (0.35, 0.39)
Mid-age of age group	-0.15 (-0.15, -0.14)
Male sex	0.93 (0.91, 0.95)
Study mid-year (per one more recent year since 1975)	0.0034 (0.0033, 0.0035)
Natural logarithm of per-capita gross domestic product	-0.040 (-0.043, -0.037)
Inverse mean BMI * mid-age of age group	4.96 (4.91, 5.00)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.058 (0.057, 0.060)
Probit-transformed prevalence (BMI > +2SD) * mid-age of age group	-0.015 (-0.017, -0.014)
Inverse mean BMI * male sex	-13.20 (-13.50, -13.00)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.65 (-0.66, -0.64)
Probit-transformed prevalence (BMI > +2SD) * male sex	0.44 (0.43, 0.45)
Number of data points used to fit the model = 15,261	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.891.


(Intercept)
South Asia
Melanesia
North Africa and Middle East
South East Asia
Caribbean
East Africa
West Africa
Southern Africa
East Asia
Southern and Tropical Latin America
Central Africa
Eastern Europe
Polynesia and Micronesia
South Western Europe
Central Asia
Central Europe
Central Latin America
North Western Europe
Andean Latin America
High−income Asia Pacific
High−income English−speaking countries
−0.2
0.0
0.2
0.4
0.6

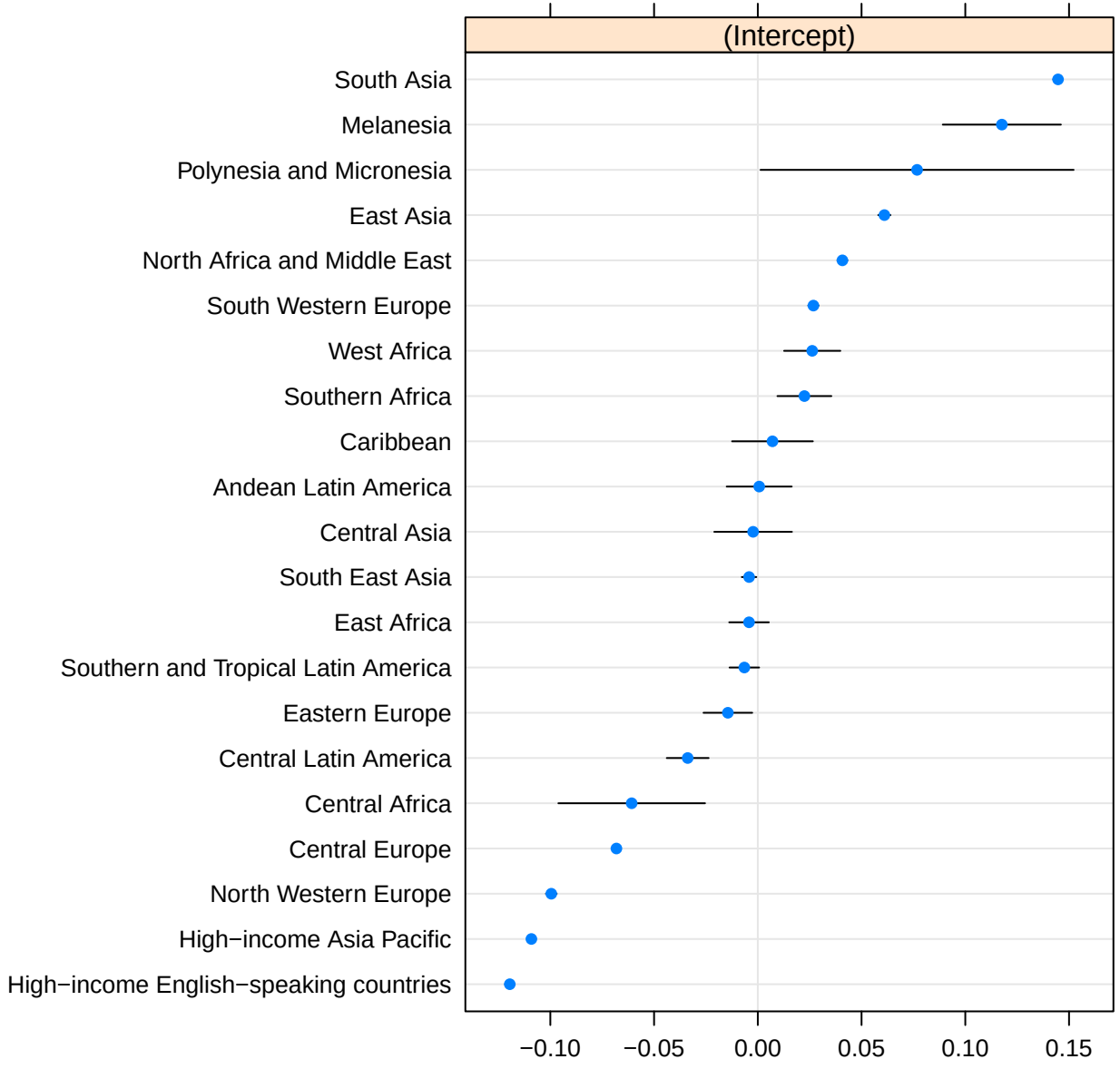
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI > +1SD) and prevalence (BMI > +2SD)	
Variables	**Coefficients (95% CI)**
Intercept	-0.96 (-1.10, -0.83)
Probit-transformed prevalence (BMI > +1SD)	-0.31 (-0.33, -0.30)
Probit-transformed prevalence (BMI > +2SD)	-0.012 (-0.030, 0.0059)
Mid-age of age group	0.044 (0.042, 0.045)
Male sex	0.12 (0.11, 0.13)
Study mid-year (per one more recent year since 1975)	0.00074 (0.00063, 0.00086)
Natural logarithm of per-capita gross domestic product	-0.12 (-0.13, -0.12)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.0041 (0.0029, 0.0054)
Probit-transformed prevalence (BMI > +2SD) * mid-age of age group	0.024 (0.023, 0.025)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.40 (-0.41, -0.39)
Probit-transformed prevalence (BMI > +2SD) * male sex	0.24 (0.22, 0.25)
Number of data points used to fit the model = 15,315	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.844.


(Intercept)
South Asia
South East Asia
North Africa and Middle East
Melanesia
East Africa
Caribbean
Southern Africa
East Asia
West Africa
Eastern Europe
Southern and Tropical Latin America
Central Africa
Central Asia
South Western Europe
High−income Asia Pacific
Central Europe
Central Latin America
North Western Europe
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.5
0.0
0.5

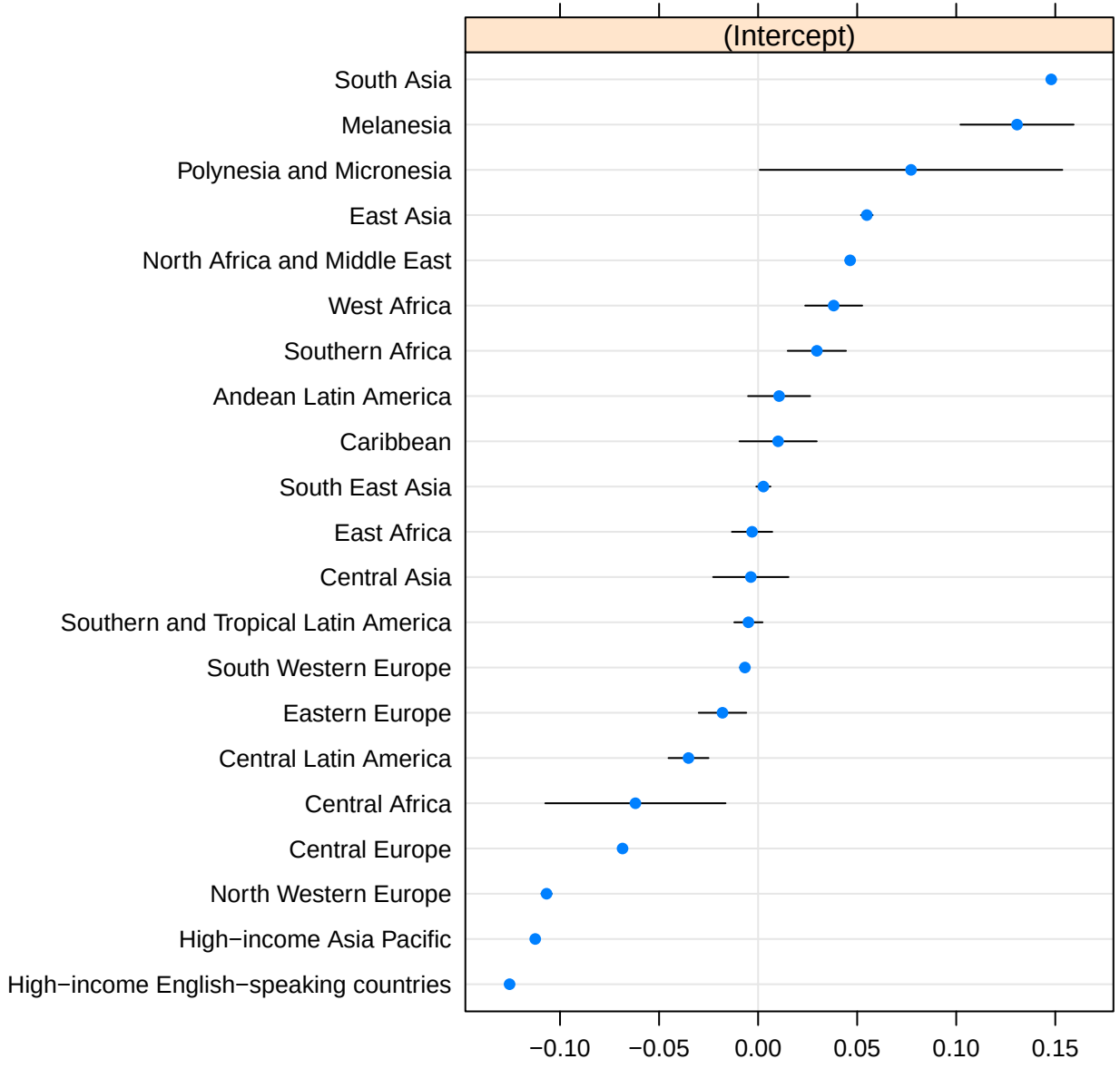
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI > +1SD) and prevalence (BMI < -1SD)	
Variables	**Coefficients (95% CI)**
Intercept	1.28 (1.21, 1.35)
Inverse mean BMI	-26.00 (-26.90, -25.10)
Probit-transformed prevalence (BMI > +1SD)	0.12 (0.11, 0.13)
Probit-transformed prevalence (BMI < -1SD)	1.18 (1.17, 1.19)
Mid-age of age group	-0.090 (-0.093, -0.087)
Male sex	0.15 (0.13, 0.17)
Study mid-year (per one more recent year since 1975)	0.0012 (0.0010, 0.0013)
Natural logarithm of per-capita gross domestic product	-0.024 (-0.027, -0.021)
Inverse mean BMI * mid-age of age group	1.23 (1.18, 1.28)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.0046 (0.0038, 0.0053)
Probit-transformed prevalence (BMI < -1SD) * mid-age of age group	-0.0044 (-0.0051, -0.0038)
Inverse mean BMI * male sex	-2.75 (-3.02, -2.48)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.045 (-0.050, -0.040)
Probit-transformed prevalence (BMI < -1SD) * male sex	-0.024 (-0.030, -0.019)
Number of data points used to fit the model = 16,347	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.938.


(Intercept)
South Asia
Melanesia
Polynesia and Micronesia
East Asia
North Africa and Middle East
South Western Europe
West Africa
Southern Africa
Caribbean
Andean Latin America
Central Asia
South East Asia
East Africa
Southern and Tropical Latin America
Eastern Europe
Central Latin America
Central Africa
Central Europe
North Western Europe
High−income Asia Pacific
High−income English−speaking countries
−0.10
−0.05
0.00
0.05
0.10
0.15

Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI > +1SD), prevalence (BMI > +2SD) and prevalence (BMI < -1SD)	
Variables	**Coefficients (95% CI)**
Intercept	0.90 (0.82, 0.98)
Inverse mean BMI	-22.60 (-23.50, -21.70)
Probit-transformed prevalence (BMI > +1SD)	0.90 (0.87, 0.94)
Probit-transformed prevalence (BMI > +2SD)	-0.67 (-0.70, -0.64)
Probit-transformed prevalence (BMI < -1SD)	1.35 (1.34, 1.36)
Mid-age of age group	-0.066 (-0.069, -0.063)
Male sex	0.24 (0.22, 0.26)
Study mid-year (per one more recent year since 1975)	0.00084 (0.00072, 0.00096)
Natural logarithm of per-capita gross domestic product	-0.027 (-0.030, -0.024)
Inverse mean BMI * mid-age of age group	1.03 (0.98, 1.08)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	-0.045 (-0.048, -0.043)
Probit-transformed prevalence (BMI > +2SD) * mid-age of age group	0.042 (0.040, 0.044)
Probit-transformed prevalence (BMI < -1SD) * mid-age of age group	-0.016 (-0.017, -0.015)
Inverse mean BMI * male sex	-2.17 (-2.45, -1.89)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.30 (-0.32, -0.29)
Probit-transformed prevalence (BMI > +2SD) * male sex	0.24 (0.22, 0.25)
Probit-transformed prevalence (BMI < -1SD) * male sex	-0.075 (-0.082, -0.069)
Number of data points used to fit the model = 15,261	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.940.


(Intercept)
South Asia
Melanesia
Polynesia and Micronesia
East Asia
North Africa and Middle East
West Africa
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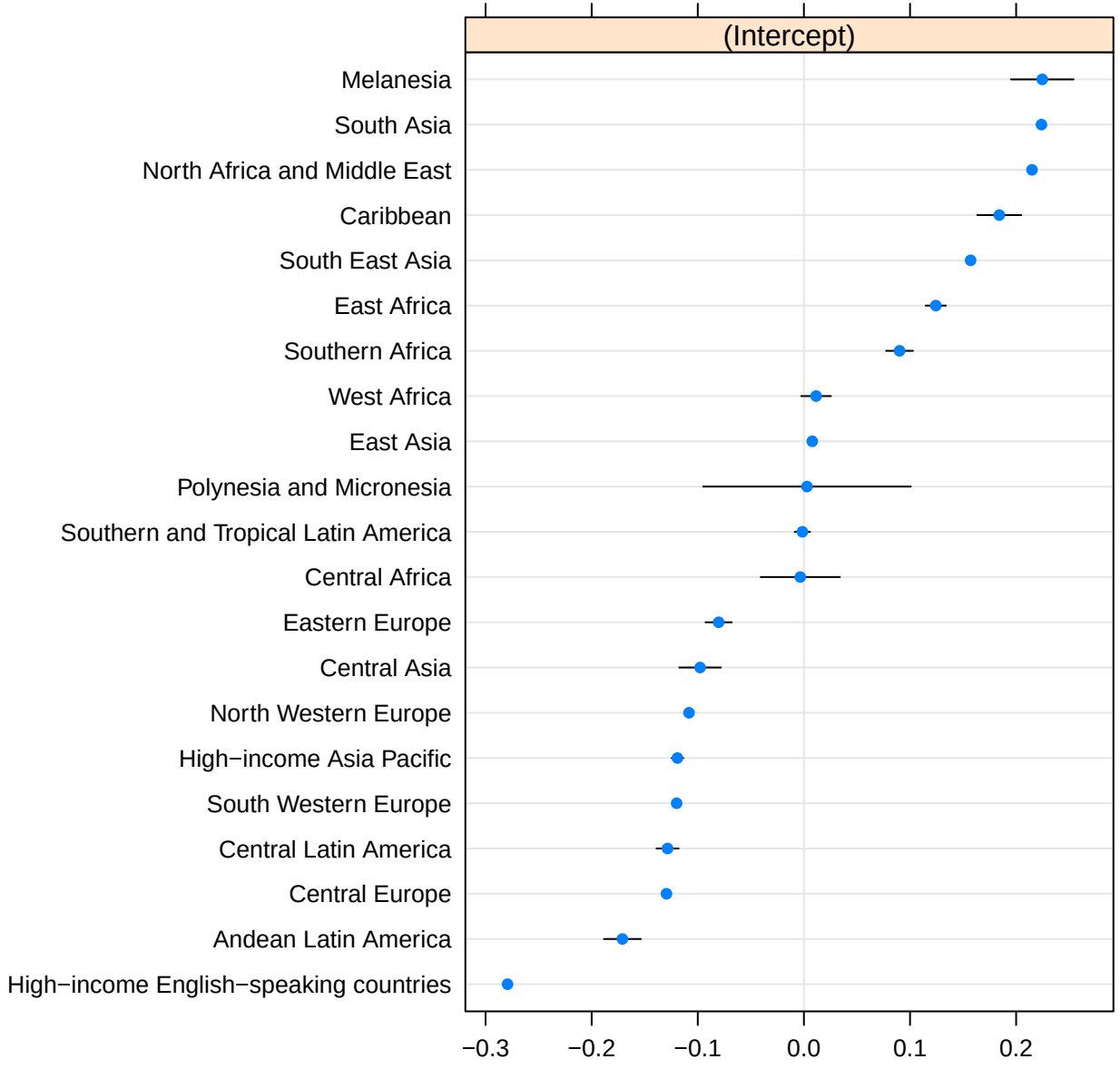
Andean Latin America
Caribbean
South East Asia
East Africa
Central Asia
Southern and Tropical Latin America
South Western Europe
Eastern Europe
Central Latin America
Central Africa
Central Europe
North Western Europe
High−income Asia Pacific
High−income English−speaking countries
−0.10
−0.05
0.00
0.05
0.10
0.15

Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2), and prevalence (BMI <15 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.87 (0.73, 1.01)
Inverse mean BMI	-56.20 (-58.00, -54.50)
Probit-transformed prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2)	-2.16 (-2.20, -2.13)
Probit-transformed prevalence (BMI <15 kg/m^2)	2.89 (2.85, 2.92)
Mid-age of age group	-0.16 (-0.17, -0.15)
Male sex	-1.35 (-1.40, -1.29)
Study mid-year (per one more recent year since 1975)	0.0028 (0.0027, 0.0030)
Natural logarithm of per-capita gross domestic product	-0.027 (-0.030, -0.024)
Inverse mean BMI * mid-age of age group	5.23 (5.11, 5.35)
Probit-transformed prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2) * mid-age of age group	0.12 (0.11, 0.12)
Probit-transformed prevalence (BMI <15 kg/m^2) * mid-age of age group	-0.13 (-0.13, -0.12)
Inverse mean BMI * male sex	22.00 (21.10, 22.80)
Probit-transformed prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2) * male sex	-0.52 (-0.54, -0.50)
Probit-transformed prevalence (BMI <15 kg/m^2) * male sex	0.32 (0.30, 0.35)
Number of data points used to fit the model = 12,688	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.921.


(Intercept)
Melanesia
South Asia
North Africa and Middle East
Caribbean
South East Asia
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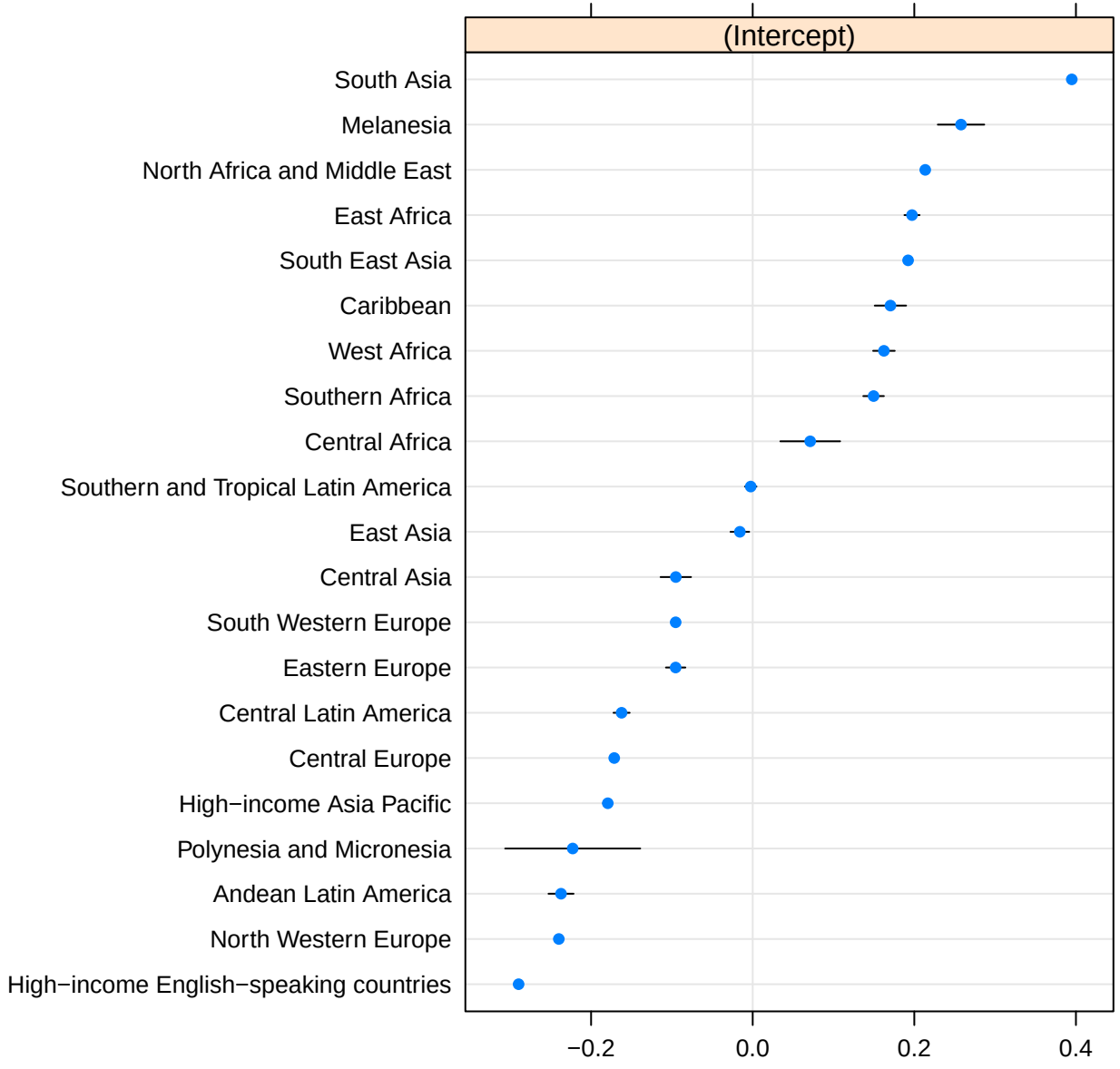
Southern Africa
West Africa
East Asia
Polynesia and Micronesia
Southern and Tropical Latin America
Central Africa
Eastern Europe
Central Asia
North Western Europe
High−income Asia Pacific
South Western Europe
Central Latin America
Central Europe
Andean Latin America
High−income English−speaking countries
−0.3
−0.2
−0.1
0.0
0.1
0.2

Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2) and prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-8.55 (-8.69, -8.42)
Inverse mean BMI	98.70 (96.80, 101.00)
Probit-transformed prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2)	-0.79 (-0.80, -0.78)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2)	1.07 (1.05, 1.08)
Mid-age of age group	0.36 (0.36, 0.37)
Male sex	-1.17 (-1.22, -1.12)
Study mid-year (per one more recent year since 1975)	0.0036 (0.0035, 0.0038)
Natural logarithm of per-capita gross domestic product	-0.031 (-0.034, -0.027)
Inverse mean BMI * mid-age of age group	-4.24 (-4.37, -4.11)
Probit-transformed prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2) * mid-age of age group	0.058 (0.057, 0.059)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.11 (-0.11, -0.11)
Inverse mean BMI * male sex	21.00 (20.00, 22.00)
Probit-transformed prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2) * male sex	-0.24 (-0.25, -0.23)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	0.29 (0.28, 0.30)
Number of data points used to fit the model = 13,262	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.917.


(Intercept)
South Asia
Melanesia
North Africa and Middle East
East Africa
South East Asia
Caribbean
West Africa
Southern Africa
Central Africa
Southern and Tropical Latin America
East Asia
Central Asia
South Western Europe
Eastern Europe
Central Latin America
Central Europe
High−income Asia Pacific
Polynesia and Micronesia
Andean Latin America
North Western Europe
High−income English−speaking countries
−0.2
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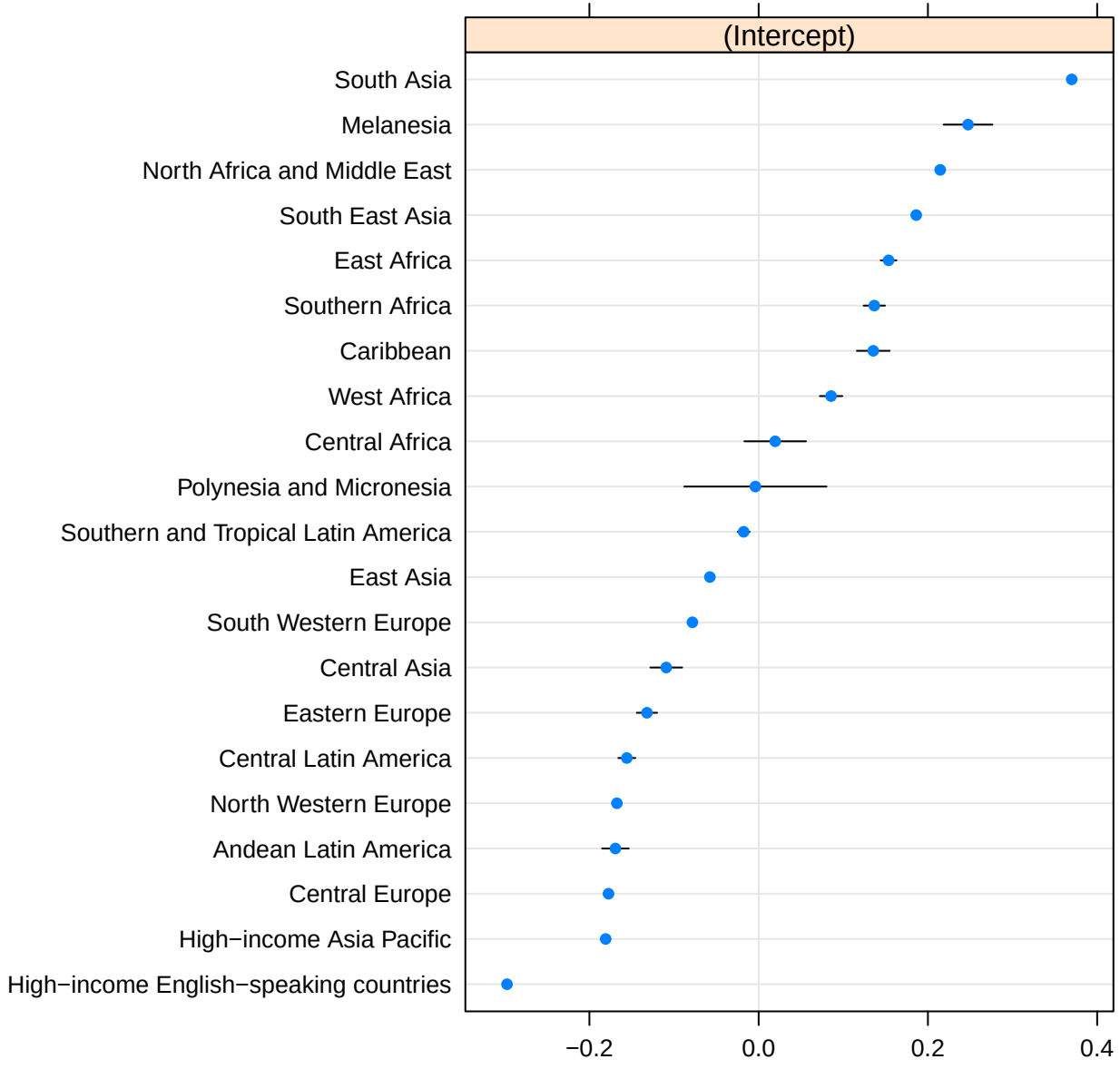
0.4

Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI <18.5 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-13.10 (-13.20, -13.00)
Inverse mean BMI	189.00 (187.00, 191.00)
Probit-transformed prevalence (BMI <18.5 kg/m^2)	-1.18 (-1.19, -1.17)
Mid-age of age group	0.84 (0.83, 0.84)
Male sex	-2.82 (-2.88, -2.76)
Study mid-year (per one more recent year since 1975)	0.0034 (0.0032, 0.0035)
Natural logarithm of per-capita gross domestic product	-0.021 (-0.024, -0.018)
Inverse mean BMI * mid-age of age group	-13.50 (-13.70, -13.40)
Probit-transformed prevalence (BMI <18.5 kg/m^2) * mid-age of age group	0.13 (0.13, 0.13)
Inverse mean BMI * male sex	56.00 (54.90, 57.00)
Probit-transformed prevalence (BMI <18.5 kg/m^2) * male sex	-0.50 (-0.51, -0.49)
Number of data points used to fit the model = 15,298	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.902.


(Intercept)
South Asia
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Southern Africa
Caribbean
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Polynesia and Micronesia
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Andean Latin America
Central Europe
High−income Asia Pacific
High−income English−speaking countries
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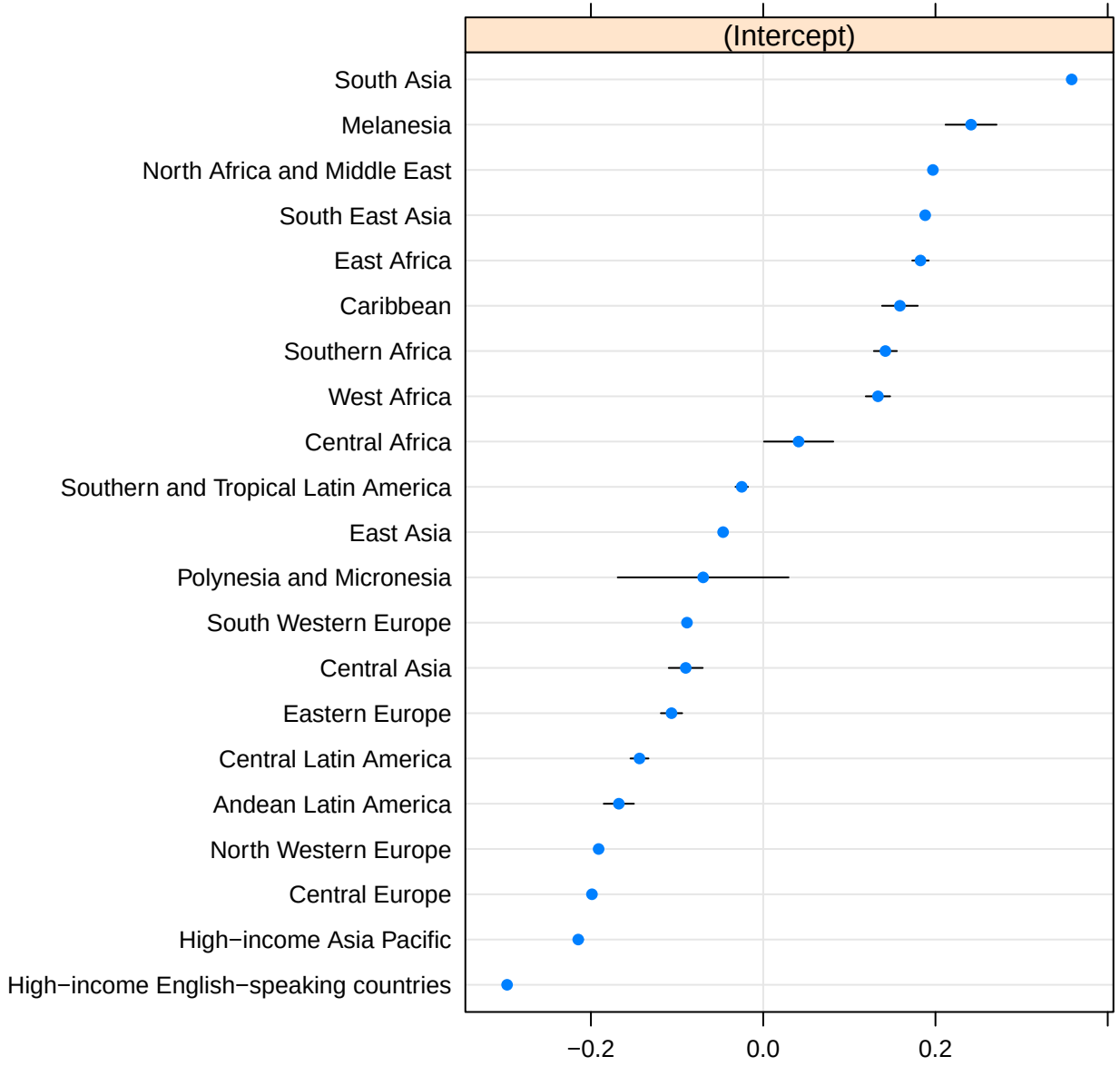
Dependent variable: Prevalence (BMI < -2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI <18.5 kg/m^2) and prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-11.70 (-11.90, -11.50)
Inverse mean BMI	165.00 (162.00, 168.00)
Probit-transformed prevalence (BMI < 18.5 kg/m^2)	-1.25 (-1.27, -1.23)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2)	-0.070 (-0.082, -0.058)
Mid-age of age group	0.70 (0.69, 0.71)
Male sex	-1.17 (-1.24, -1.10)
Study mid-year (per one more recent year since 1975)	0.0031 (0.0029, 0.0032)
Natural logarithm of per-capita gross domestic product	-0.015 (-0.018, -0.012)
Inverse mean BMI * mid-age of age group	-11.30 (-11.50, -11.00)
Probit-transformed prevalence (BMI < 18.5 kg/m^2) * mid-age of age group	0.14 (0.14, 0.14)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * mid-age of age group	-0.011 (-0.012, -0.010)
Inverse mean BMI * male sex	23.60 (22.20, 25.00)
Probit-transformed prevalence (BMI < 18.5 kg/m^2) * male sex	-0.19 (-0.20, -0.17)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * male sex	-0.18 (-0.18, -0.17)
Number of data points used to fit the model = 12,582	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.919.


(Intercept)
South Asia
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South Western Europe
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Eastern Europe
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Andean Latin America
North Western Europe
Central Europe
High−income Asia Pacific
High−income English−speaking countries
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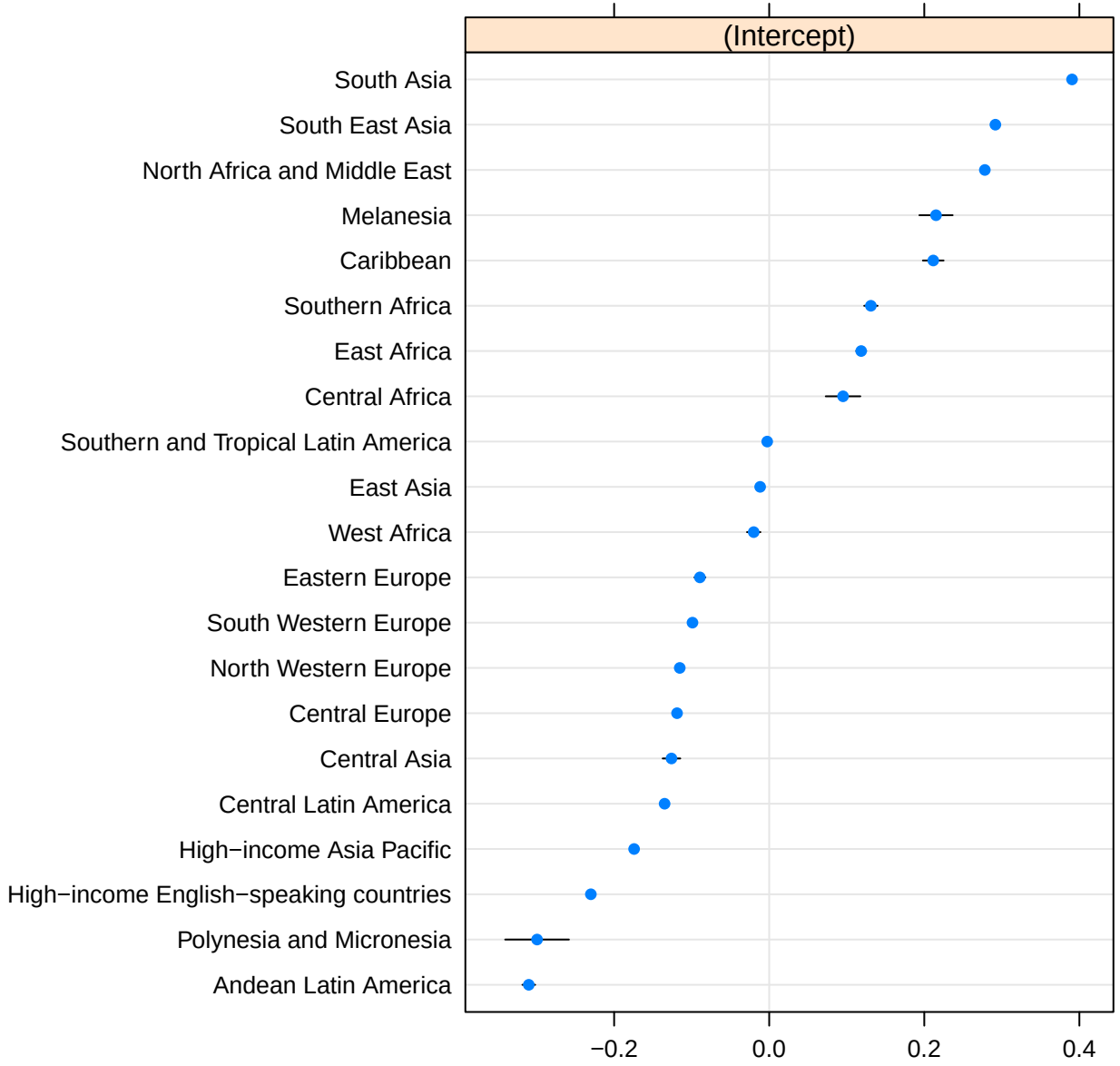
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	-4.64 (-4.73, -4.55)
Inverse mean BMI	43.20 (42.80, 43.50)
Mid-age of age group	-0.035 (-0.036, -0.034)
Male sex	0.30 (0.30, 0.31)
Study mid-year (per one more recent year since 1975)	0.0041 (0.0040, 0.0042)
Natural logarithm of per-capita gross domestic product	-0.017 (-0.019, -0.015)
Inverse mean BMI * mid-age of age group	2.95 (2.93, 2.97)
Inverse mean BMI * male sex	-4.86 (-4.99, -4.72)
Number of data points used to fit the model = 19,304	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.863.


(Intercept)
South Asia
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Southern and Tropical Latin America
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South Western Europe
North Western Europe
Central Europe
Central Asia
Central Latin America
High−income Asia Pacific
High−income English−speaking countries
Polynesia and Micronesia
Andean Latin America
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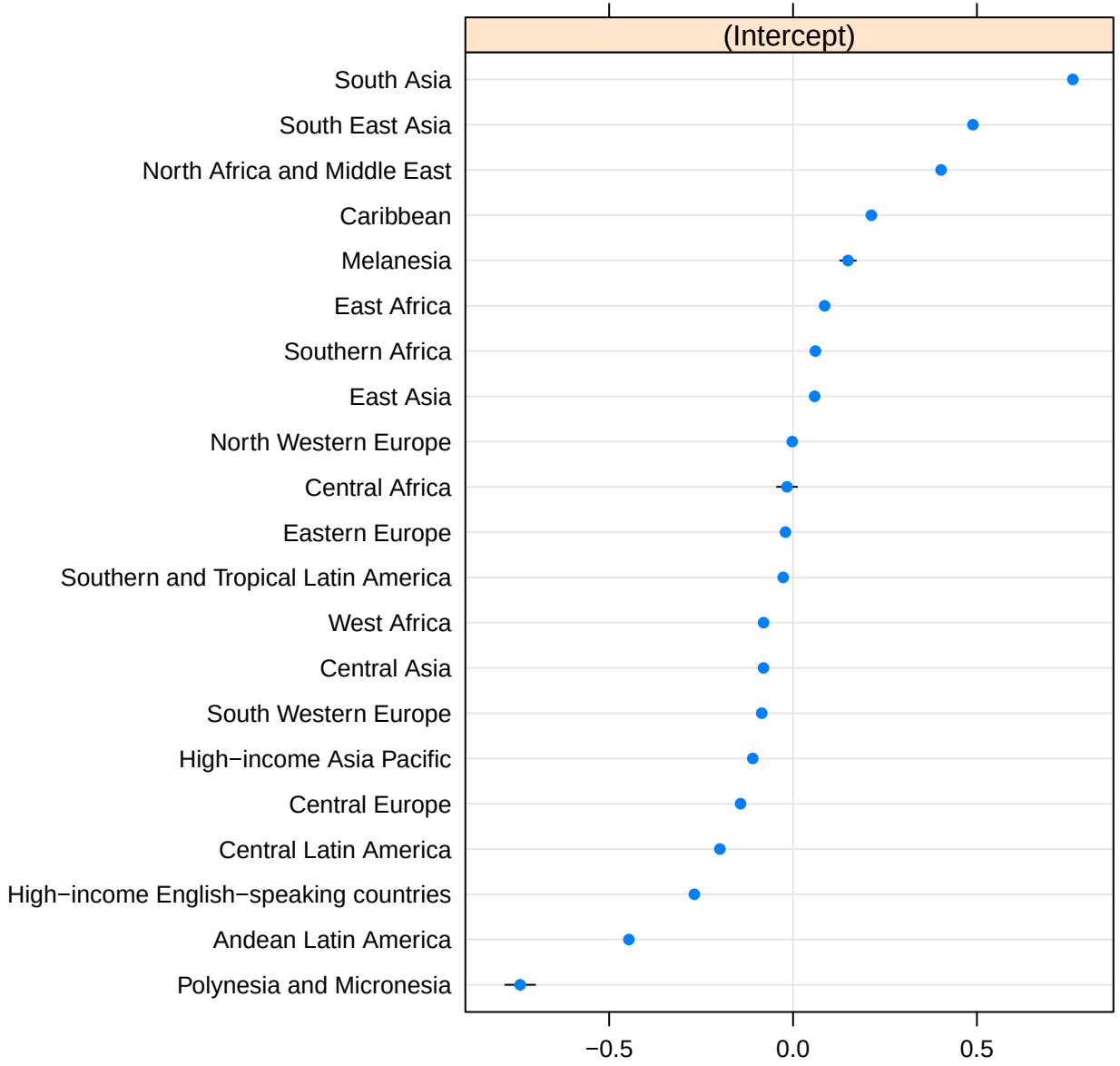
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.21 (0.073, 0.34)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	0.11 (0.11, 0.11)
Mid-age of age group	-0.020 (-0.020, -0.019)
Male sex	0.082 (0.079, 0.085)
Study mid-year (per one more recent year since 1975)	0.0024 (0.0023, 0.0025)
Natural logarithm of per-capita gross domestic product	-0.13 (-0.13, -0.13)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.020 (-0.021, -0.020)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.022 (0.020, 0.024)
Number of data points used to fit the model = 15,932	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.815.


(Intercept)
South Asia
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Melanesia
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North Western Europe
Central Africa
Eastern Europe
Southern and Tropical Latin America
West Africa
Central Asia
South Western Europe
High−income Asia Pacific
Central Europe
Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.5
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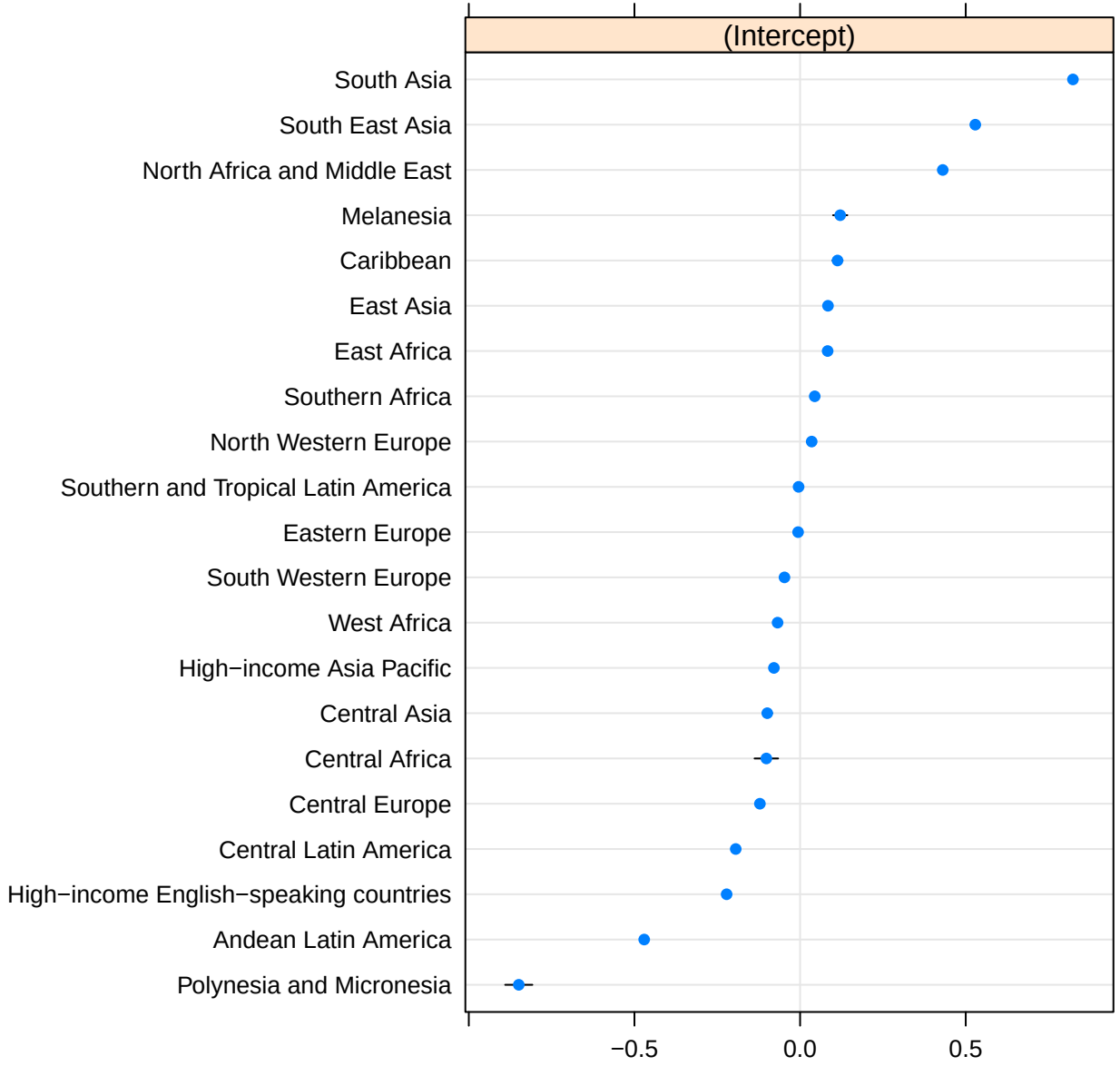
0.5

Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.81 (0.67, 0.95)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	0.14 (0.14, 0.15)
Mid-age of age group	-0.035 (-0.036, -0.035)
Male sex	0.14 (0.13, 0.14)
Study mid-year (per one more recent year since 1975)	0.0014 (0.0013, 0.0015)
Natural logarithm of per-capita gross domestic product	-0.16 (-0.16, -0.15)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	-0.014 (-0.015, -0.014)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.044 (0.042, 0.046)
Number of data points used to fit the model = 11,687	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.816.


(Intercept)
South Asia
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Caribbean
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North Western Europe
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High−income Asia Pacific
Central Asia
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Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
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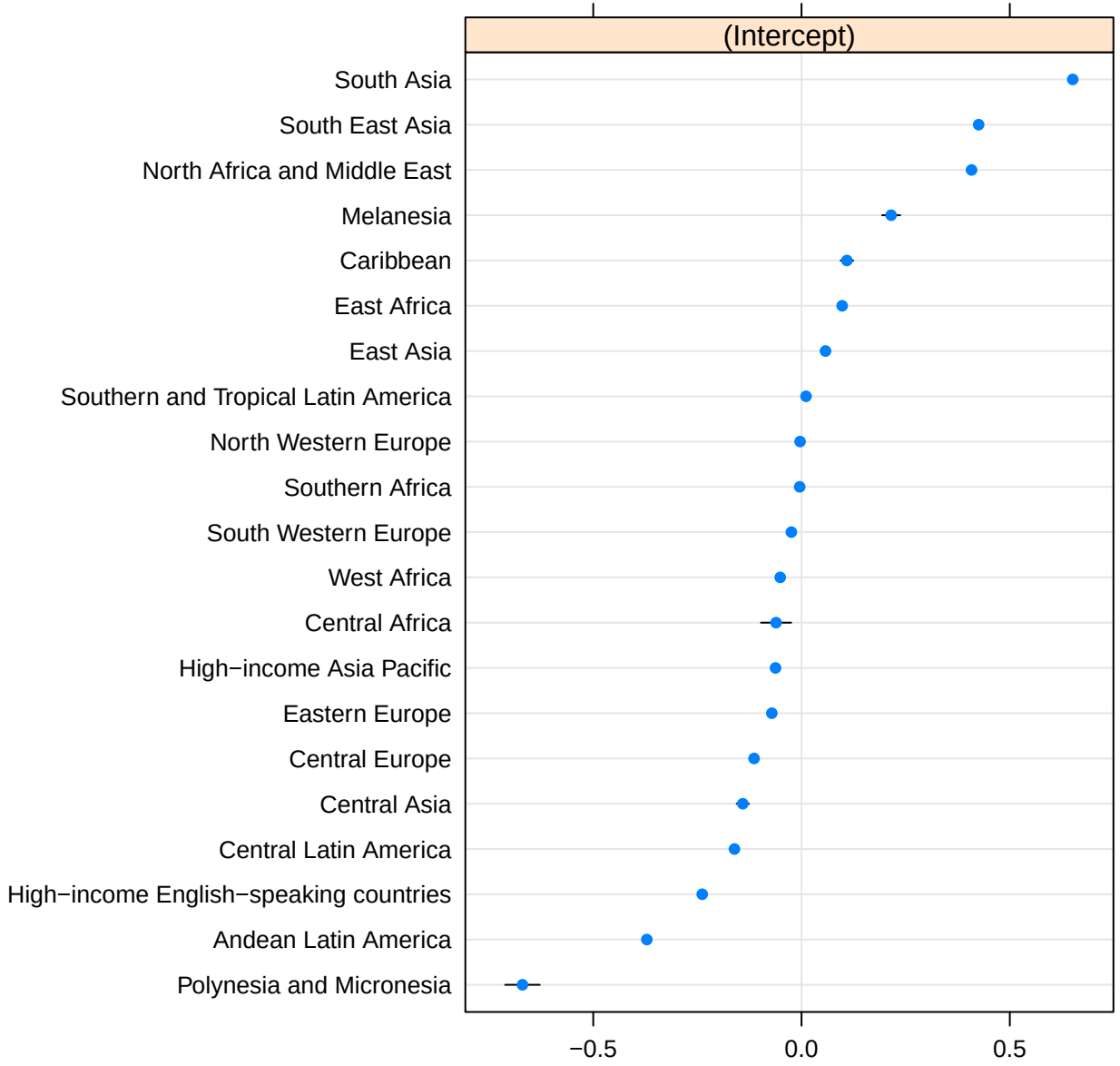
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.22 (0.10, 0.34)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	-0.50 (-0.52, -0.49)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	0.64 (0.62, 0.65)
Mid-age of age group	-0.038 (-0.038, -0.037)
Male sex	0.27 (0.27, 0.28)
Study mid-year (per one more recent year since 1975)	0.0021 (0.0020, 0.0022)
Natural logarithm of per-capita gross domestic product	-0.088 (-0.091, -0.086)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.0090 (-0.0098, -0.0081)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	-0.020 (-0.021, -0.019)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	-0.091 (-0.098, -0.083)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.16 (0.15, 0.17)
Number of data points used to fit the model = 11,454	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.842.


(Intercept)
South Asia
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High−income Asia Pacific
Eastern Europe
Central Europe
Central Asia
Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.5
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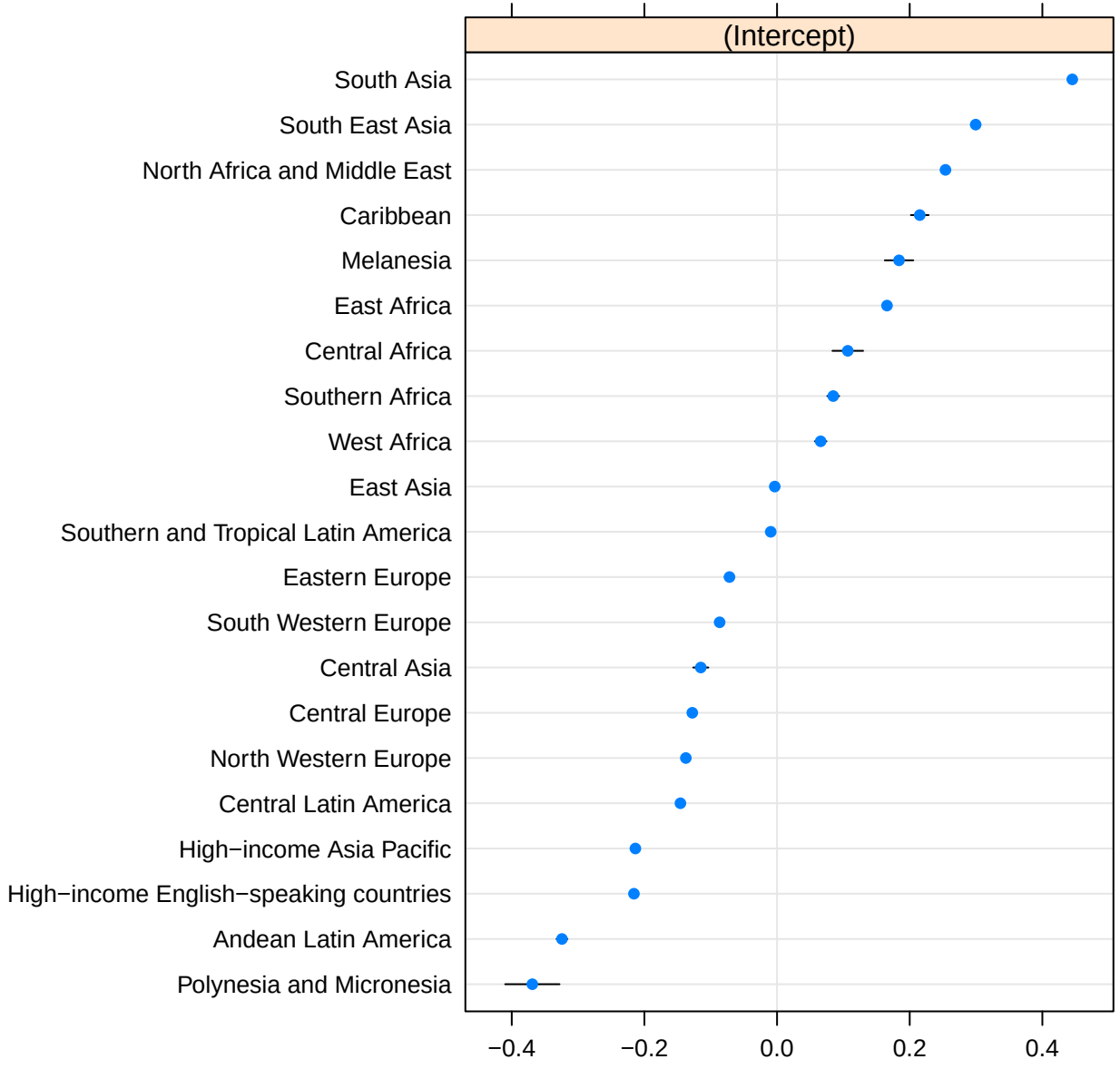
0.5

Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI > +1SD)	
Variables	**Coefficients (95% CI)**
Intercept	-3.97 (-4.06, -3.87)
Inverse mean BMI	23.30 (22.80, 23.80)
Probit-transformed prevalence (BMI > +1SD)	-0.47 (-0.48, -0.47)
Mid-age of age group	-0.062 (-0.063, -0.060)
Male sex	0.17 (0.16, 0.18)
Study mid-year (per one more recent year since 1975)	0.0040 (0.0040, 0.0041)
Natural logarithm of per-capita gross domestic product	0.0044 (0.0025, 0.0064)
Inverse mean BMI * mid-age of age group	3.75 (3.73, 3.78)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.038 (0.038, 0.038)
Inverse mean BMI * male sex	-4.96 (-5.10, -4.82)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.18 (-0.18, -0.18)
Number of data points used to fit the model = 19,097	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.886.


(Intercept)
South Asia
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North Africa and Middle East
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Melanesia
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Southern Africa
West Africa
East Asia
Southern and Tropical Latin America
Eastern Europe
South Western Europe
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Central Europe
North Western Europe
Central Latin America
High−income Asia Pacific
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.4
−0.2
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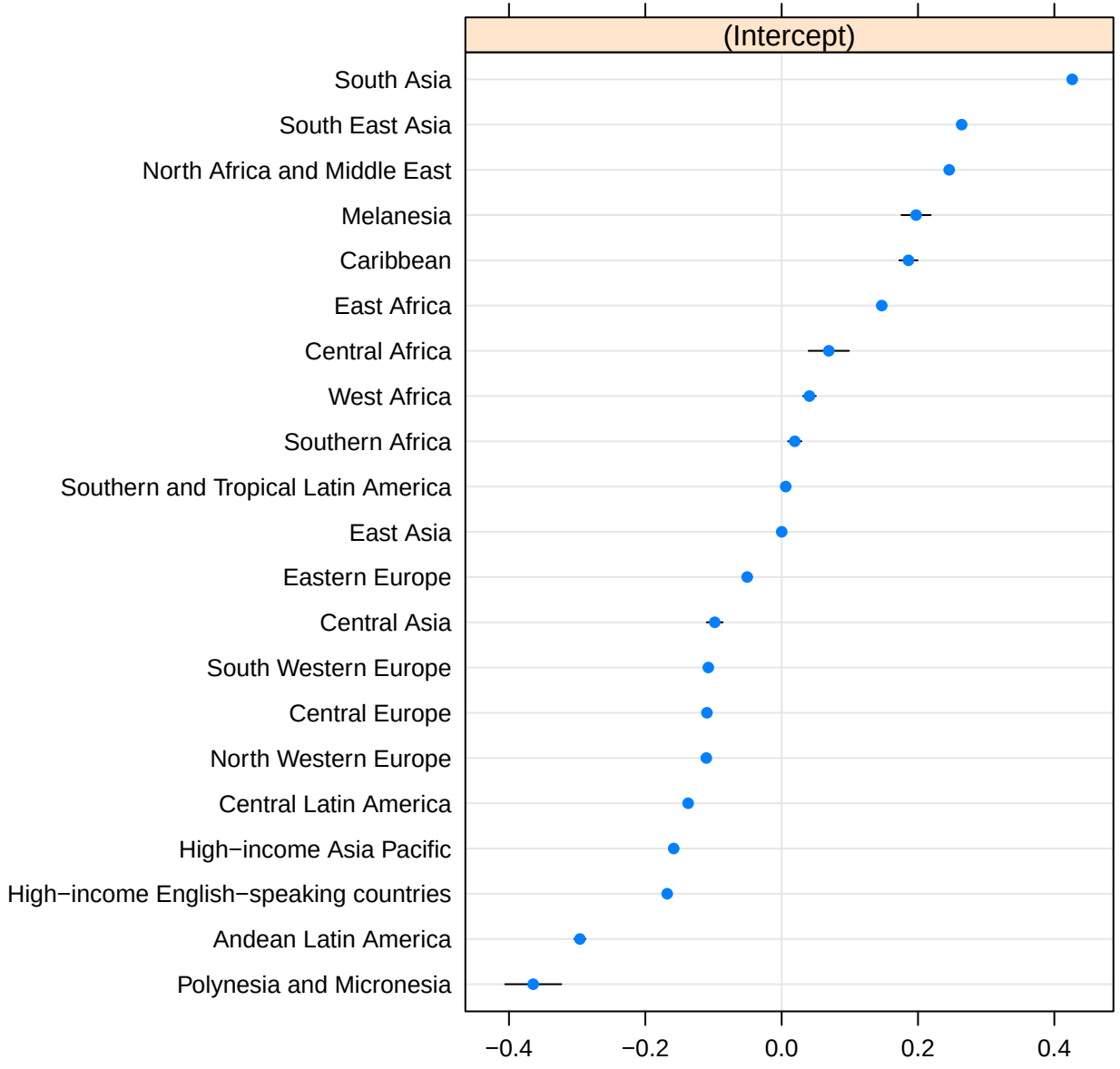
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI > +1SD) and prevalence (BMI > +2SD)	
Variables	**Coefficients (95% CI)**
Intercept	-2.92 (-3.01, -2.83)
Inverse mean BMI	18.20 (17.70, 18.80)
Probit-transformed prevalence (BMI > +1SD)	-0.95 (-0.96, -0.94)
Probit-transformed prevalence (BMI > +2SD)	0.53 (0.52, 0.54)
Mid-age of age group	-0.086 (-0.087, -0.084)
Male sex	0.34 (0.32, 0.34)
Study mid-year (per one more recent year since 1975)	0.0027 (0.0027, 0.0028)
Natural logarithm of per-capita gross domestic product	-0.014 (-0.016, -0.012)
Inverse mean BMI * mid-age of age group	3.64 (3.62, 3.66)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.054 (0.053, 0.055)
Probit-transformed prevalence (BMI > +2SD) * mid-age of age group	-0.022 (-0.022, -0.021)
Inverse mean BMI * male sex	-6.46 (-6.61, -6.31)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.33 (-0.34, -0.32)
Probit-transformed prevalence (BMI > +2SD) * male sex	0.16 (0.15, 0.16)
Number of data points used to fit the model = 17,688	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.896.


(Intercept)
South Asia
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North Western Europe
Central Latin America
High−income Asia Pacific
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.4
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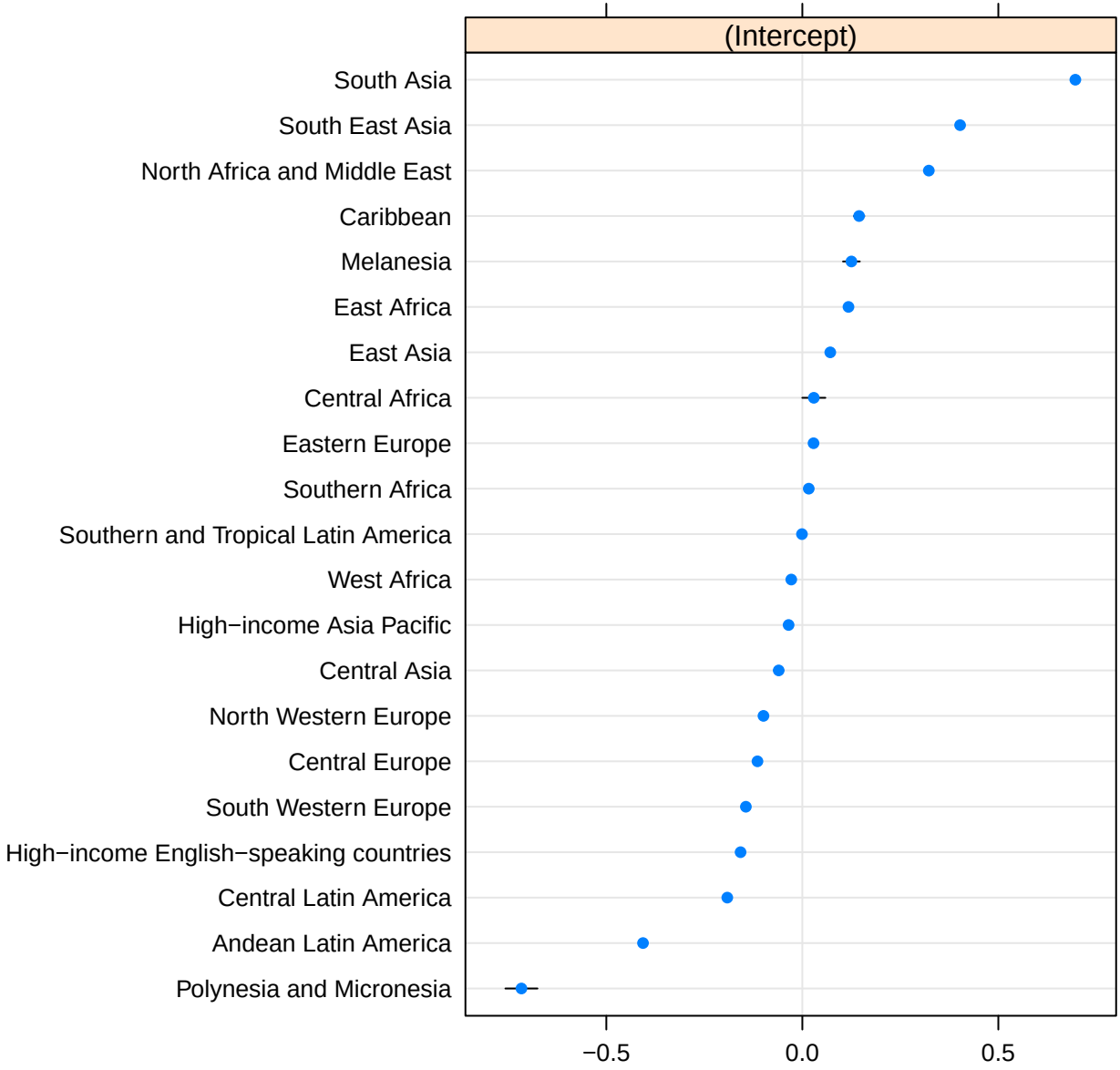
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI > +1SD) and prevalence (BMI > +2SD)	
Variables	**Coefficients (95% CI)**
Intercept	0.029 (-0.091, 0.15)
Probit-transformed prevalence (BMI > +1SD)	-1.09 (-1.10, -1.08)
Probit-transformed prevalence (BMI > +2SD)	0.68 (0.67, 0.69)
Mid-age of age group	0.0088 (0.0082, 0.0095)
Male sex	-0.064 (-0.070, -0.059)
Study mid-year (per one more recent year since 1975)	0.00023 (0.00016, 0.00030)
Natural logarithm of per-capita gross domestic product	-0.098 (-0.10, -0.096)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.044 (0.044, 0.045)
Probit-transformed prevalence (BMI > +2SD) * mid-age of age group	-0.022 (-0.023, -0.021)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.23 (-0.24, -0.22)
Probit-transformed prevalence (BMI > +2SD) * male sex	0.074 (0.067, 0.080)
Number of data points used to fit the model = 17,688	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.842.


(Intercept)
South Asia
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Southern and Tropical Latin America
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North Western Europe
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South Western Europe
High−income English−speaking countries
Central Latin America
Andean Latin America
Polynesia and Micronesia
−0.5
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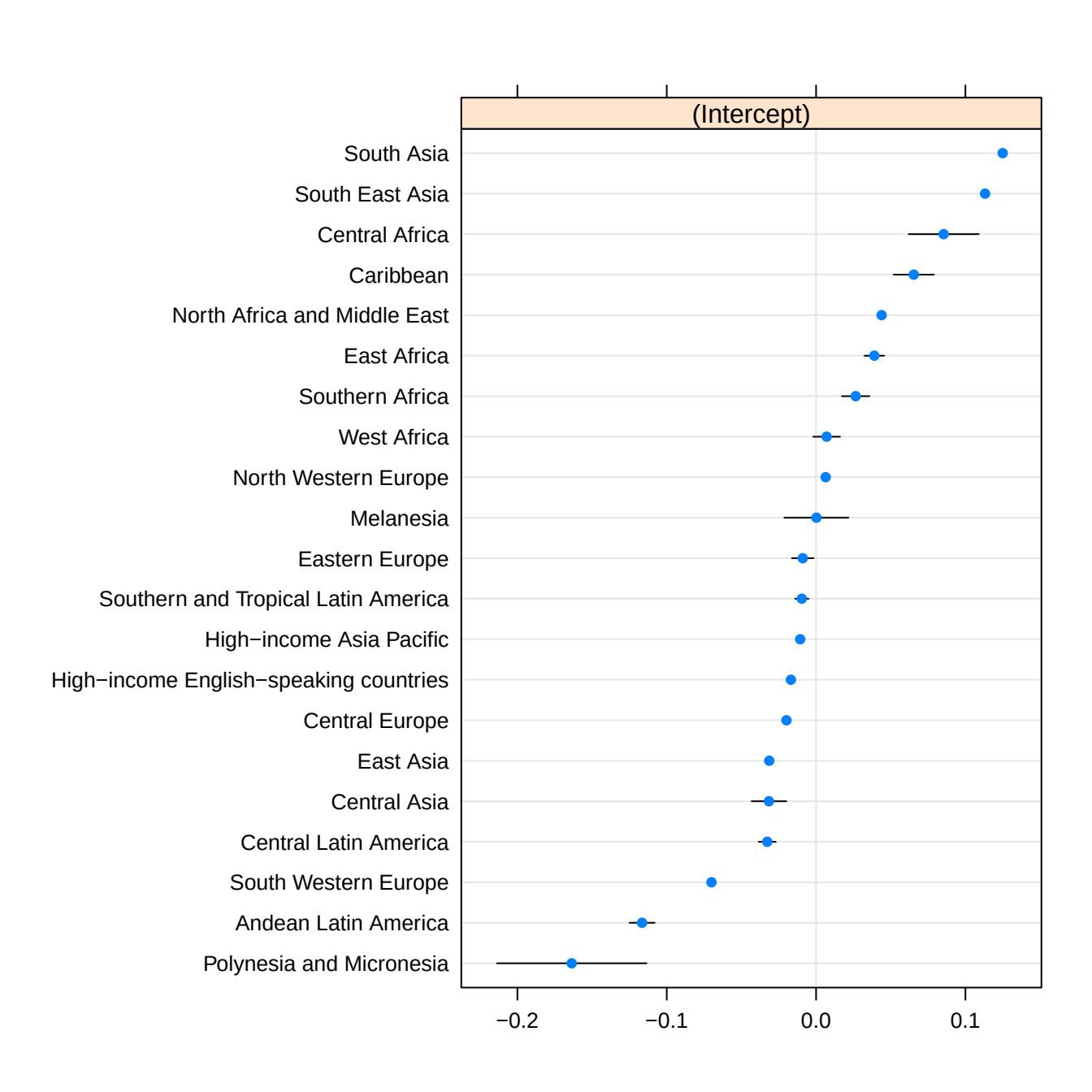
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI > +1SD) and prevalence (BMI < -2SD)	
Variables	**Coefficients (95% CI)**
Intercept	0.15 (0.11, 0.18)
Probit-transformed prevalence (BMI > +1SD)	-0.23 (-0.24, -0.22)
Probit-transformed prevalence (BMI < -2SD)	0.77 (0.76, 0.77)
Mid-age of age group	-0.025 (-0.026, -0.024)
Male sex	0.027 (0.021, 0.033)
Study mid-year (per one more recent year since 1975)	0.00058 (0.00051, 0.00064)
Natural logarithm of per-capita gross domestic product	0.014 (0.012, 0.016)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	-0.0019 (-0.0023, -0.0015)
Probit-transformed prevalence (BMI < -2SD) * mid-age of age group	-0.011 (-0.012, -0.011)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.012 (-0.015, -0.0096)
Probit-transformed prevalence (BMI < -2SD) * male sex	0.026 (0.023, 0.028)
Number of data points used to fit the model = 16,347	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.939.


(Intercept)
South Asia
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North Western Europe
Melanesia
Eastern Europe
Southern and Tropical Latin America
High−income Asia Pacific
High−income English−speaking countries
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South Western Europe
Andean Latin America
Polynesia and Micronesia
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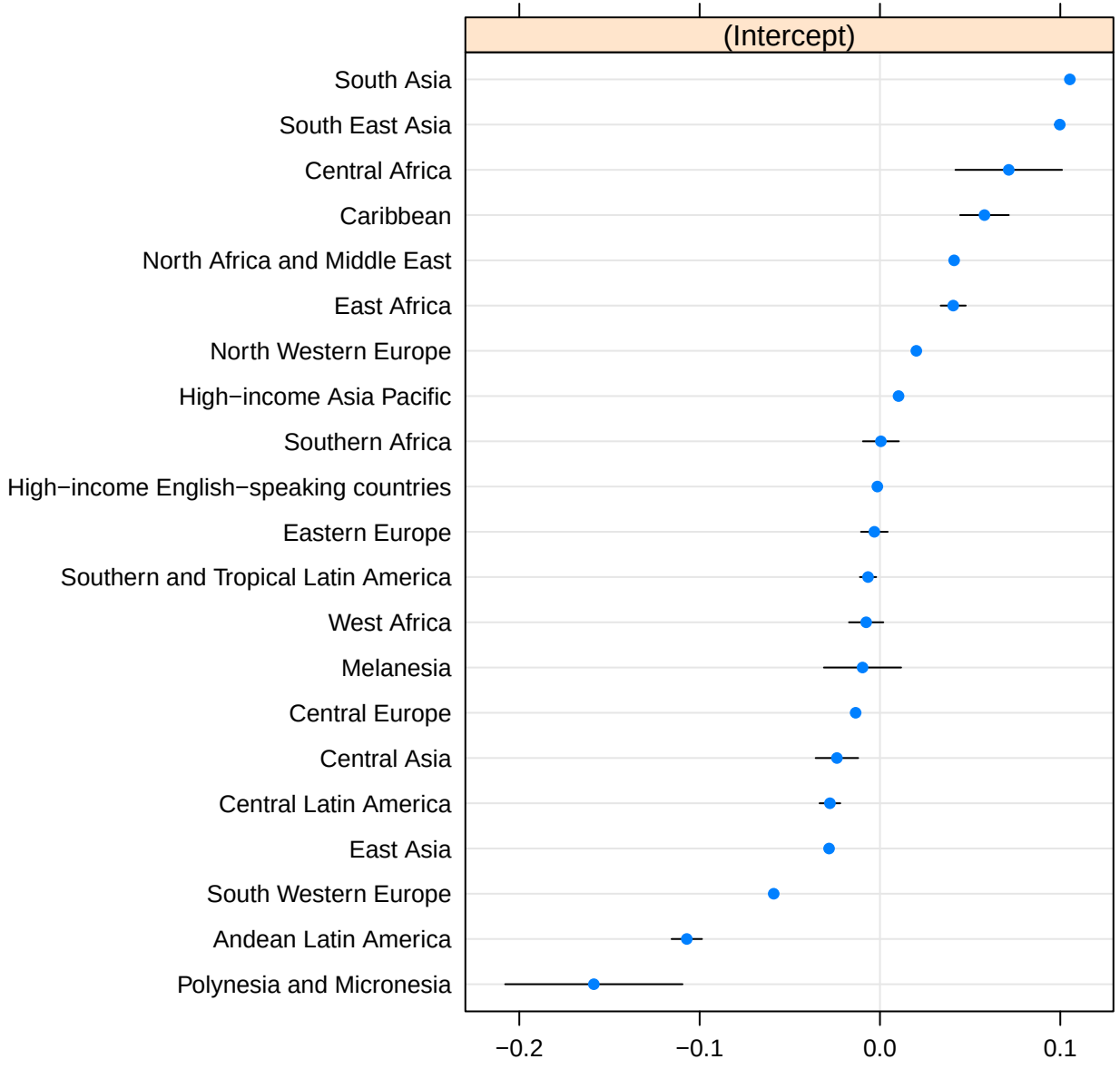
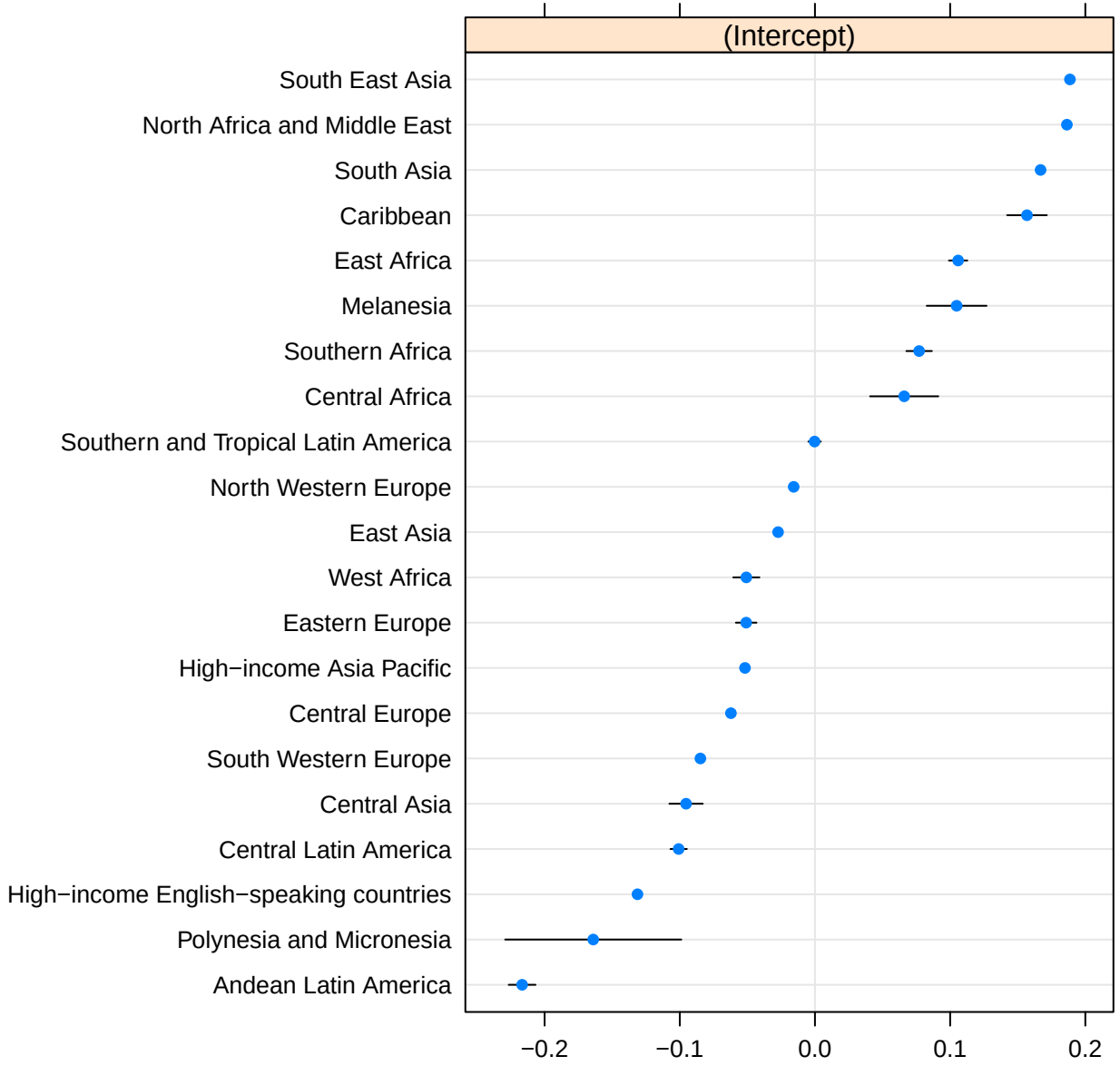
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI > +1SD), prevalence (BMI > +2SD) and prevalence (BMI < -2SD)	
Variables	**Coefficients (95% CI)**
Intercept	0.33 (0.30, 0.37)
Probit-transformed prevalence (BMI > +1SD)	-0.65 (-0.67, -0.63)
Probit-transformed prevalence (BMI > +2SD)	0.40 (0.39, 0.42)
Probit-transformed prevalence (BMI < -2SD)	0.68 (0.68, 0.69)
Mid-age of age group	-0.025 (-0.026, -0.024)
Male sex	-0.058 (-0.064, -0.051)
Study mid-year (per one more recent year since 1975)	0.00034 (0.00027, 0.00041)
Natural logarithm of per-capita gross domestic product	0.0070 (0.0050, 0.0090)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.018 (0.016, 0.019)
Probit-transformed prevalence (BMI > +2SD) * mid-age of age group	-0.018 (-0.019, -0.017)
Probit-transformed prevalence (BMI < -2SD) * mid-age of age group	-0.0058 (-0.0062, -0.0054)
2Probit-transformed prevalence (BMI > +1SD) * male sex	0.20 (0.20, 0.21)
Probit-transformed prevalence (BMI > +2SD) * male sex	-0.20 (-0.21, -0.19)
Probit-transformed prevalence (BMI < -2SD) * male sex	0.059 (0.056, 0.062)
Number of data points used to fit the model = 15,261	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.941.


(Intercept)
South Asia
South East Asia
Central Africa
Caribbean
North Africa and Middle East
East Africa
North Western Europe
High−income Asia Pacific
Southern Africa
High−income English−speaking countries
Eastern Europe
Southern and Tropical Latin America
West Africa
Melanesia
Central Europe
Central Asia
Central Latin America
East Asia
South Western Europe
Andean Latin America
Polynesia and Micronesia
−0.2
−0.1
0.0
0.1

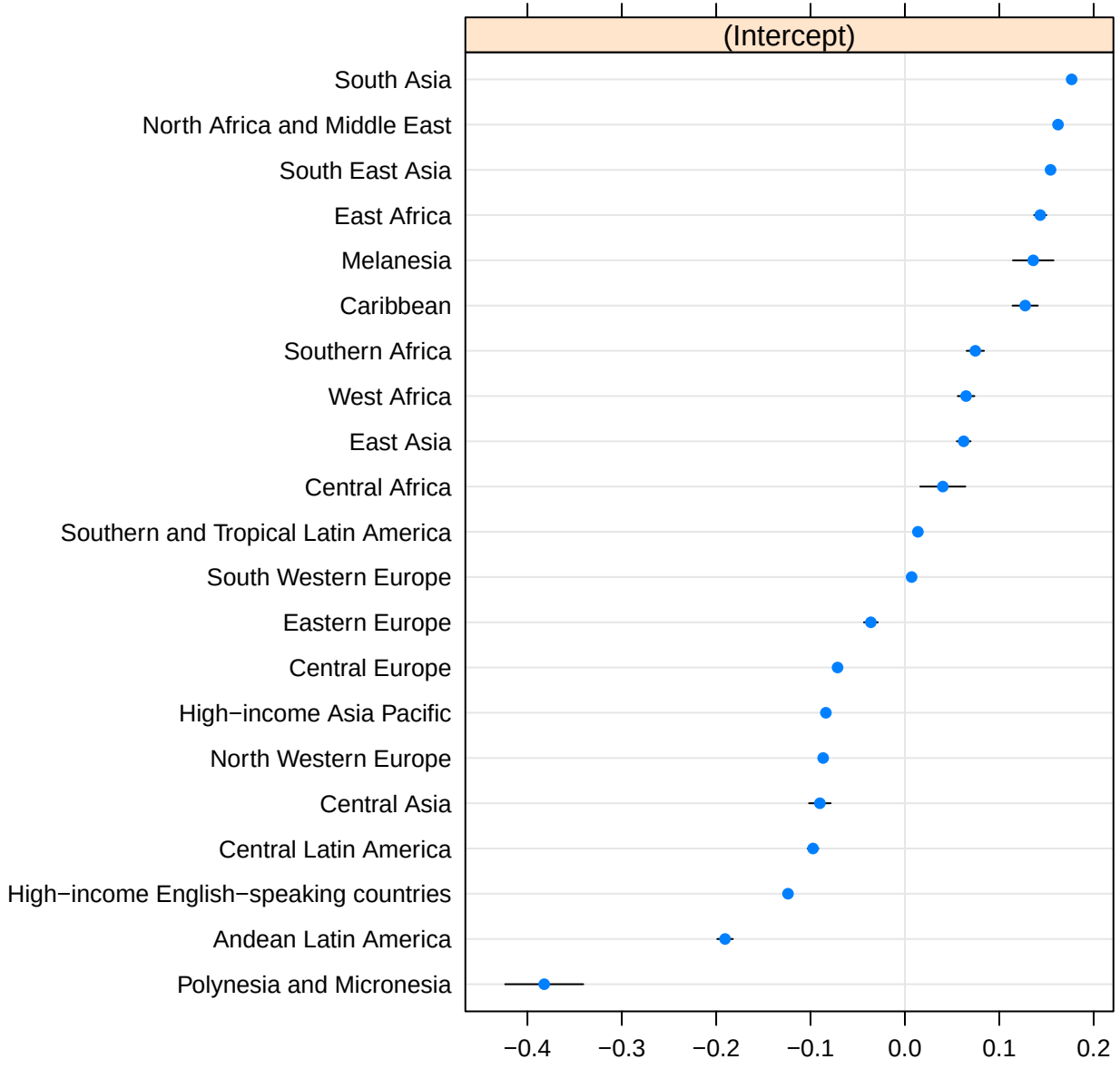
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2), and prevalence (BMI <15 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-0.79 (-0.88, -0.70)
Inverse mean BMI	-14.60 (-15.60, -13.50)
Probit-transformed prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2)	-1.68 (-1.71, -1.66)
Probit-transformed prevalence (BMI <15 kg/m^2)	2.28 (2.26, 2.31)
Mid-age of age group	-0.11 (-0.11, -0.10)
Male sex	-0.84 (-0.87, -0.80)
Study mid-year (per one more recent year since 1975)	0.0026 (0.0025, 0.0027)
Natural logarithm of per-capita gross domestic product	-0.034 (-0.036, -0.032)
Inverse mean BMI * mid-age of age group	4.31 (4.24, 4.38)
Probit-transformed prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2) * mid-age of age group	0.12 (0.11, 0.12)
Probit-transformed prevalence (BMI <15 kg/m^2) * mid-age of age group	-0.13 (-0.14, -0.13)
Inverse mean BMI * male sex	13.00 (12.50, 13.50)
Probit-transformed prevalence (12 kg/m^2 ≤ BMI < 15 kg/m^2) * male sex	-0.43 (-0.45, -0.41)
Probit-transformed prevalence (BMI <15 kg/m^2) * male sex	0.32 (0.30, 0.35)
Number of data points used to fit the model = 13,786	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.919.


(Intercept)
South East Asia
North Africa and Middle East
South Asia
Caribbean
East Africa
Melanesia
Southern Africa
Central Africa
Southern and Tropical Latin America
North Western Europe
East Asia
West Africa
Eastern Europe
High−income Asia Pacific
Central Europe
South Western Europe
Central Asia
Central Latin America
High−income English−speaking countries
Polynesia and Micronesia
Andean Latin America
−0.2
−0.1
0.0
0.1
0.2

Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2) and prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-6.94 (-7.03, -6.85)
Inverse mean BMI	60.60 (59.30, 61.90)
Probit-transformed prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2)	-1.03 (-1.04, -1.03)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2)	0.31 (0.30, 0.32)
Mid-age of age group	0.20 (0.20, 0.21)
Male sex	-0.69 (-0.72, -0.66)
Study mid-year (per one more recent year since 1975)	0.0025 (0.0025, 0.0026)
Natural logarithm of per-capita gross domestic product	-0.0041 (-0.0065, -0.0018)
Inverse mean BMI * mid-age of age group	0.37 (0.28, 0.46)
Probit-transformed prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2) * mid-age of age group	0.079 (0.078, 0.080)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.049 (-0.050, -0.049)
Inverse mean BMI * male sex	9.49 (8.90, 10.10)
Probit-transformed prevalence (17 kg/m^2 ≤ BMI < 18.5 kg/m^2) * male sex	-0.24 (-0.25, -0.24)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	0.15 (0.14, 0.15)
Number of data points used to fit the model = 15,361	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.926.


(Intercept)
South Asia
North Africa and Middle East
South East Asia
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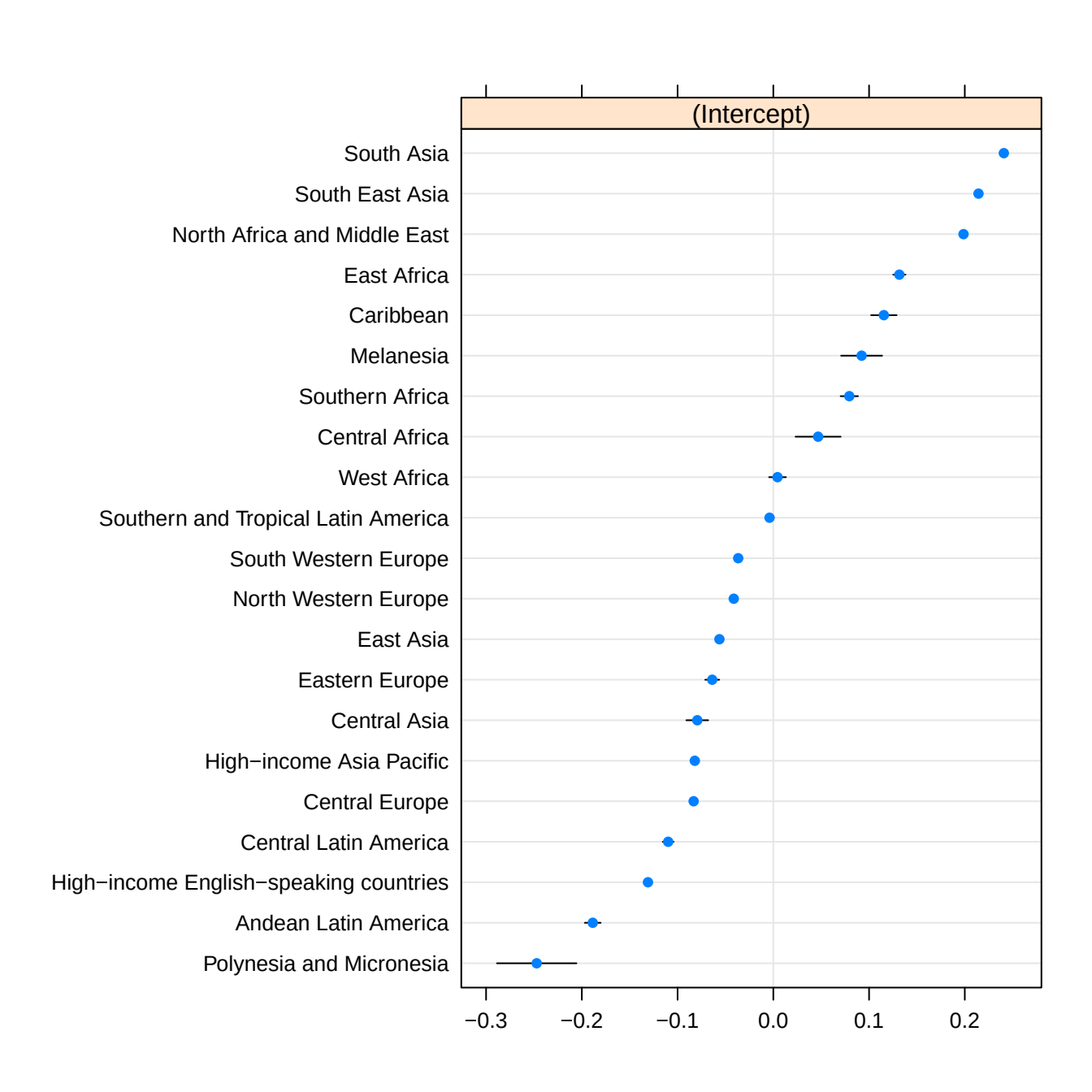
Melanesia
Caribbean
Southern Africa
West Africa
East Asia
Central Africa
Southern and Tropical Latin America
South Western Europe
Eastern Europe
Central Europe
High−income Asia Pacific
North Western Europe
Central Asia
Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.4
−0.3
−0.2
−0.1
0.0
0.1
0.2

Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI <18.5 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-11.50 (-11.50, -11.40)
Inverse mean BMI	167.00 (166.00, 169.00)
Probit-transformed prevalence (BMI <18.5 kg/m^2)	-0.79 (-0.80, -0.78)
Mid-age of age group	0.68 (0.68, 0.69)
Male sex	-2.33 (-2.36, -2.29)
Study mid-year (per one more recent year since 1975)	0.0025 (0.0024, 0.0026)
Natural logarithm of per-capita gross domestic product	-0.021 (-0.023, -0.019)
Inverse mean BMI * mid-age of age group	-10.10 (-10.20, -10.00)
Probit-transformed prevalence (BMI <18.5 kg/m^2) * mid-age of age group	0.093 (0.093, 0.094)
Inverse mean BMI * male sex	44.80 (44.10, 45.50)
Probit-transformed prevalence (BMI <18.5 kg/m^2) * male sex	-0.37 (-0.38, -0.37)
Number of data points used to fit the model = 17,842	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.908.


(Intercept)
South Asia
South East Asia
North Africa and Middle East
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Caribbean
Melanesia
Southern Africa
Central Africa
West Africa
Southern and Tropical Latin America
South Western Europe
North Western Europe
East Asia
Eastern Europe
Central Asia
High−income Asia Pacific
Central Europe
Central Latin America
High−income English−speaking countries
Andean Latin America
Polynesia and Micronesia
−0.3
−0.2
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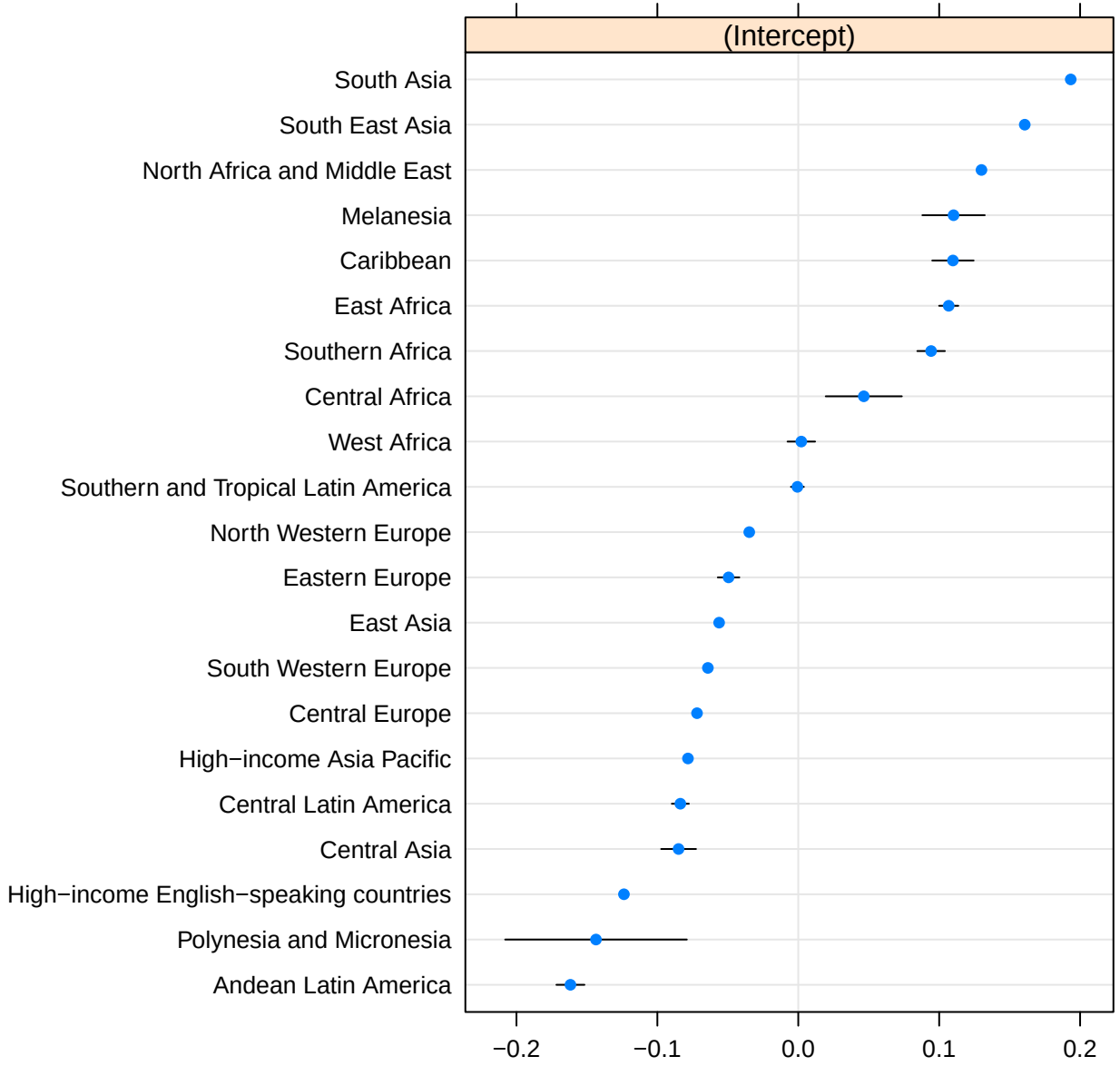
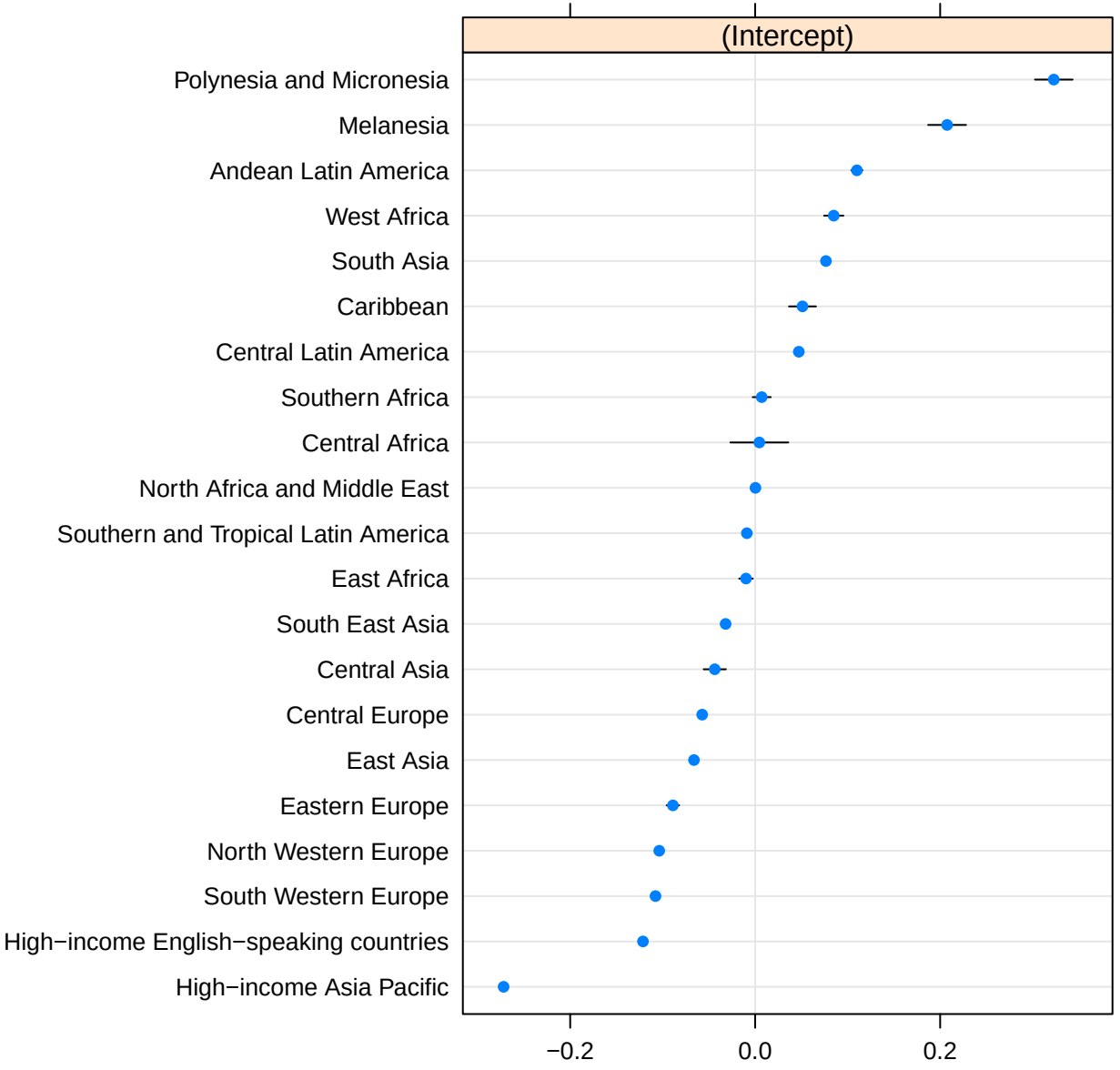
Dependent variable: Prevalence (BMI < -1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI <15 kg/m^2) and prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-3.79 (-3.88, -3.69)
Inverse mean BMI	31.80 (30.60, 33.00)
Probit-transformed prevalence (BMI <15 kg/m^2)	0.50 (0.48, 0.51)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2)	-0.55 (-0.55, -0.54)
Mid-age of age group	0.099 (0.094, 0.10)
Male sex	-1.24 (-1.27, -1.21)
Study mid-year (per one more recent year since 1975)	0.0024 (0.0024, 0.0025)
Natural logarithm of per-capita gross domestic product	-0.012 (-0.014, -0.0096)
Inverse mean BMI * mid-age of age group	0.79 (0.71, 0.87)
Probit-transformed prevalence (BMI <15 kg/m^2) * mid-age of age group	-0.017 (-0.018, -0.016)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * mid-age of age group	0.052 (0.052, 0.053)
Inverse mean BMI * male sex	20.00 (19.50, 20.50)
Probit-transformed prevalence (BMI <15 kg/m^2) * male sex	-0.12 (-0.12, -0.12)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * male sex	-0.11 (-0.12, -0.11)
Number of data points used to fit the model = 13,670	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.930.


(Intercept)
South Asia
South East Asia
North Africa and Middle East
Melanesia
Caribbean
East Africa
Southern Africa
Central Africa
West Africa
Southern and Tropical Latin America
North Western Europe
Eastern Europe
East Asia
South Western Europe
Central Europe
High−income Asia Pacific
Central Latin America
Central Asia
High−income English−speaking countries
Polynesia and Micronesia
Andean Latin America
−0.2
−0.1
0.0
0.1
0.2

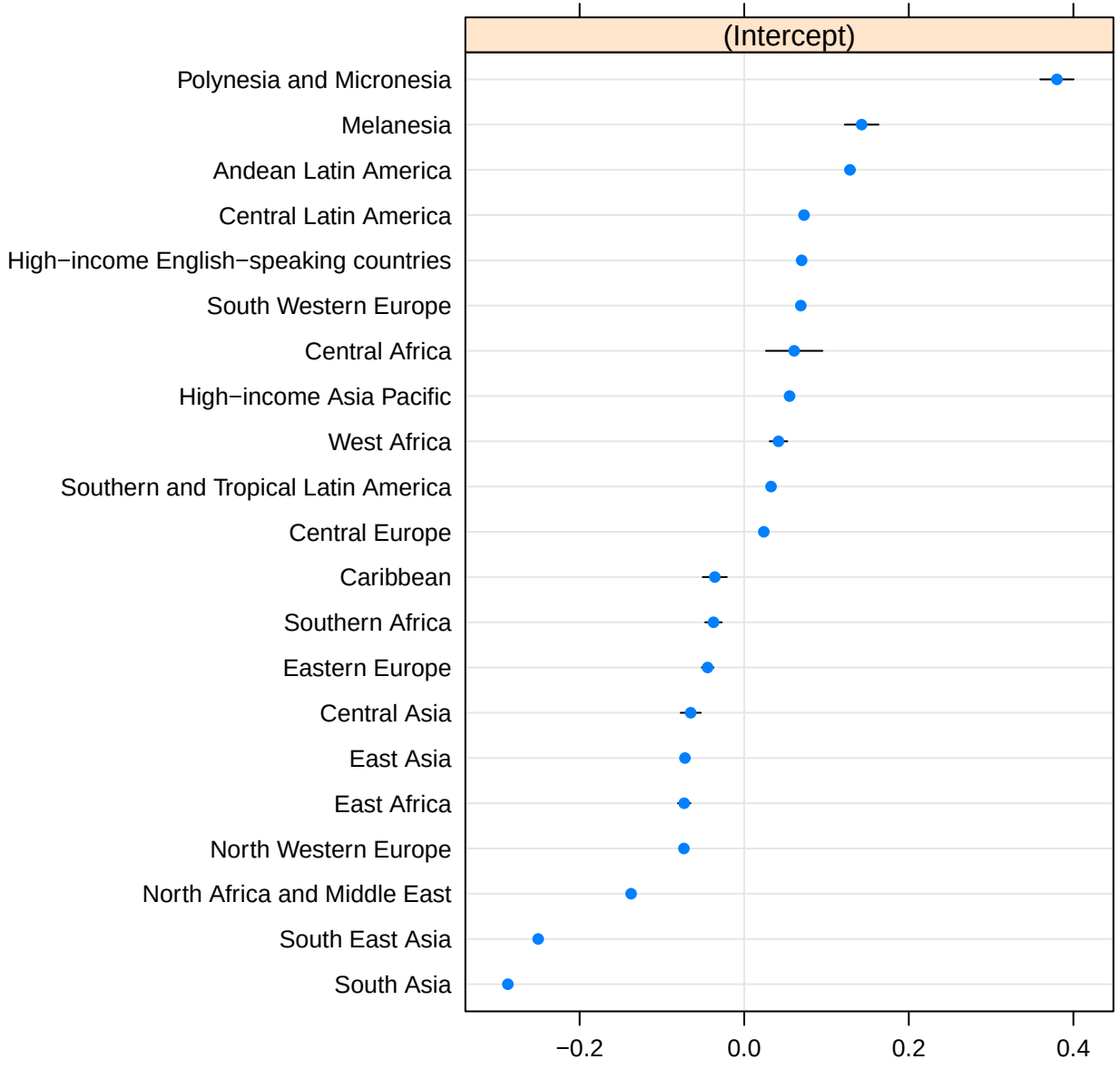
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	6.60 (6.54, 6.66)
Inverse mean BMI	-123.00 (-123.00, -123.00)
Mid-age of age group	-0.32 (-0.33, -0.32)
Male sex	0.44 (0.43, 0.44)
Study mid-year (per one more recent year since 1975)	0.0038 (0.0038, 0.0039)
Natural logarithm of per-capita gross domestic product	0.11 (0.11, 0.11)
Inverse mean BMI * mid-age of age group	2.97 (2.95, 2.99)
Inverse mean BMI * male sex	-5.76 (-5.89, -5.63)
Number of data points used to fit the model = 19,367	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.854.


(Intercept)
Polynesia and Micronesia
Melanesia
Andean Latin America
West Africa
South Asia
Caribbean
Central Latin America
Southern Africa
Central Africa
North Africa and Middle East
Southern and Tropical Latin America
East Africa
South East Asia
Central Asia
Central Europe
East Asia
Eastern Europe
North Western Europe
South Western Europe
High−income English−speaking countries
High−income Asia Pacific
−0.2
0.0
0.2

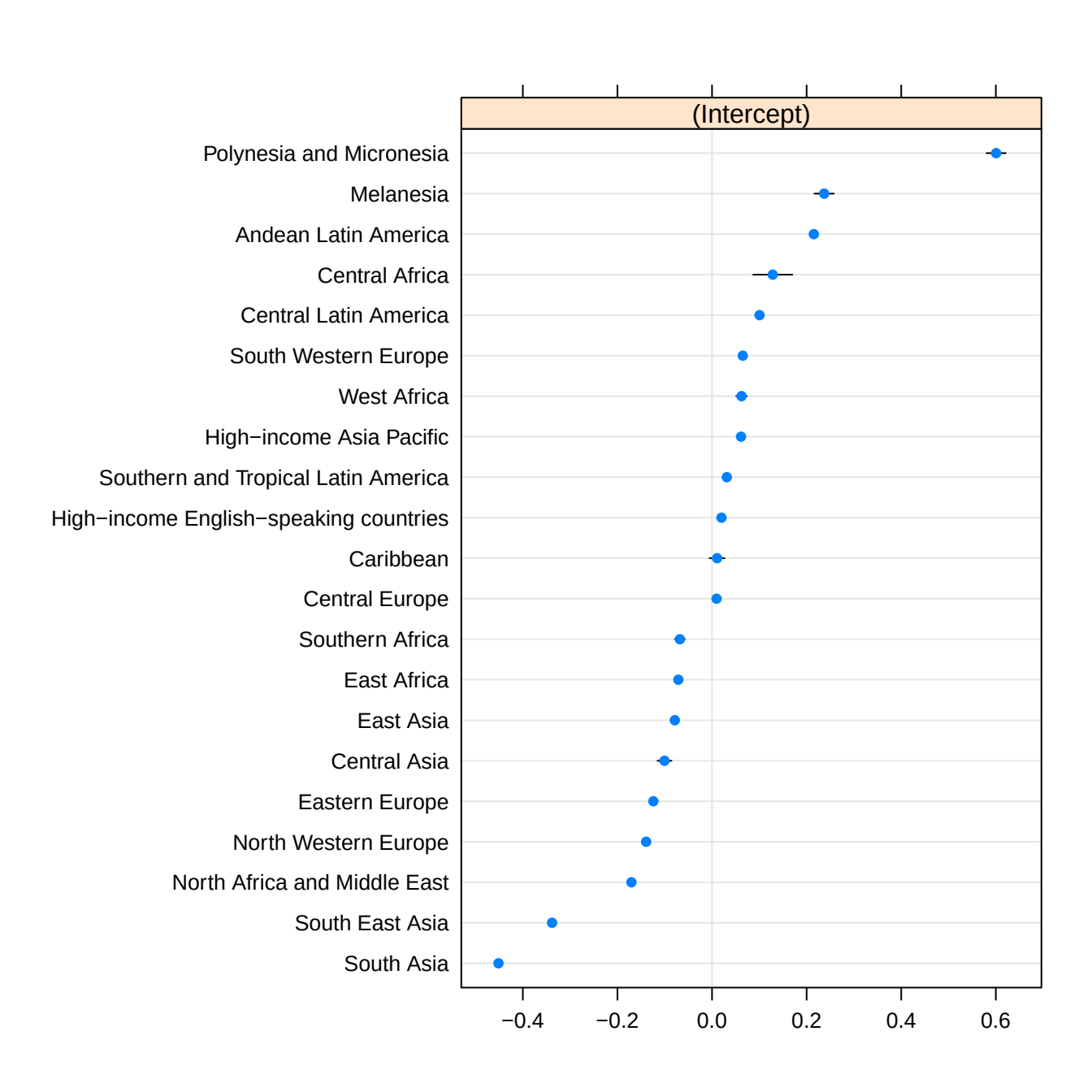
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.52 (0.46, 0.58)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	0.58 (0.57, 0.58)
Mid-age of age group	-0.11 (-0.11, -0.11)
Male sex	0.16 (0.16, 0.17)
Study mid-year (per one more recent year since 1975)	0.0017 (0.0016, 0.0018)
Natural logarithm of per-capita gross domestic product	0.095 (0.093, 0.097)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	0.0029 (0.0026, 0.0031)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.052 (0.050, 0.053)
Number of data points used to fit the model = 16,041	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.871.


(Intercept)
Polynesia and Micronesia
Melanesia
Andean Latin America
Central Latin America
High−income English−speaking countries
South Western Europe
Central Africa
High−income Asia Pacific
West Africa
Southern and Tropical Latin America
Central Europe
Caribbean
Southern Africa
Eastern Europe
Central Asia
East Asia
East Africa
North Western Europe
North Africa and Middle East
South East Asia
South Asia
−0.2
0.0
0.2
0.4

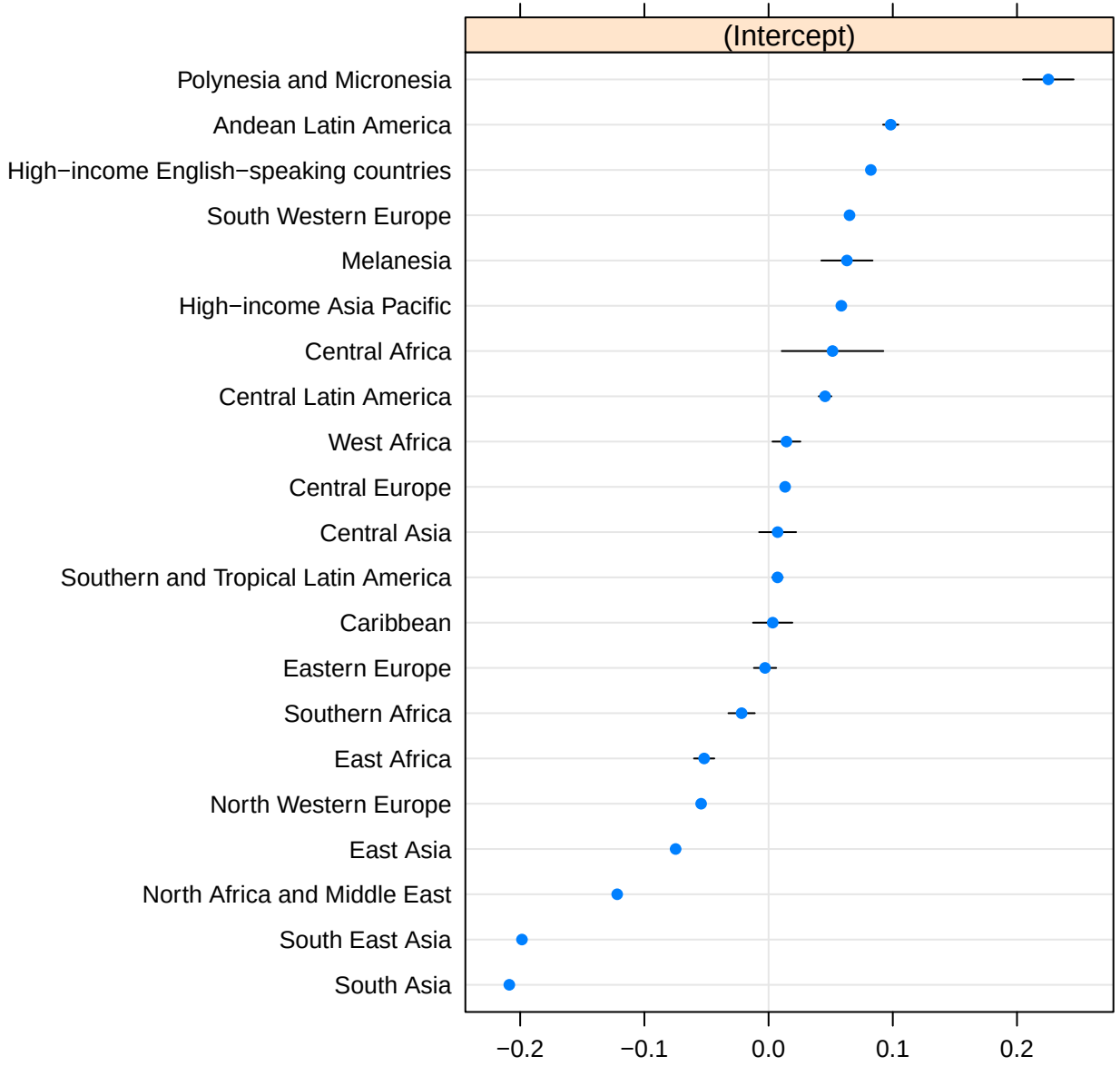
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.067 (-0.026, 0.16)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	0.62 (0.61, 0.62)
Mid-age of age group	-0.12 (-0.12, -0.12)
Male sex	0.19 (0.18, 0.19)
Study mid-year (per one more recent year since 1975)	0.0020 (0.0020, 0.0021)
Natural logarithm of per-capita gross domestic product	0.17 (0.17, 0.17)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	-0.014 (-0.014, -0.014)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.039 (0.038, 0.041)
Number of data points used to fit the model = 11,771	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.830.


(Intercept)
Polynesia and Micronesia
Melanesia
Andean Latin America
Central Africa
Central Latin America
South Western Europe
West Africa
High−income Asia Pacific
Southern and Tropical Latin America
High−income English−speaking countries
Caribbean
Central Europe
Southern Africa
East Africa
East Asia
Central Asia
Eastern Europe
North Western Europe
North Africa and Middle East
South East Asia
South Asia
−0.4
−0.2
0.0
0.2
0.4
0.6

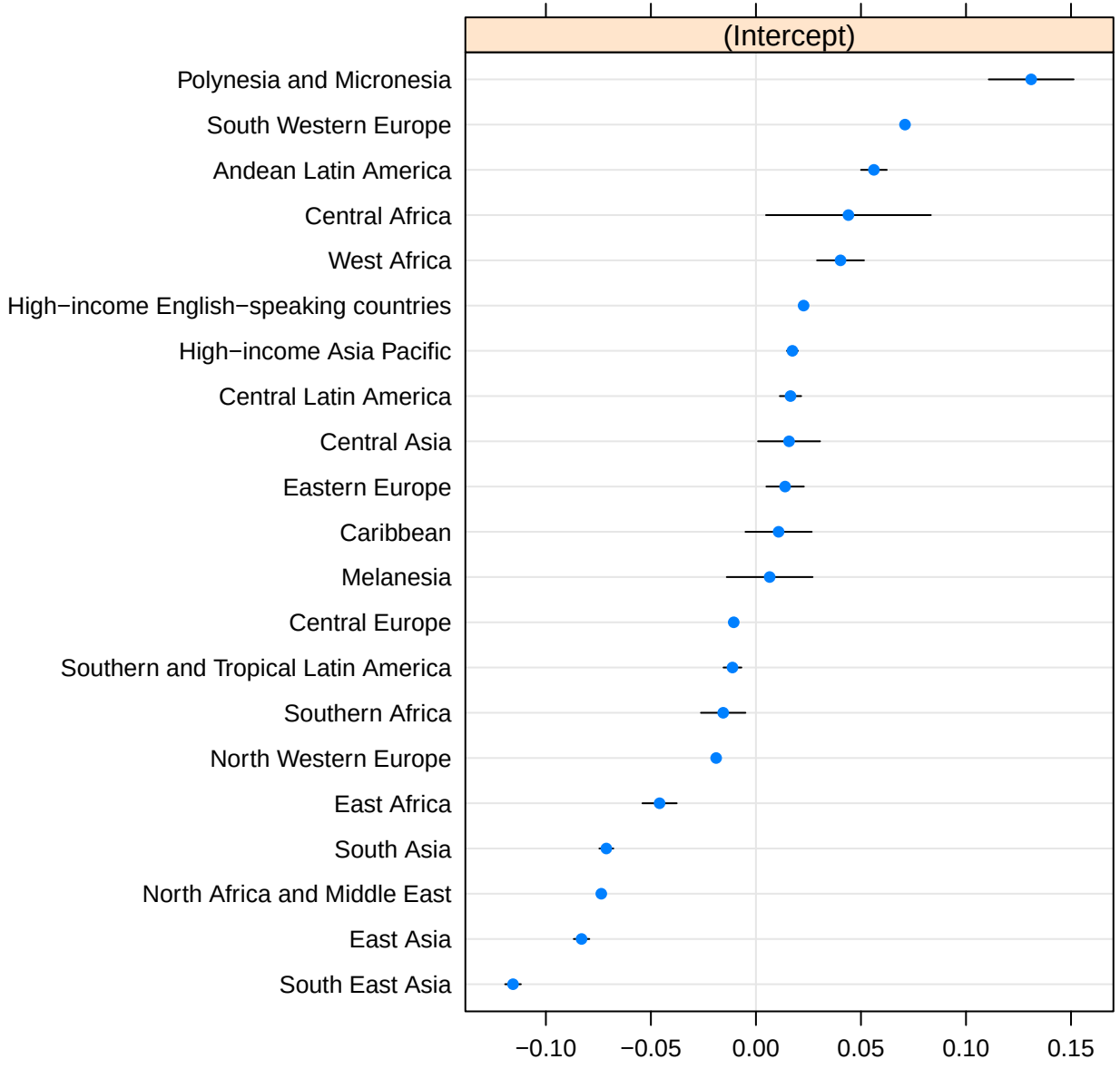
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.62 (0.57, 0.67)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	1.51 (1.49, 1.52)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	-0.89 (-0.90, -0.88)
Mid-age of age group	-0.064 (-0.065, -0.064)
Male sex	0.096 (0.089, 0.10)
Study mid-year (per one more recent year since 1975)	-7.9e-05 (-0.00016, 2.9e-07)
Natural logarithm of per-capita gross domestic product	0.040 (0.038, 0.043)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.047 (-0.048, -0.046)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	0.058 (0.057, 0.059)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.0049 (-0.0025, 0.012)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	-0.0018 (-0.0092, 0.0056)
Number of data points used to fit the model = 11,538	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.901.


(Intercept)
Polynesia and Micronesia
Andean Latin America
High−income English−speaking countries
South Western Europe
Melanesia
High−income Asia Pacific
Central Africa
Central Latin America
West Africa
Central Europe
Central Asia
Southern and Tropical Latin America
Caribbean
Eastern Europe
Southern Africa
East Africa
North Western Europe
East Asia
North Africa and Middle East
South East Asia
South Asia
−0.2
−0.1
0.0
0.1
0.2

Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI ≥25 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	5.15 (5.09, 5.20)
Inverse mean BMI	-94.00 (-94.90, -93.20)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	0.41 (0.40, 0.43)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	-0.48 (-0.50, -0.47)
Mid-age of age group	-0.36 (-0.37, -0.36)
Male sex	0.086 (0.064, 0.11)
Study mid-year (per one more recent year since 1975)	0.00018 (9.4e-05, 0.00026)
Natural logarithm of per-capita gross domestic product	0.024 (0.021, 0.026)
Inverse mean BMI * mid-age of age group	6.42 (6.34, 6.51)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	0.040 (0.039, 0.042)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	0.021 (0.020, 0.022)
Inverse mean BMI * male sex	0.51 (-0.0064, 1.02)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.027 (0.017, 0.036)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	-0.011 (-0.019, -0.0035)
Number of data points used to fit the model = 11,538	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.926.


(Intercept)
Polynesia and Micronesia
South Western Europe
Andean Latin America
Central Africa
West Africa
High−income English−speaking countries
High−income Asia Pacific
Central Latin America
Central Asia
Eastern Europe
Caribbean
Melanesia
Central Europe
Southern and Tropical Latin America
Southern Africa
North Western Europe
East Africa
South Asia
North Africa and Middle East
East Asia
South East Asia
−0.10
−0.05
0.00
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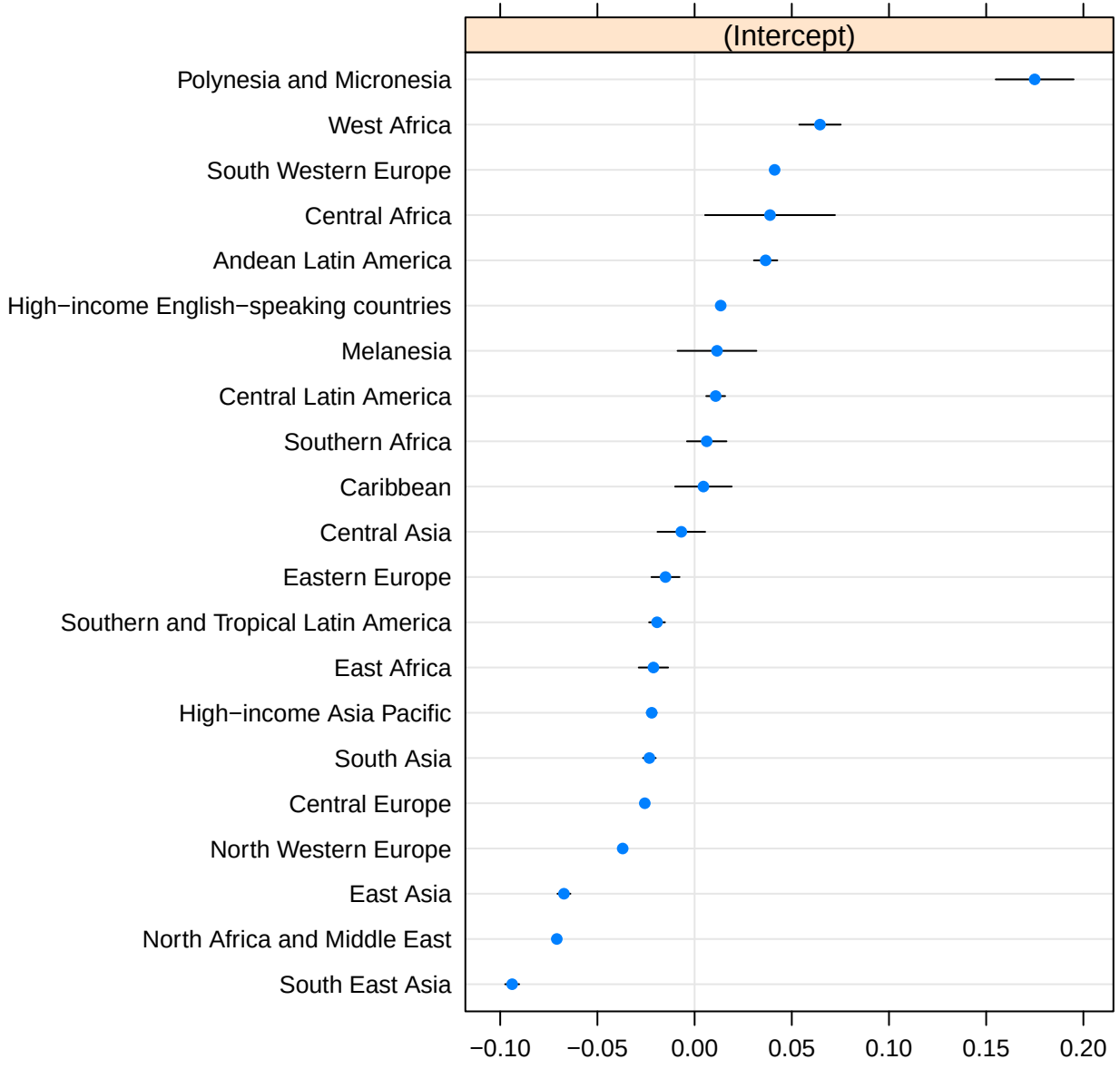
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) and prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	2.55 (2.49, 2.61)
Inverse mean BMI	-35.20 (-36.20, -34.20)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	0.96 (0.95, 0.98)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2)	-0.38 (-0.39, -0.38)
Mid-age of age group	-0.095 (-0.098, -0.091)
Male sex	0.45 (0.42, 0.48)
Study mid-year (per one more recent year since 1975)	0.00034 (0.00026, 0.00041)
Natural logarithm of per-capita gross domestic product	0.042 (0.040, 0.044)
Inverse mean BMI * mid-age of age group	0.34 (0.25, 0.44)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.066 (-0.067, -0.065)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) * mid-age of age group	0.073 (0.072, 0.074)
Inverse mean BMI * male sex	-7.70 (-8.32, -7.08)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	-0.058 (-0.064, -0.052)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) * male sex	-0.019 (-0.024, -0.014)
Number of data points used to fit the model = 15,791	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.922.


(Intercept)
Polynesia and Micronesia
West Africa
South Western Europe
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Andean Latin America
High−income English−speaking countries
Melanesia
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North Western Europe
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North Africa and Middle East
South East Asia
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0.05
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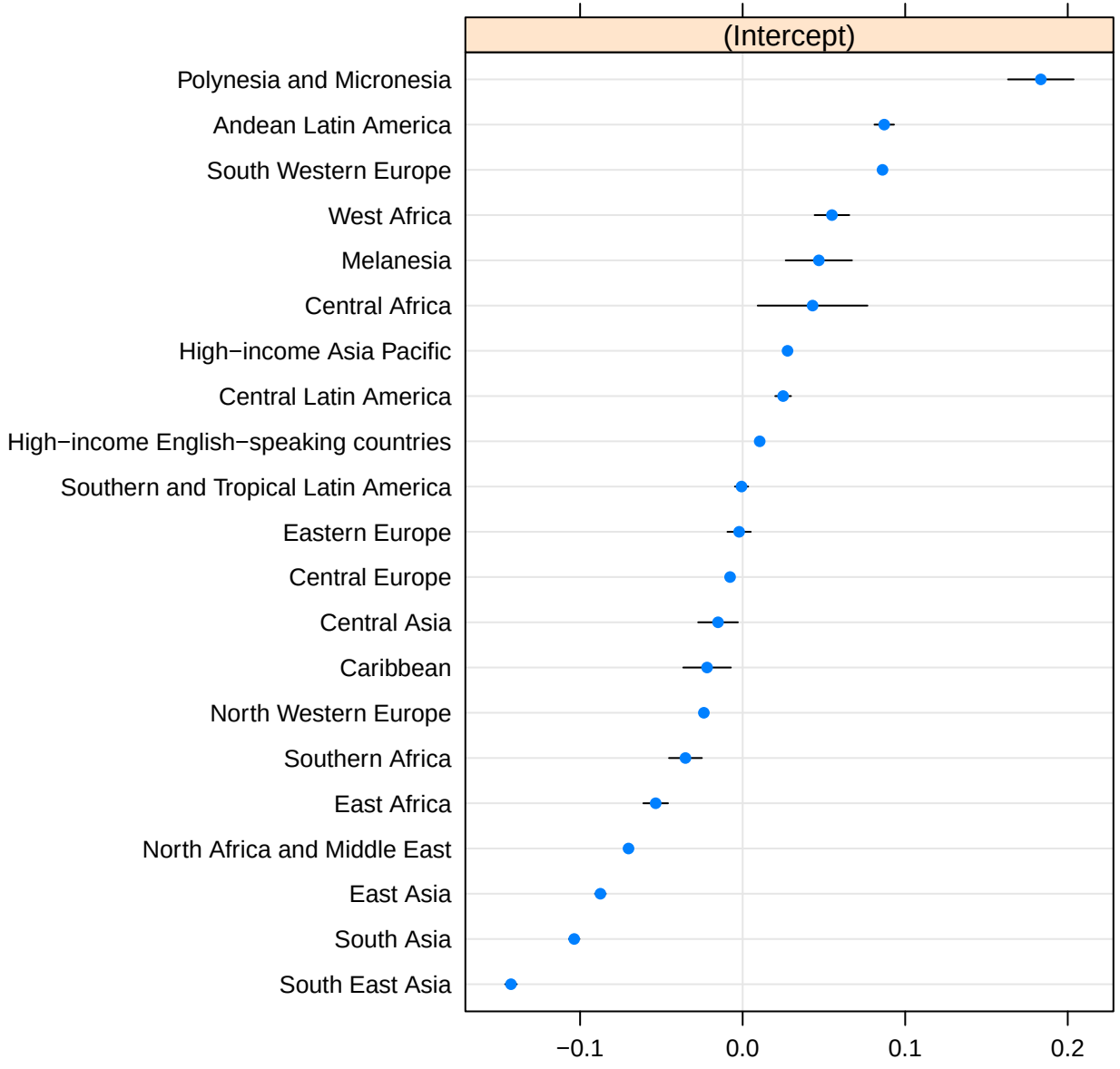
0.15
0.20

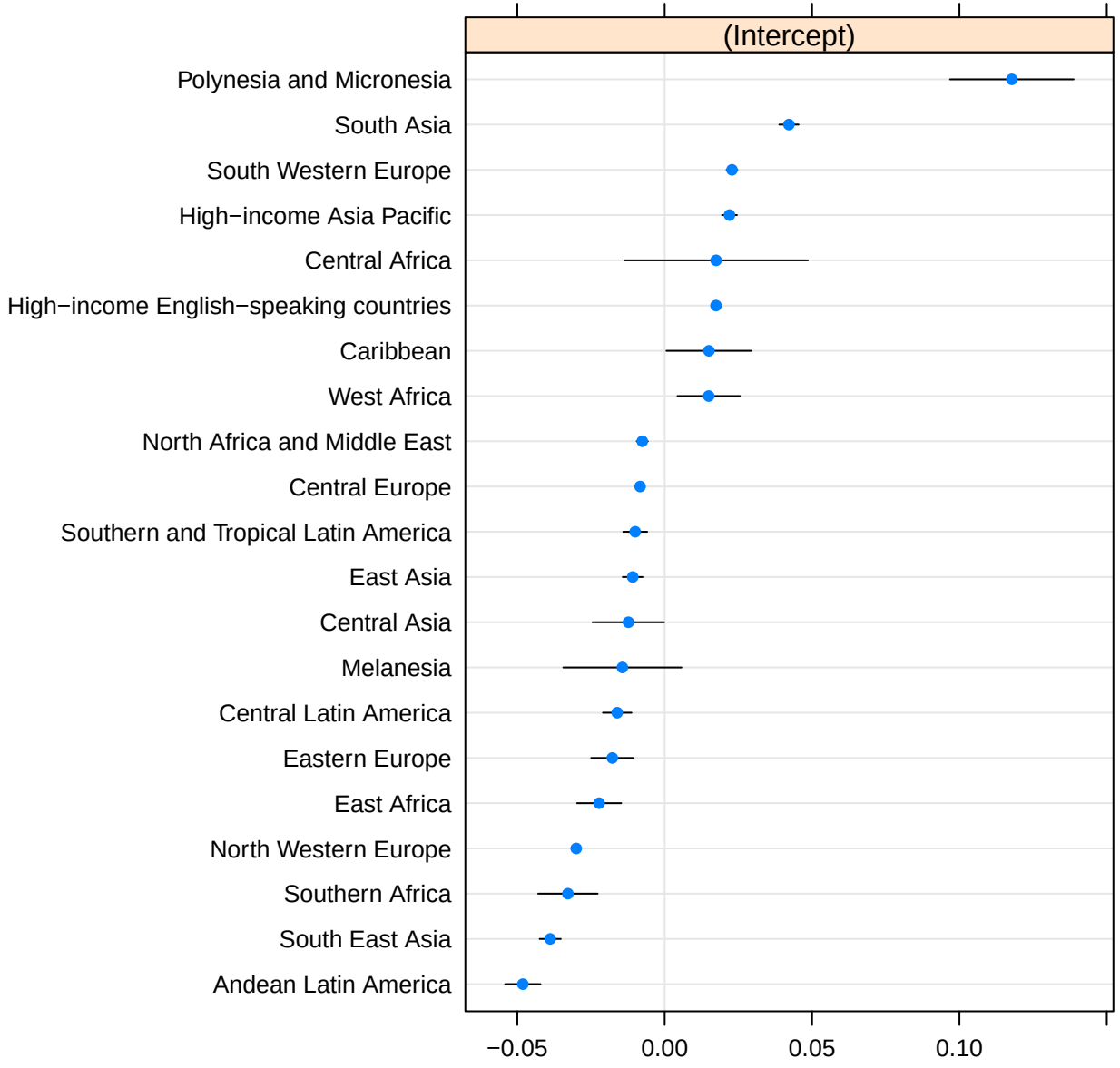
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	5.83 (5.78, 5.88)
Inverse mean BMI	-105.00 (-105.00, -104.00)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	-0.11 (-0.12, -0.11)
Mid-age of age group	-0.40 (-0.41, -0.40)
Male sex	0.10 (0.082, 0.12)
Study mid-year (per one more recent year since 1975)	0.00018 (0.00010, 0.00026)
Natural logarithm of per-capita gross domestic product	0.045 (0.042, 0.047)
Inverse mean BMI * mid-age of age group	6.73 (6.66, 6.81)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	0.057 (0.056, 0.058)
Inverse mean BMI * male sex	1.13 (0.68, 1.59)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.040 (0.035, 0.044)
Number of data points used to fit the model = 16,041	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.914.


(Intercept)
Polynesia and Micronesia
Andean Latin America
South Western Europe
West Africa
Melanesia
Central Africa
High−income Asia Pacific
Central Latin America
High−income English−speaking countries
Southern and Tropical Latin America
Eastern Europe
Central Europe
Central Asia
Caribbean
North Western Europe
Southern Africa
East Africa
North Africa and Middle East
East Asia
South Asia
South East Asia
−0.1
0.0
0.1
0.2

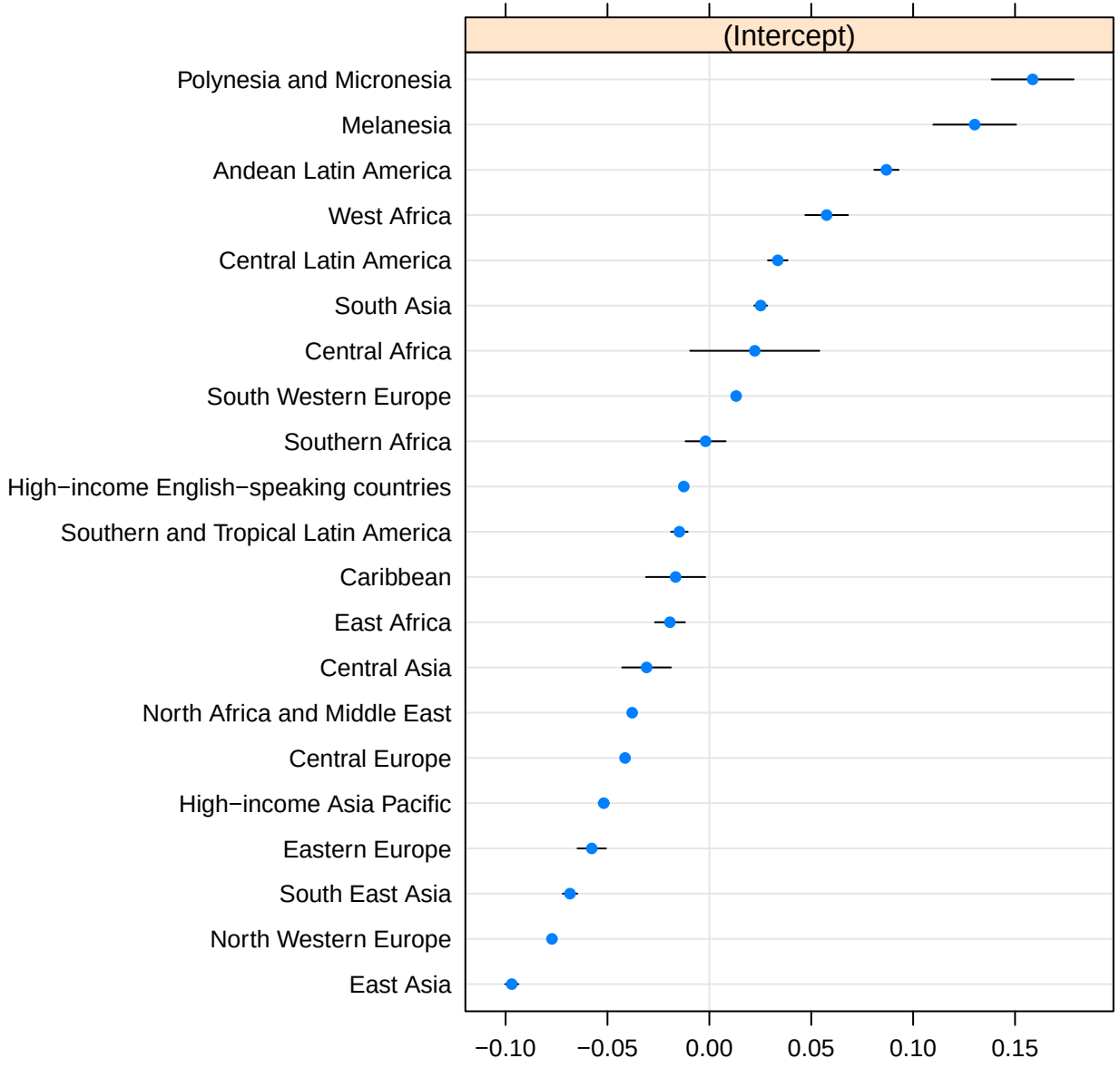
Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2), prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2), prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) and prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	3.06 (2.99, 3.13)
Inverse mean BMI	-22.60 (-23.90, -21.30)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2)	0.34 (0.33, 0.35)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2)	0.49 (0.47, 0.52)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	0.88 (0.86, 0.89)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	-0.23 (-0.24, -0.22)
Mid-age of age group	-0.20 (-0.21, -0.19)
Male sex	0.68 (0.65, 0.71)
Study mid-year (per one more recent year since 1975)	0.00049 (0.00041, 0.00056)
Natural logarithm of per-capita gross domestic product	0.018 (0.016, 0.020)
Inverse mean BMI * mid-age of age group	0.84 (0.70, 0.97)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * mid-age of age group	-0.019 (-0.020, -0.018)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2) * mid-age of age group	-0.053 (-0.055, -0.052)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.034 (-0.035, -0.033)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	0.059 (0.058, 0.060)
Inverse mean BMI * male sex	-7.31 (-7.97, -6.65)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * male sex	0.031 (0.026, 0.036)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2) * male sex	0.26 (0.25, 0.27)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	-0.20 (-0.21, -0.19)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.026 (0.021, 0.030)
Number of data points used to fit the model = 15,848	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.940.


(Intercept)
Polynesia and Micronesia
South Asia
South Western Europe
High−income Asia Pacific
Central Africa
High−income English−speaking countries
Caribbean
West Africa
North Africa and Middle East
Central Europe
Southern and Tropical Latin America
East Asia
Central Asia
Melanesia
Central Latin America
Eastern Europe
East Africa
North Western Europe
Southern Africa
South East Asia
Andean Latin America
−0.05
0.00
0.05
0.10

Dependent variable: Prevalence (BMI > +1SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	1.43 (1.37, 1.48)
Inverse mean BMI	-5.74 (-6.64, -4.84)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	1.05 (1.04, 1.06)
Mid-age of age group	0.10 (0.10, 0.11)
Male sex	0.38 (0.36, 0.41)
Study mid-year (per one more recent year since 1975)	0.0024 (0.0023, 0.0024)
Natural logarithm of per-capita gross domestic product	0.081 (0.079, 0.083)
Inverse mean BMI * mid-age of age group	-6.18 (-6.25, -6.11)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.077 (-0.078, -0.076)
Inverse mean BMI * male sex	-4.97 (-5.53, -4.42)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	-0.025 (-0.030, -0.020)
Number of data points used to fit the model = 17,704	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.901.


(Intercept)
Polynesia and Micronesia
Melanesia
Andean Latin America
West Africa
Central Latin America
South Asia
Central Africa
South Western Europe
Southern Africa
High−income English−speaking countries
Southern and Tropical Latin America
Caribbean
East Africa
Central Asia
North Africa and Middle East
Central Europe
High−income Asia Pacific
Eastern Europe
South East Asia
North Western Europe
East Asia
−0.10
−0.05
0.00
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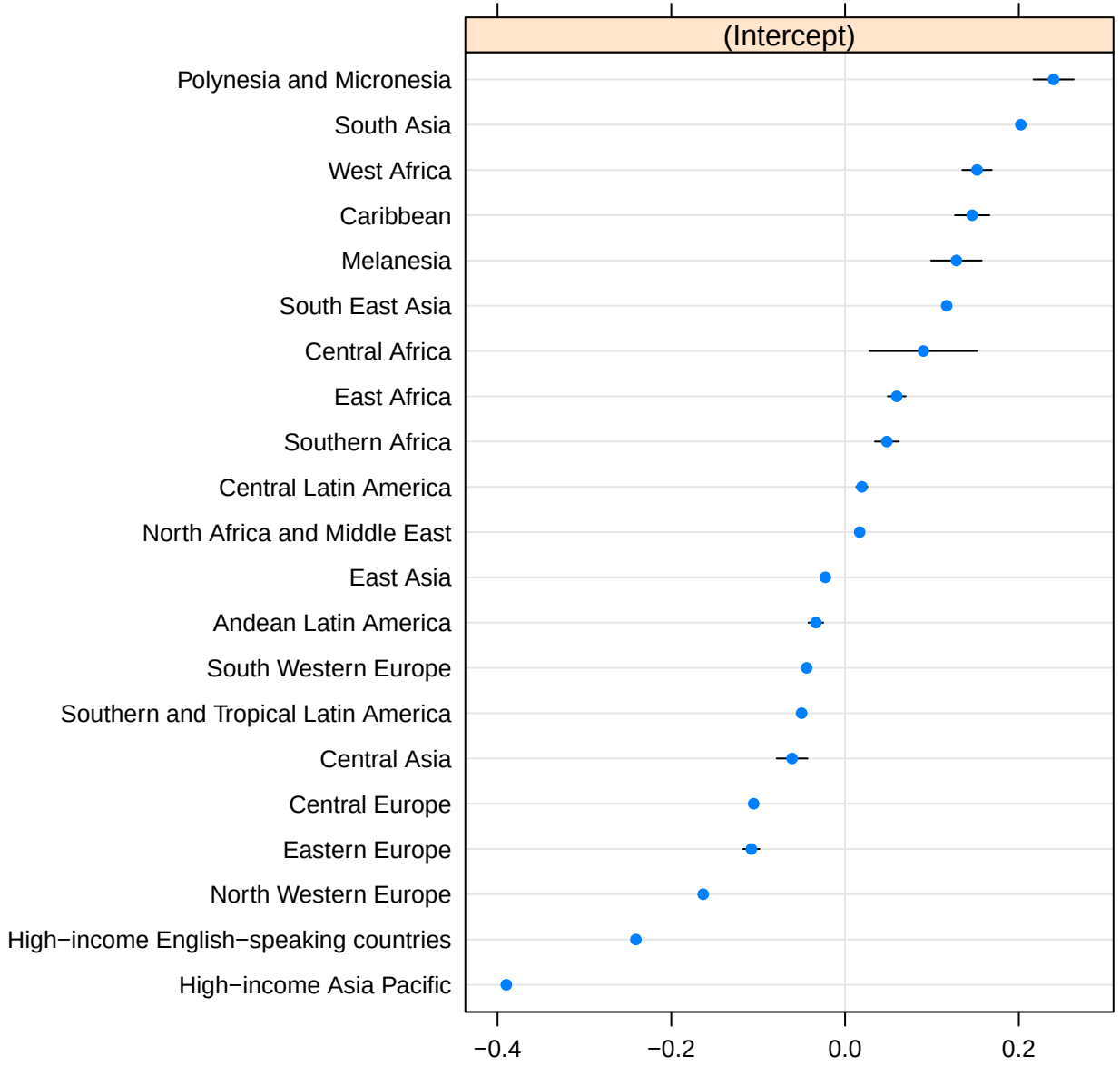
0.10
0.15

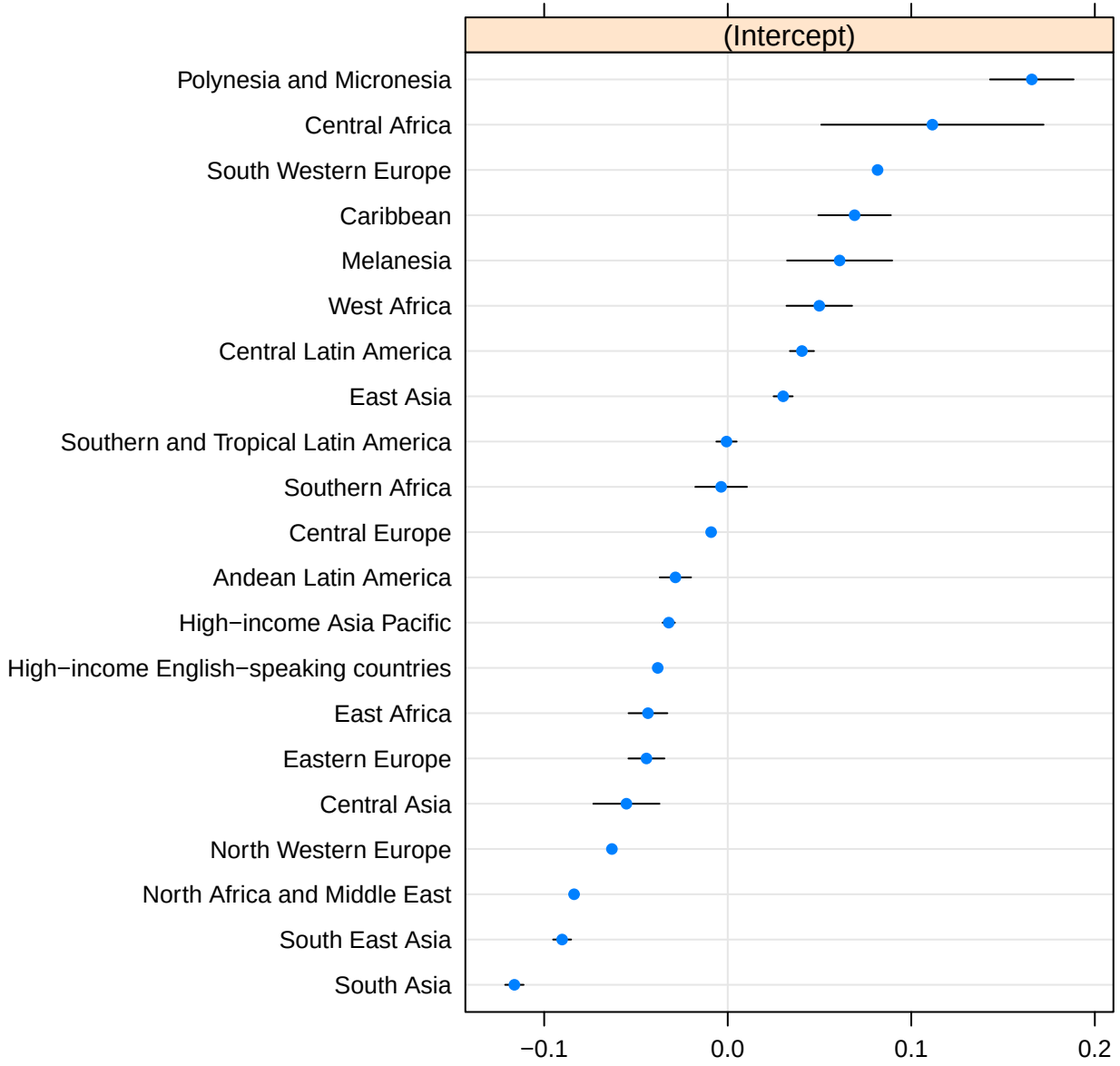
Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	5.26 (5.18, 5.34)
Inverse mean BMI	-123.00 (-124.00, -123.00)
Mid-age of age group	-0.35 (-0.35, -0.35)
Male sex	0.58 (0.57, 0.59)
Study mid-year (per one more recent year since 1975)	0.0076 (0.0075, 0.0077)
Natural logarithm of per-capita gross domestic product	0.15 (0.15, 0.15)
Inverse mean BMI * mid-age of age group	3.62 (3.60, 3.65)
Inverse mean BMI * male sex	-6.58 (-6.77, -6.40)
Number of data points used to fit the model = 17,885	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.785.


(Intercept)
Polynesia and Micronesia
South Asia
West Africa
Caribbean
Melanesia
South East Asia
Central Africa
East Africa
Southern Africa
Central Latin America
North Africa and Middle East
East Asia
Andean Latin America
South Western Europe
Southern and Tropical Latin America
Central Asia
Central Europe
Eastern Europe
North Western Europe
High−income English−speaking countries
High−income Asia Pacific
−0.4
−0.2
0.0
0.2

Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.079 (0.034, 0.12)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	0.71 (0.70, 0.71)
Mid-age of age group	-0.14 (-0.14, -0.14)
Male sex	0.27 (0.27, 0.27)
Study mid-year (per one more recent year since 1975)	0.0040 (0.0039, 0.0041)
Natural logarithm of per-capita gross domestic product	0.10 (0.10, 0.11)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	0.0013 (0.00096, 0.0016)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.059 (0.057, 0.061)
Number of data points used to fit the model = 15,139	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.866.


(Intercept)
Polynesia and Micronesia
Central Africa
South Western Europe
Caribbean
Melanesia
West Africa
Central Latin America
East Asia
Southern and Tropical Latin America
Southern Africa
Central Europe
Andean Latin America
High−income Asia Pacific
High−income English−speaking countries
East Africa
Eastern Europe
Central Asia
North Western Europe
North Africa and Middle East
South East Asia
South Asia
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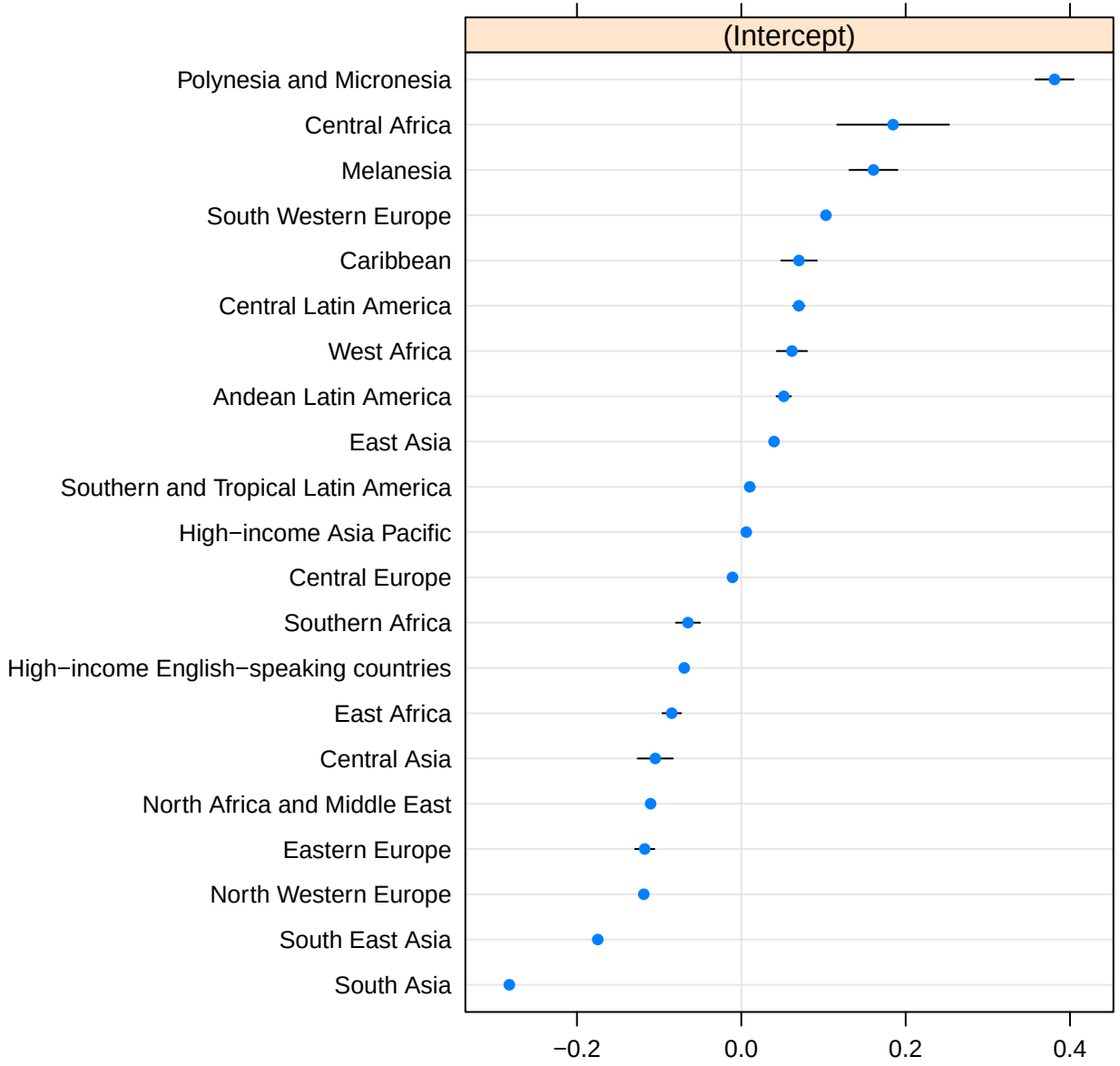
Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-0.29 (-0.36, -0.22)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	0.74 (0.74, 0.75)
Mid-age of age group	-0.15 (-0.15, -0.14)
Male sex	0.28 (0.28, 0.29)
Study mid-year (per one more recent year since 1975)	0.0033 (0.0032, 0.0034)
Natural logarithm of per-capita gross domestic product	0.18 (0.18, 0.19)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	-0.014 (-0.014, -0.014)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.041 (0.039, 0.043)
Number of data points used to fit the model = 11,771	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.835.


(Intercept)
Polynesia and Micronesia
Central Africa
Melanesia
South Western Europe
Caribbean
Central Latin America
West Africa
Andean Latin America
East Asia
Southern and Tropical Latin America
High−income Asia Pacific
Central Europe
Southern Africa
High−income English−speaking countries
East Africa
Central Asia
North Africa and Middle East
Eastern Europe
North Western Europe
South East Asia
South Asia
−0.2
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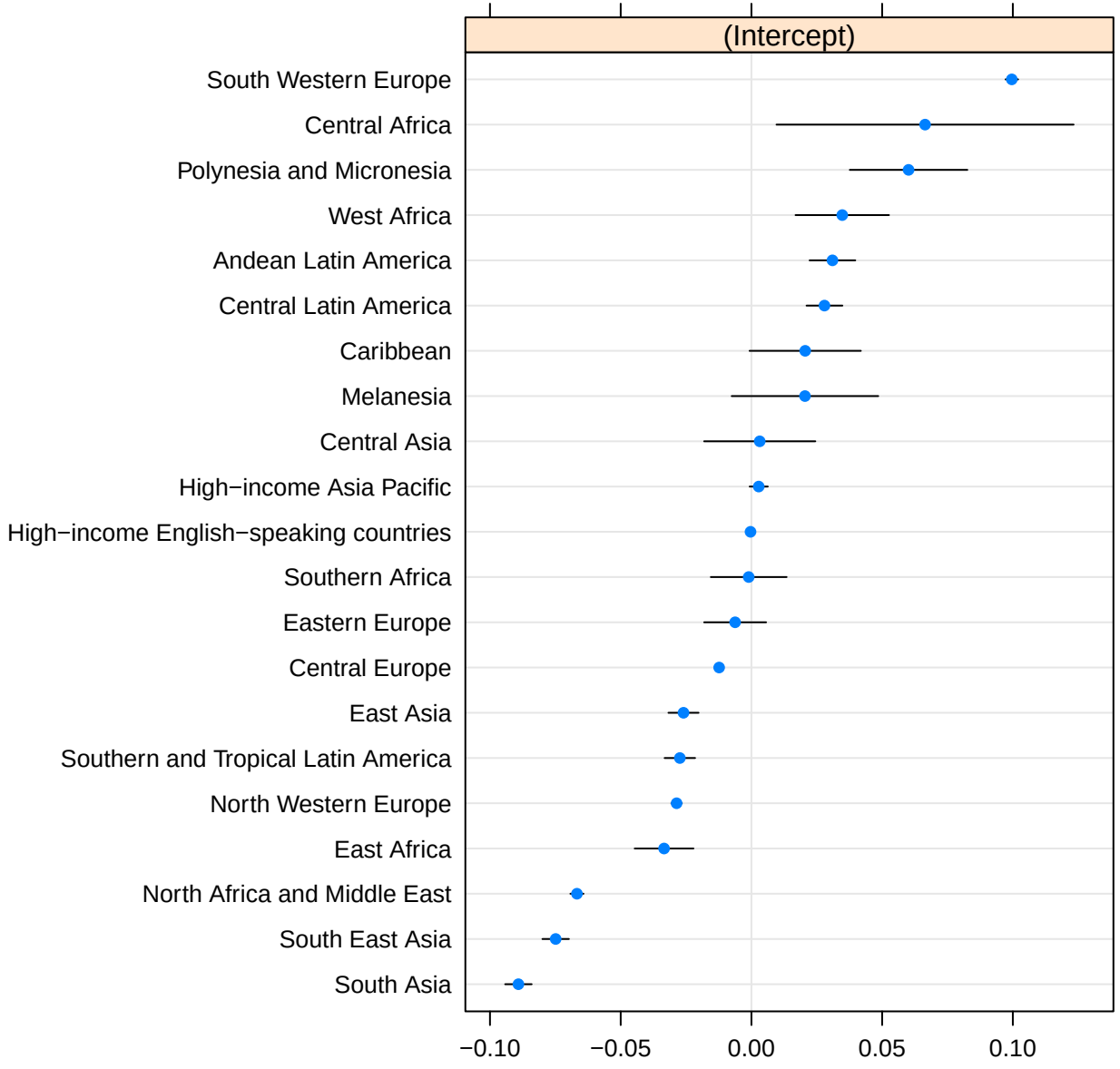
0.4

Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Prevalence (BMI ≥25 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-0.0071 (-0.050, 0.036)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	1.92 (1.90, 1.93)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	-1.18 (-1.19, -1.16)
Mid-age of age group	-0.045 (-0.046, -0.043)
Male sex	0.10 (0.096, 0.11)
Study mid-year (per one more recent year since 1975)	0.00096 (0.00085, 0.0011)
Natural logarithm of per-capita gross domestic product	0.043 (0.040, 0.046)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.11 (-0.11, -0.10)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	0.12 (0.11, 0.12)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.17 (0.16, 0.18)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	-0.15 (-0.16, -0.14)
Number of data points used to fit the model = 11,538	

Traditional R2 is not clearly defined for mixed-effect models. The conditional R2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.907.


(Intercept)
South Western Europe
Central Africa
Polynesia and Micronesia
West Africa
Andean Latin America
Central Latin America
Caribbean
Melanesia
Central Asia
High−income Asia Pacific
High−income English−speaking countries
Southern Africa
Eastern Europe
Central Europe
East Asia
Southern and Tropical Latin America
North Western Europe
East Africa
North Africa and Middle East
South East Asia
South Asia
−0.10
−0.05
0.00
0.05
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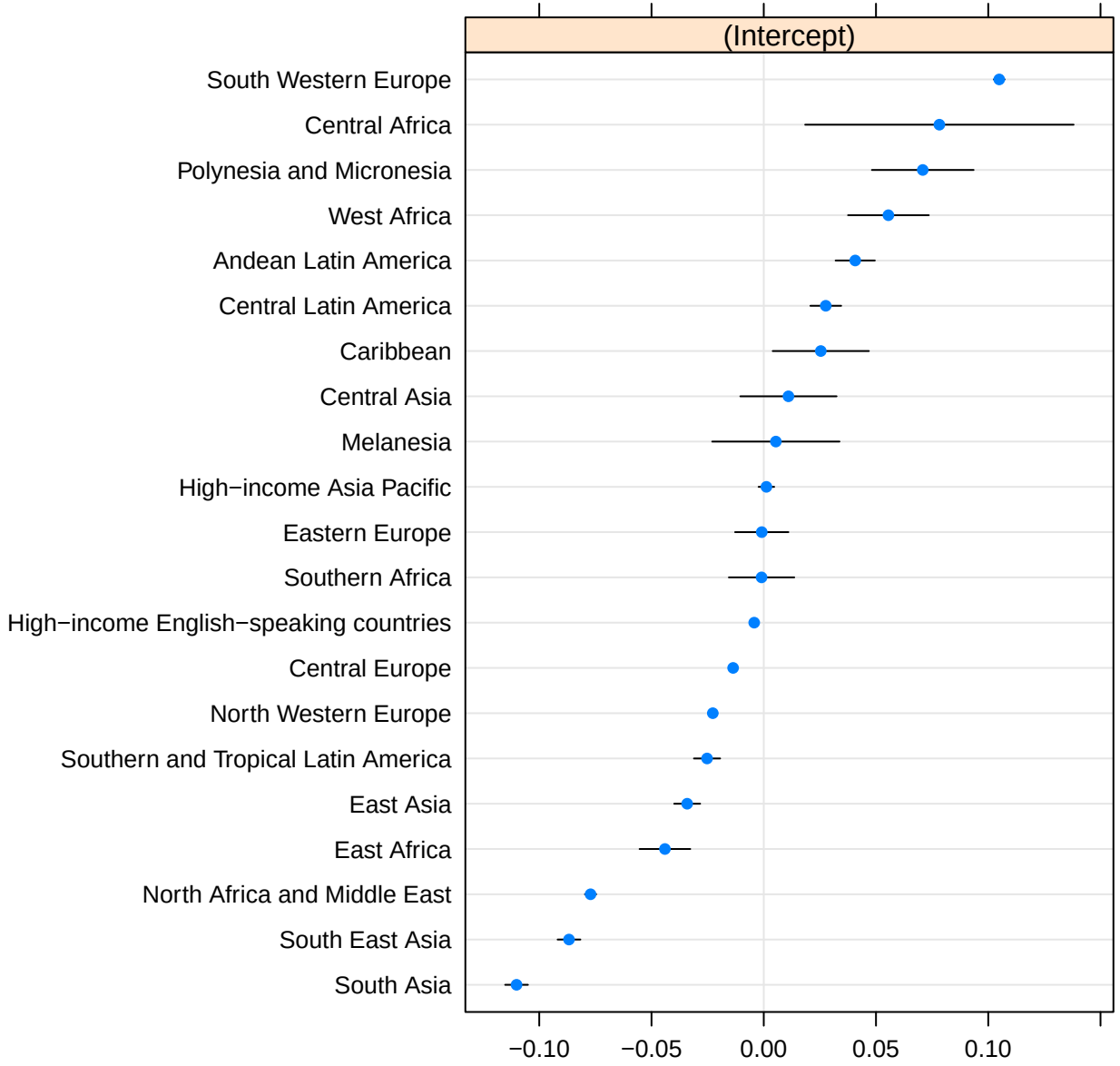
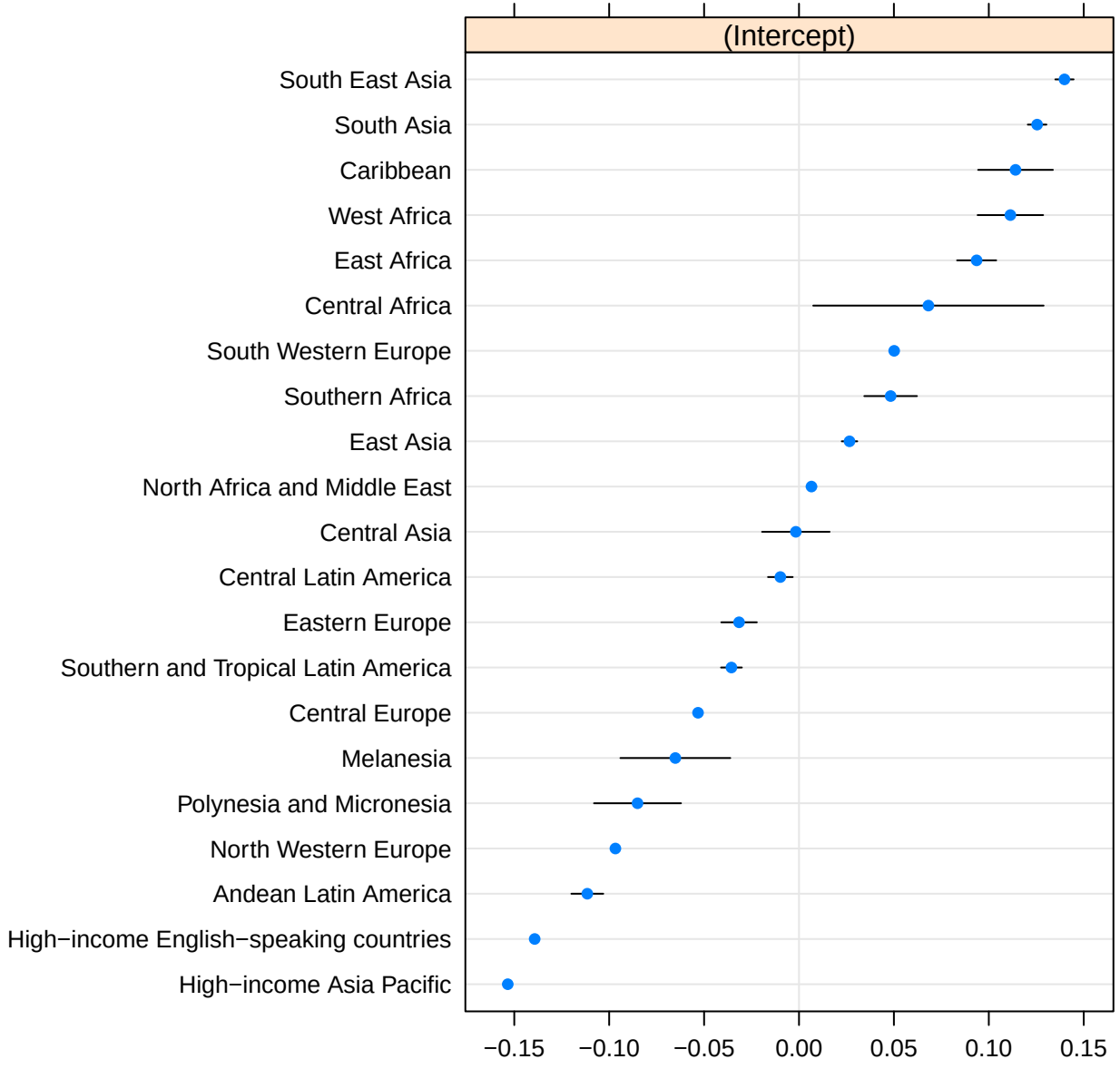
Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (BMI ≥25 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	0.53 (0.46, 0.60)
Inverse mean BMI	-18.00 (-19.20, -16.90)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	1.63 (1.61, 1.66)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	-1.10 (-1.12, -1.09)
Mid-age of age group	-0.13 (-0.13, -0.12)
Male sex	-0.14 (-0.17, -0.11)
Study mid-year (per one more recent year since 1975)	0.00033 (0.00022, 0.00044)
Natural logarithm of per-capita gross domestic product	0.050 (0.046, 0.053)
Inverse mean BMI * mid-age of age group	2.38 (2.25, 2.50)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	-0.078 (-0.080, -0.076)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	0.11 (0.11, 0.11)
Inverse mean BMI * male sex	5.67 (4.95, 6.39)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.24 (0.23, 0.26)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	-0.17 (-0.18, -0.16)
Number of data points used to fit the model = 11,538	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.908.


(Intercept)
South Western Europe
Central Africa
Polynesia and Micronesia
West Africa
Andean Latin America
Central Latin America
Caribbean
Central Asia
Melanesia
High−income Asia Pacific
Eastern Europe
Southern Africa
High−income English−speaking countries
Central Europe
North Western Europe
Southern and Tropical Latin America
East Asia
East Africa
North Africa and Middle East
South East Asia
South Asia
−0.10
−0.05
0.00
0.05
0.10

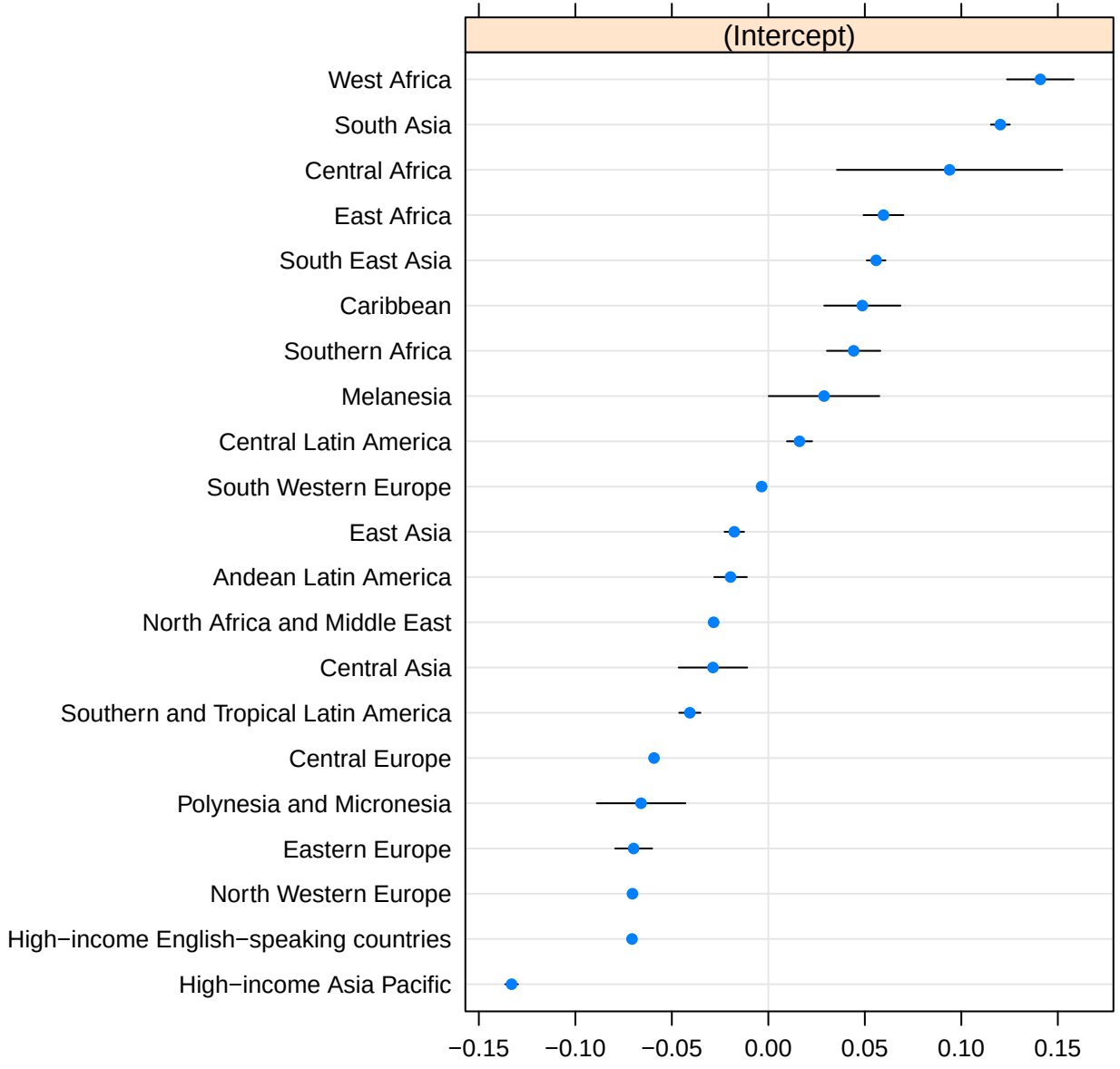
Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI > +1SD)	
Variables	**Coefficients (95% CI)**
Intercept	-2.42 (-2.49, -2.36)
Inverse mean BMI	10.30 (9.58, 11.00)
Probit-transformed prevalence (BMI > +1SD)	0.99 (0.98, 1.00)
Mid-age of age group	0.0072 (0.0052, 0.0092)
Male sex	0.075 (0.064, 0.085)
Study mid-year (per one more recent year since 1975)	0.0040 (0.0039, 0.0040)
Natural logarithm of per-capita gross domestic product	0.075 (0.072, 0.078)
Inverse mean BMI * mid-age of age group	0.38 (0.35, 0.41)
Probit-transformed prevalence (BMI > +1SD) * mid-age of age group	0.0067 (0.0061, 0.0073)
Inverse mean BMI * male sex	-0.051 (-0.24, 0.14)
Probit-transformed prevalence (BMI > +1SD) * male sex	-0.040 (-0.044, -0.037)
Number of data points used to fit the model = 17,885	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.891.


(Intercept)
South East Asia
South Asia
Caribbean
West Africa
East Africa
Central Africa
South Western Europe
Southern Africa
East Asia
North Africa and Middle East
Central Asia
Central Latin America
Eastern Europe
Southern and Tropical Latin America
Central Europe
Melanesia
Polynesia and Micronesia
North Western Europe
Andean Latin America
High−income English−speaking countries
High−income Asia Pacific
−0.15
−0.10
−0.05
0.00
0.05
0.10
0.15

Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-2.69 (-2.76, -2.61)
Inverse mean BMI	61.10 (59.90, 62.40)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	1.71 (1.70, 1.73)
Mid-age of age group	0.36 (0.36, 0.37)
Male sex	-0.21 (-0.24, -0.18)
Study mid-year (per one more recent year since 1975)	0.0049 (0.0048, 0.0050)
Natural logarithm of per-capita gross domestic product	0.099 (0.096, 0.10)
Inverse mean BMI * mid-age of age group	-11.90 (-12.00, -11.80)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.14 (-0.14, -0.14)
Inverse mean BMI * male sex	10.10 (9.34, 10.80)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	0.12 (0.12, 0.13)
Number of data points used to fit the model = 16,486	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.872.


(Intercept)
West Africa
South Asia
Central Africa
East Africa
South East Asia
Caribbean
Southern Africa
Melanesia
Central Latin America
South Western Europe
East Asia
Andean Latin America
North Africa and Middle East
Central Asia
Southern and Tropical Latin America
Central Europe
Polynesia and Micronesia
Eastern Europe
North Western Europe
High−income English−speaking countries
High−income Asia Pacific
−0.15
−0.10
−0.05
0.00
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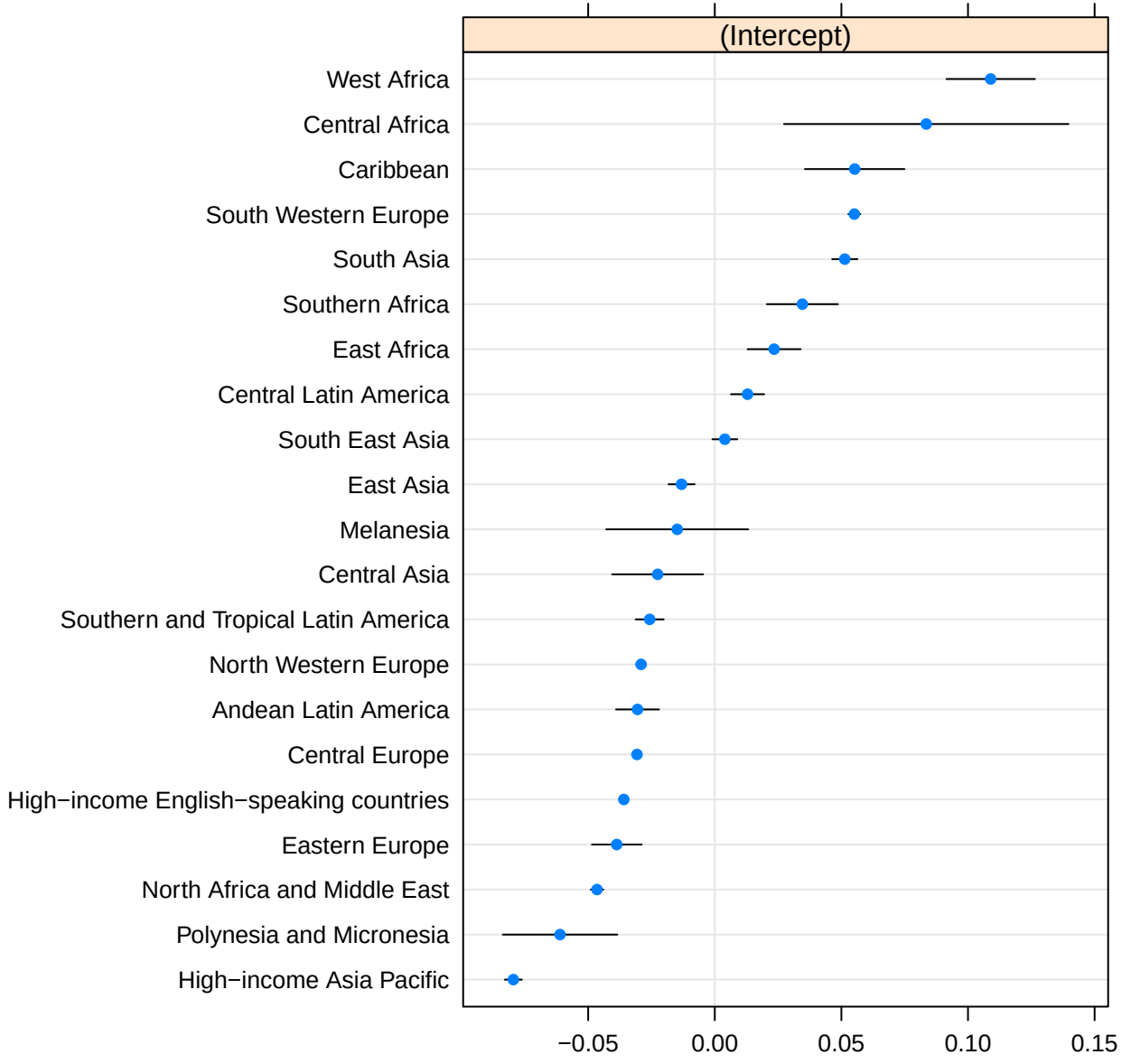
0.10
0.15

Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) and prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-1.38 (-1.46, -1.31)
Inverse mean BMI	40.30 (39.00, 41.50)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	1.04 (1.03, 1.06)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2)	0.31 (0.30, 0.32)
Mid-age of age group	0.24 (0.23, 0.24)
Male sex	-0.39 (-0.43, -0.36)
Study mid-year (per one more recent year since 1975)	0.0034 (0.0033, 0.0035)
Natural logarithm of per-capita gross domestic product	0.074 (0.071, 0.078)
Inverse mean BMI * mid-age of age group	-8.63 (-8.76, -8.51)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.099 (-0.10, -0.098)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) * mid-age of age group	0.0045 (0.0032, 0.0059)
Inverse mean BMI * male sex	15.10 (14.30, 15.90)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	0.12 (0.11, 0.13)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) * male sex	0.070 (0.062, 0.077)
Number of data points used to fit the model = 14,883	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.889.


(Intercept)
West Africa
Central Africa
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South Western Europe
South Asia
Southern Africa
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Central Latin America
South East Asia
East Asia
Melanesia
Central Asia
Southern and Tropical Latin America
North Western Europe
Andean Latin America
Central Europe
High−income English−speaking countries
Eastern Europe
North Africa and Middle East
Polynesia and Micronesia
High−income Asia Pacific
−0.05
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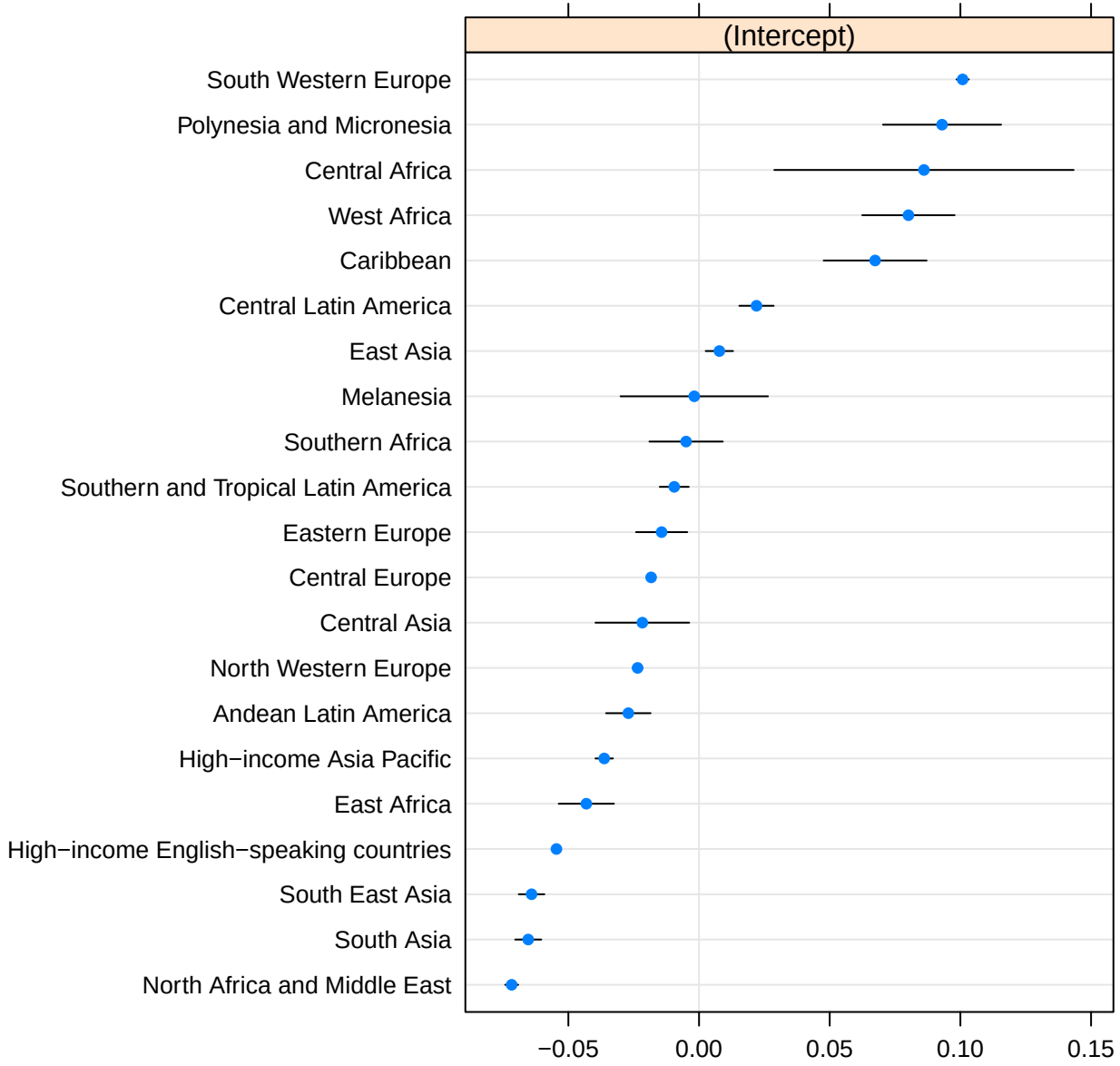
Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI and prevalence (BMI ≥25 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	2.84 (2.78, 2.91)
Inverse mean BMI	-64.00 (-64.90, -63.00)
Probit-transformed prevalence (BMI ≥25 kg/m^2)	0.17 (0.16, 0.18)
Mid-age of age group	-0.35 (-0.36, -0.35)
Male sex	-0.24 (-0.26, -0.22)
Study mid-year (per one more recent year since 1975)	0.0022 (0.0021, 0.0023)
Natural logarithm of per-capita gross domestic product	0.085 (0.082, 0.088)
Inverse mean BMI * mid-age of age group	5.65 (5.53, 5.76)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * mid-age of age group	0.052 (0.050, 0.053)
Inverse mean BMI * male sex	12.50 (11.80, 13.10)
Probit-transformed prevalence (BMI ≥25 kg/m^2) * male sex	0.15 (0.15, 0.16)
Number of data points used to fit the model = 15,139	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.879.


(Intercept)
South Western Europe
Polynesia and Micronesia
Central Africa
West Africa
Caribbean
Central Latin America
East Asia
Melanesia
Southern Africa
Southern and Tropical Latin America
Eastern Europe
Central Europe
Central Asia
North Western Europe
Andean Latin America
High−income Asia Pacific
East Africa
High−income English−speaking countries
South East Asia
South Asia
North Africa and Middle East
−0.05
0.00
0.05
0.10
0.15

Dependent variable: Prevalence (BMI > +2SD)	
Age range: 5-19 years	
Independent variable: Inverse mean BMI, prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2), prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2), prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2), prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) and prevalence (BMI ≥30 kg/m^2)	
Variables	**Coefficients (95% CI)**
Intercept	-0.91 (-1.01, -0.81)
Inverse mean BMI	50.50 (48.50, 52.60)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2)	0.56 (0.54, 0.57)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2)	-0.032 (-0.067, 0.0036)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	0.92 (0.89, 0.96)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2)	1.22 (1.20, 1.25)
Probit-transformed prevalence (BMI ≥30 kg/m^2)	-0.46 (-0.47, -0.44)
Mid-age of age group	0.074 (0.066, 0.082)
Male sex	0.16 (0.12, 0.20)
Study mid-year (per one more recent year since 1975)	0.00079 (0.00067, 0.00090)
Natural logarithm of per-capita gross domestic product	0.031 (0.028, 0.034)
Inverse mean BMI * mid-age of age group	-5.02 (-5.22, -4.81)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * mid-age of age group	-0.036 (-0.037, -0.035)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2) * mid-age of age group	-0.021 (-0.023, -0.018)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * mid-age of age group	-0.056 (-0.058, -0.053)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) * mid-age of age group	-0.072 (-0.074, -0.071)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * mid-age of age group	0.069 (0.067, 0.070)
Inverse mean BMI * male sex	7.52 (6.56, 8.49)
Probit-transformed prevalence (15 kg/m^2 ≤ BMI < 18.5 kg/m^2) * male sex	0.073 (0.064, 0.081)
Probit-transformed prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2) * male sex	0.21 (0.20, 0.23)
Probit-transformed prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2) * male sex	-0.015 (-0.033, 0.0025)
Probit-transformed prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2) * male sex	0.078 (0.064, 0.092)
Probit-transformed prevalence (BMI ≥30 kg/m^2) * male sex	0.0039 (-0.0056, 0.013)
Number of data points used to fit the model = 11,422	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.929.

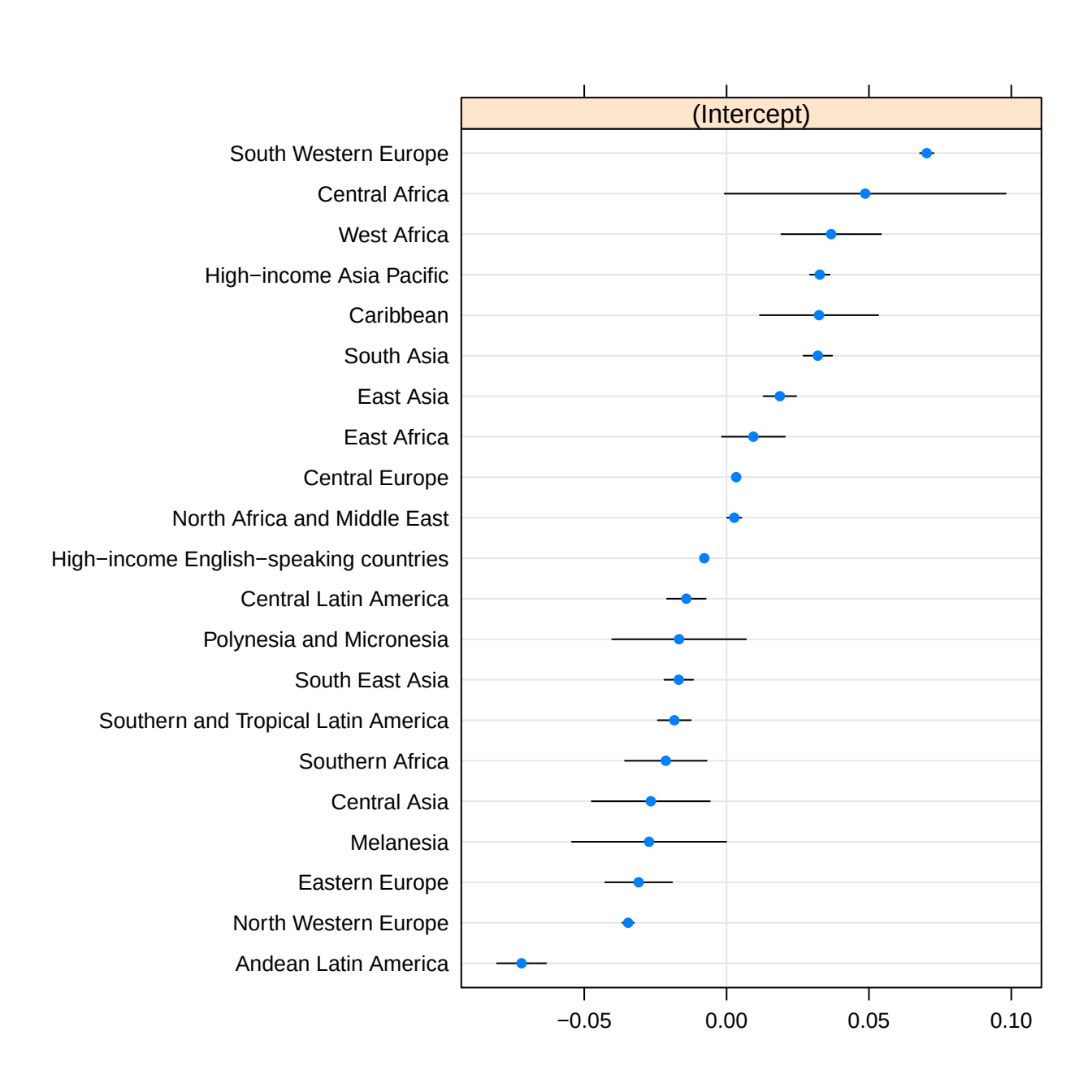

(Intercept)
South Western Europe
Central Africa
West Africa
High−income Asia Pacific
Caribbean
South Asia
East Asia
East Africa
Central Europe
North Africa and Middle East
High−income English−speaking countries
Central Latin America
Polynesia and Micronesia
South East Asia
Southern and Tropical Latin America
Southern Africa
Central Asia
Melanesia
Eastern Europe
North Western Europe
Andean Latin America
−0.05
0.00
0.05
0.10

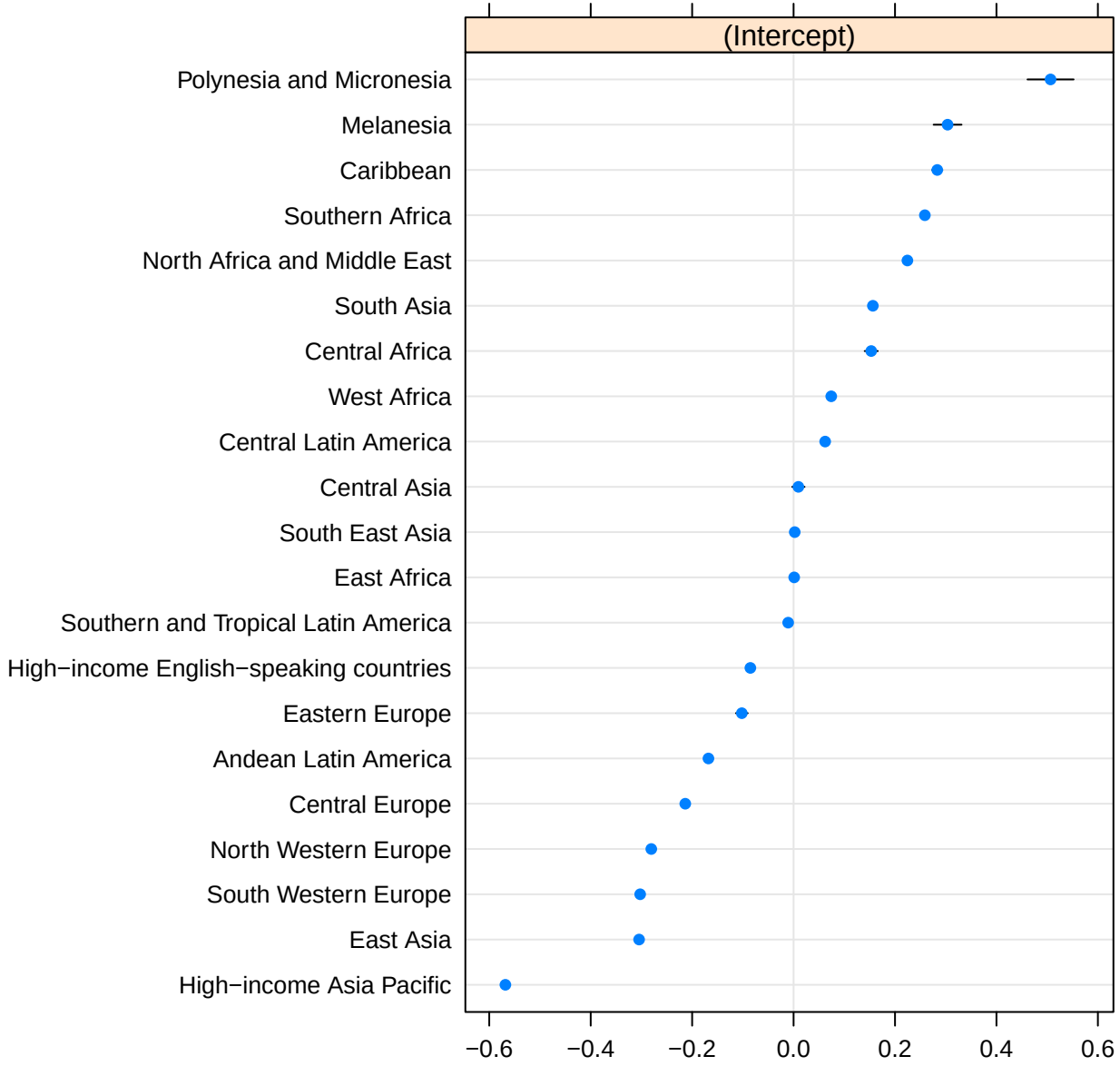
Table 2: Model specifications and regression coefficients to estimate prevalence of different BMI categories from mean BMI for adults (aged 18 years and older).

The dependent variable in all regressions was the prevalence of a BMI category, fitted using a generalised linear mixed model with a probit link function. Random intercepts for regions in regression are presented after the table of coefficients.

* denotes statistical interaction. CI: confidence interval.

Dependent variable: Prevalence (BMI <18.5 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	-8.30 (-8.41, -8.19)
Inverse mean BMI	140 (140, 141)
Mid-age of age group	-0.0054 (-0.0058, -0.0050)
Male sex	0.090 (0.074, 0.11)
Study mid-year (per one more recent year since 1975)	0.0023 (0.0023, 0.0024)
Natural logarithm of per-capita gross domestic product	0.070 (0.069, 0.072)
Inverse mean BMI * mid-age of age group	0.24 (0.23, 0.25)
Inverse mean BMI * male sex	-3.67 (-4.03, -3.31)
Number of data points used to fit the model = 17,790	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.905.


(Intercept)
Polynesia and Micronesia
Melanesia
Caribbean
Southern Africa
North Africa and Middle East
South Asia
Central Africa
West Africa
Central Latin America
Central Asia
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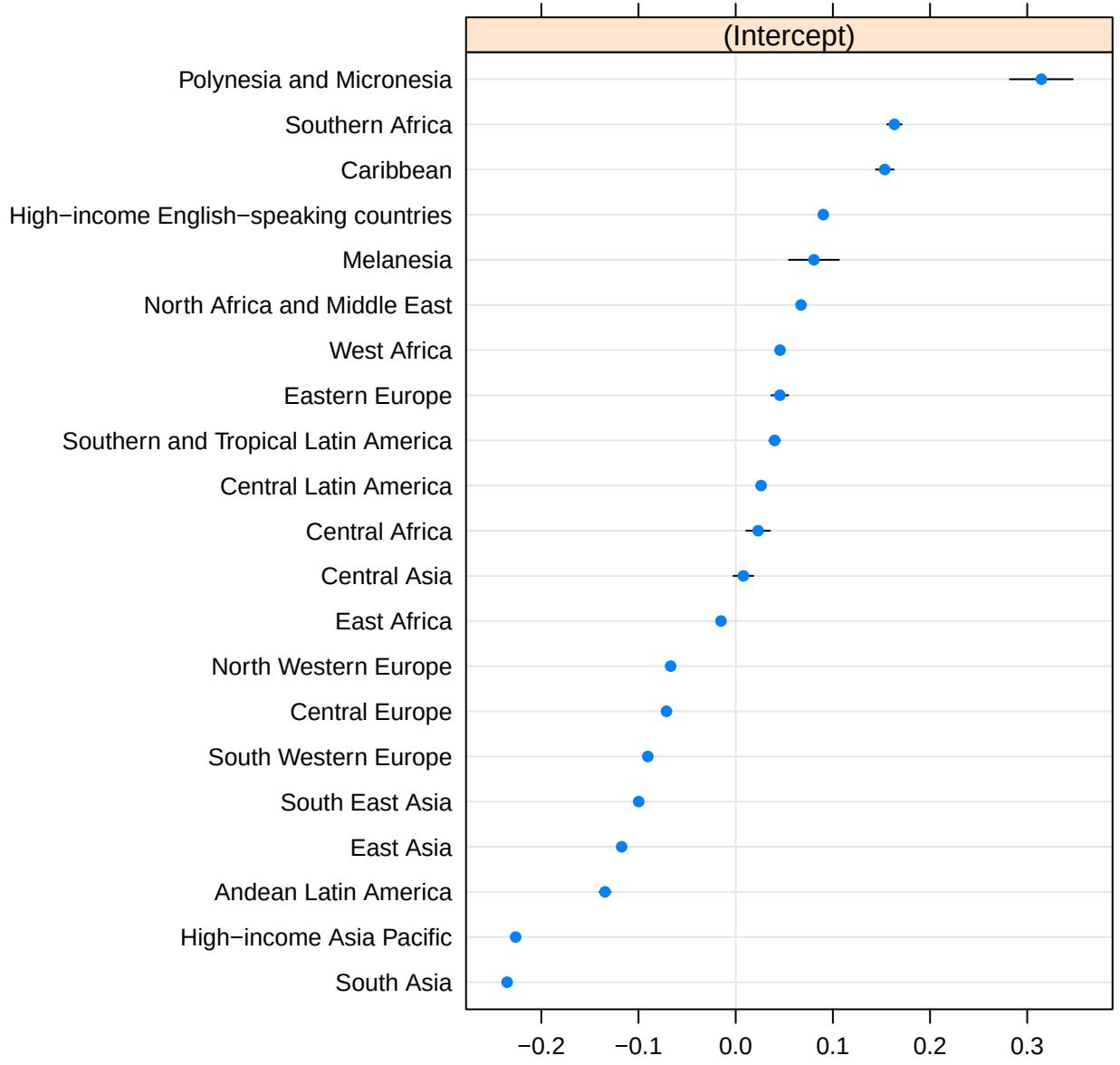
Southern and Tropical Latin America
High−income English−speaking countries
Eastern Europe
Andean Latin America
Central Europe
North Western Europe
South Western Europe
East Asia
High−income Asia Pacific
−0.6
−0.4
−0.2
0.0
0.2
0.4
0.6

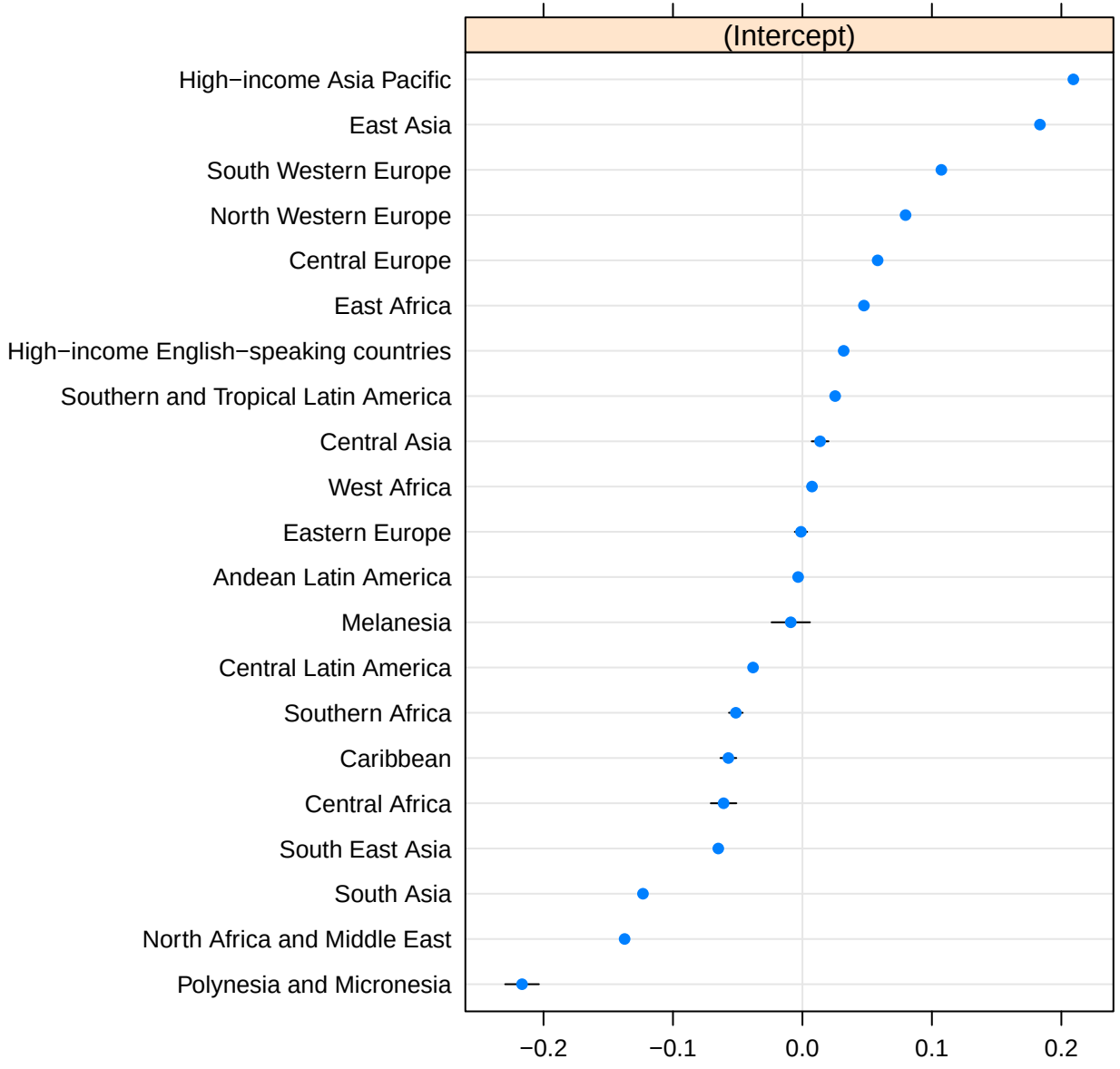
Dependent variable: Prevalence (18.5 kg/m^2 ≤ BMI < 20 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	-0.72 (-0.78, -0.67)
Inverse mean BMI	-92.2 (-92.7, -91.7)
Mid-age of age group	0.0038 (0.0038, 0.0039)
Male sex	0.10 (0.10, 0.11)
Study mid-year (per one more recent year since 1975)	0.0026 (0.0026, 0.0027)
Natural logarithm of per-capita gross domestic product	0.044 (0.042, 0.046)
Inverse mean BMI * mid-age of age group	-0.67 (-0.68, -0.66)
Inverse mean BMI * male sex	-21.1 (-21.4, -20.7)
Number of data points used to fit the model = 18,794	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.909.


(Intercept)
Polynesia and Micronesia
Southern Africa
Caribbean
High−income English−speaking countries
Melanesia
North Africa and Middle East
West Africa
Eastern Europe
Southern and Tropical Latin America
Central Latin America
Central Africa
Central Asia
East Africa
North Western Europe
Central Europe
South Western Europe
South East Asia
East Asia
Andean Latin America
High−income Asia Pacific
South Asia
−0.2
−0.1
0.0
0.1
0.2
0.3

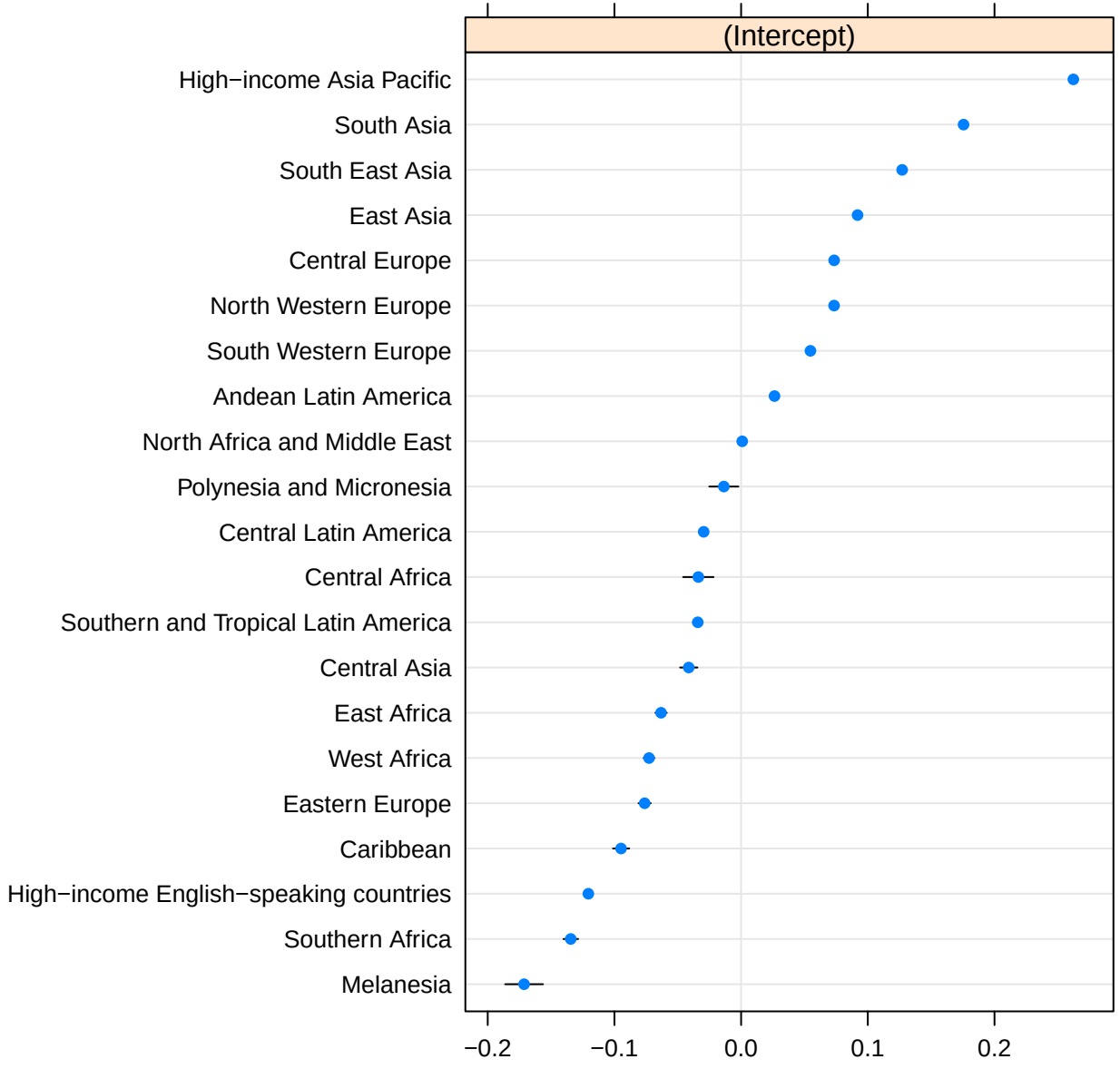
Dependent variable: Prevalence (20 kg/m^2 ≤ BMI < 25 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	0.27 (0.22, 0.31)
Inverse mean BMI	-65.2 (-65.7, -64.7)
Mid-age of age group	-0.00090 (-0.00093, -0.00087)
Male sex	0.057 (0.057, 0.058)
Study mid-year (per one more recent year since 1975)	-0.0021 (-0.0022, -0.0021)
Natural logarithm of per-capita gross domestic product	0.0033 (0.0021, 0.0045)
Inverse mean BMI * mid-age of age group	-0.30 (-0.31, -0.29)
Inverse mean BMI * male sex	-21.4 (-21.7, -21.1)
Number of data points used to fit the model = 20,022	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.832.


(Intercept)
High−income Asia Pacific
East Asia
South Western Europe
North Western Europe
Central Europe
East Africa
High−income English−speaking countries
Southern and Tropical Latin America
Central Asia
West Africa
Eastern Europe
Andean Latin America
Melanesia
Central Latin America
Southern Africa
Caribbean
Central Africa
South East Asia
South Asia
North Africa and Middle East
Polynesia and Micronesia
−0.2
−0.1
0.0
0.1
0.2

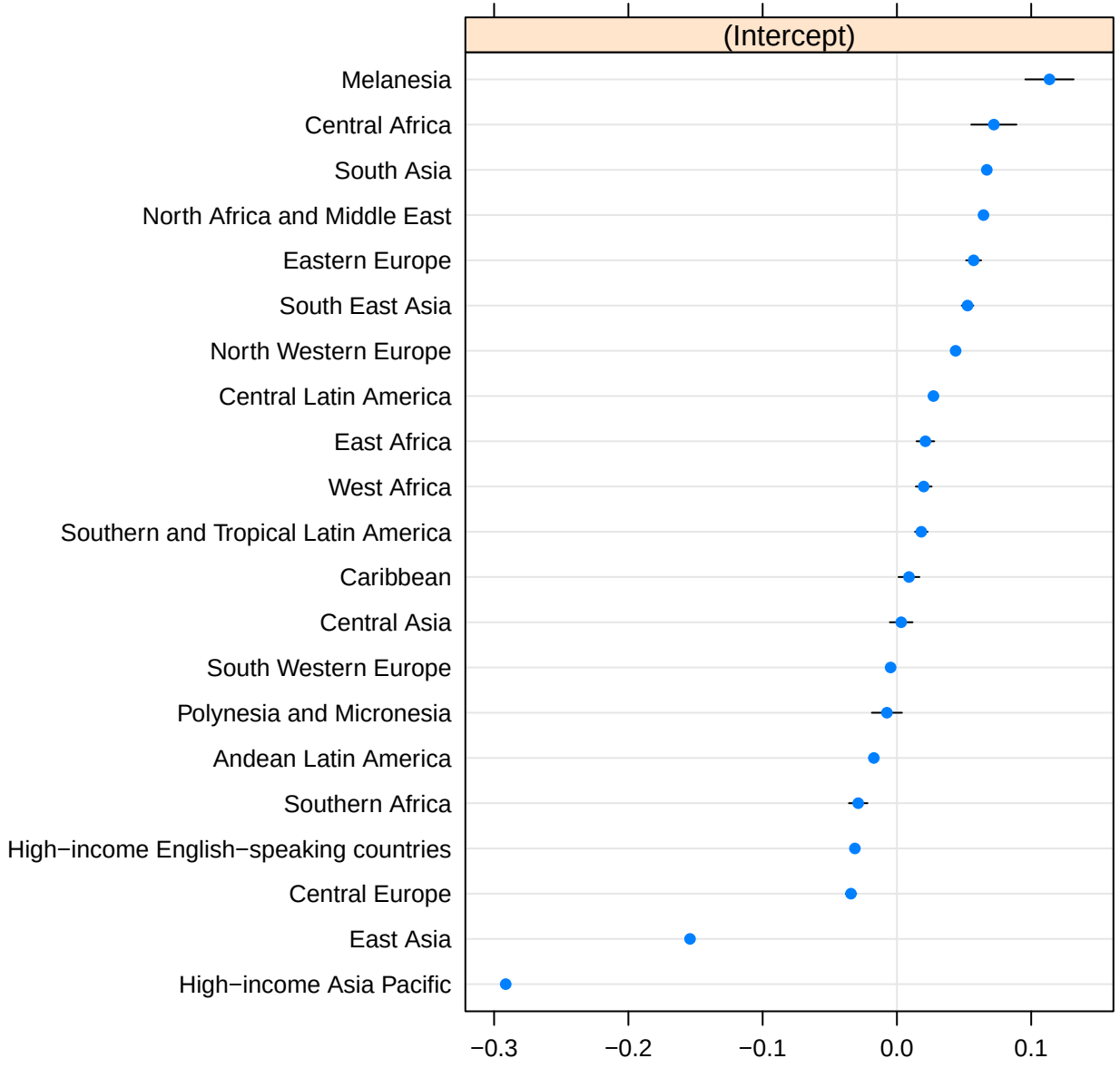
Dependent variable: Prevalence (25 kg/m^2 ≤ BMI < 30 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	0.29 (0.25, 0.34)
Inverse mean BMI	-115 (-116, -115)
Mid-age of age group	0.0051 (0.0051, 0.0052)
Male sex	0.25 (0.25, 0.25)
Study mid-year (per one more recent year since 1975)	-0.0018 (-0.0018, -0.0017)
Natural logarithm of per-capita gross domestic product	-0.059 (-0.060, -0.058)
Inverse mean BMI * mid-age of age group	-0.33 (-0.34, -0.32)
Inverse mean BMI * male sex	-27.2 (-27.5, -26.9)
Number of data points used to fit the model = 20,077	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.955.


(Intercept)
High−income Asia Pacific
South Asia
South East Asia
East Asia
Central Europe
North Western Europe
South Western Europe
Andean Latin America
North Africa and Middle East
Polynesia and Micronesia
Central Latin America
Central Africa
Southern and Tropical Latin America
Central Asia
East Africa
West Africa
Eastern Europe
Caribbean
High−income English−speaking countries
Southern Africa
Melanesia
−0.2
−0.1
0.0
0.1
0.2

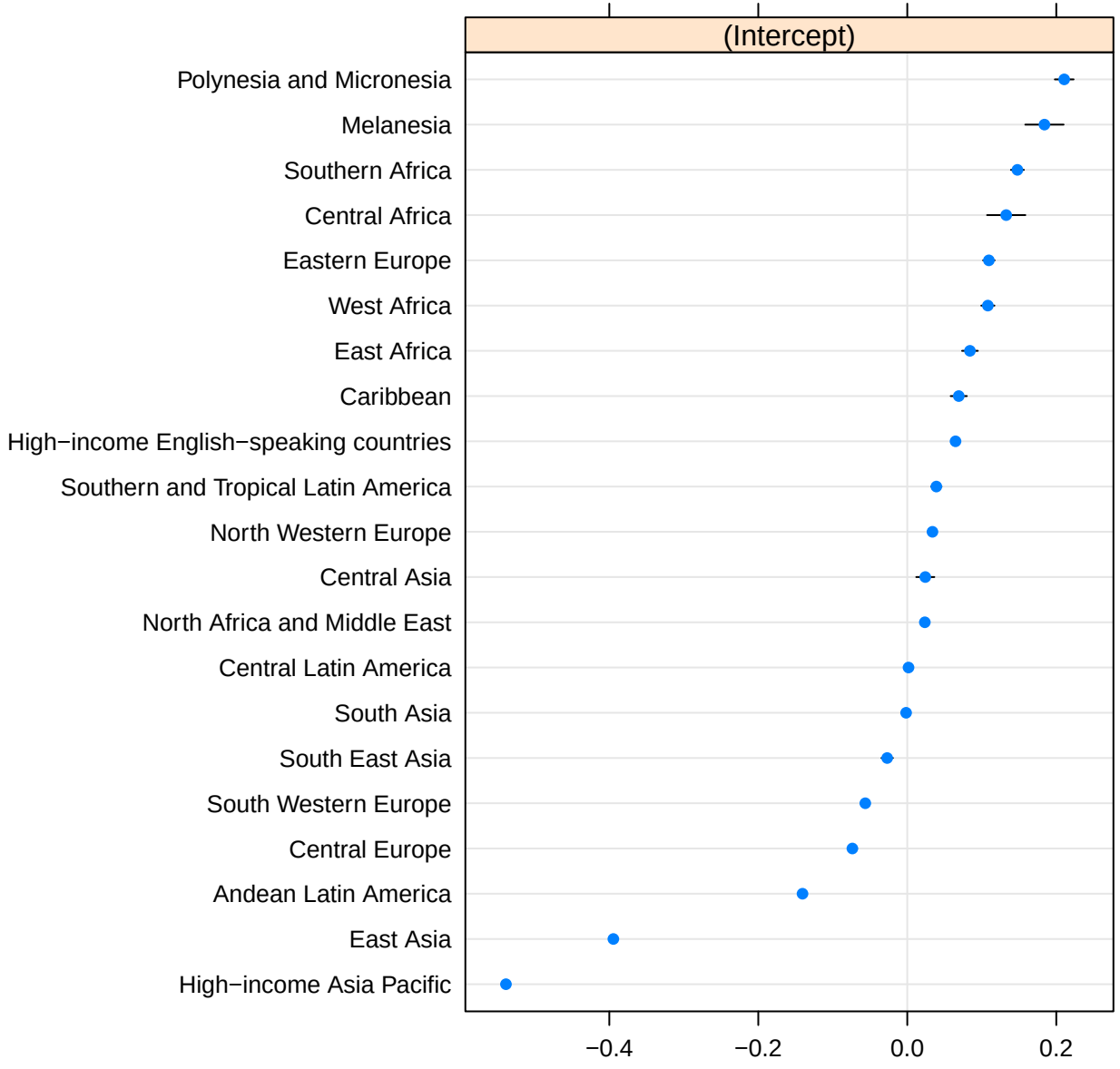
Dependent variable: Prevalence (30 kg/m^2 ≤ BMI < 35 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	-0.82 (-0.86, -0.78)
Inverse mean BMI	-95.1 (-95.8, -94.5)
Mid-age of age group	-0.00055 (-0.00068, -0.00041)
Male sex	0.20 (0.20, 0.21)
Study mid-year (per one more recent year since 1975)	0.0057 (0.0056, 0.0058)
Natural logarithm of per-capita gross domestic product	0.034 (0.032, 0.036)
Inverse mean BMI * mid-age of age group	-0.19 (-0.21, -0.18)
Inverse mean BMI * male sex	-35.8 (-36.1, -35.4)
Number of data points used to fit the model = 18,842	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.905.


(Intercept)
Melanesia
Central Africa
South Asia
North Africa and Middle East
Eastern Europe
South East Asia
North Western Europe
Central Latin America
East Africa
West Africa
Southern and Tropical Latin America
Caribbean
Central Asia
South Western Europe
Polynesia and Micronesia
Andean Latin America
Southern Africa
High−income English−speaking countries
Central Europe
East Asia
High−income Asia Pacific
−0.3
−0.2
−0.1
0.0
0.1

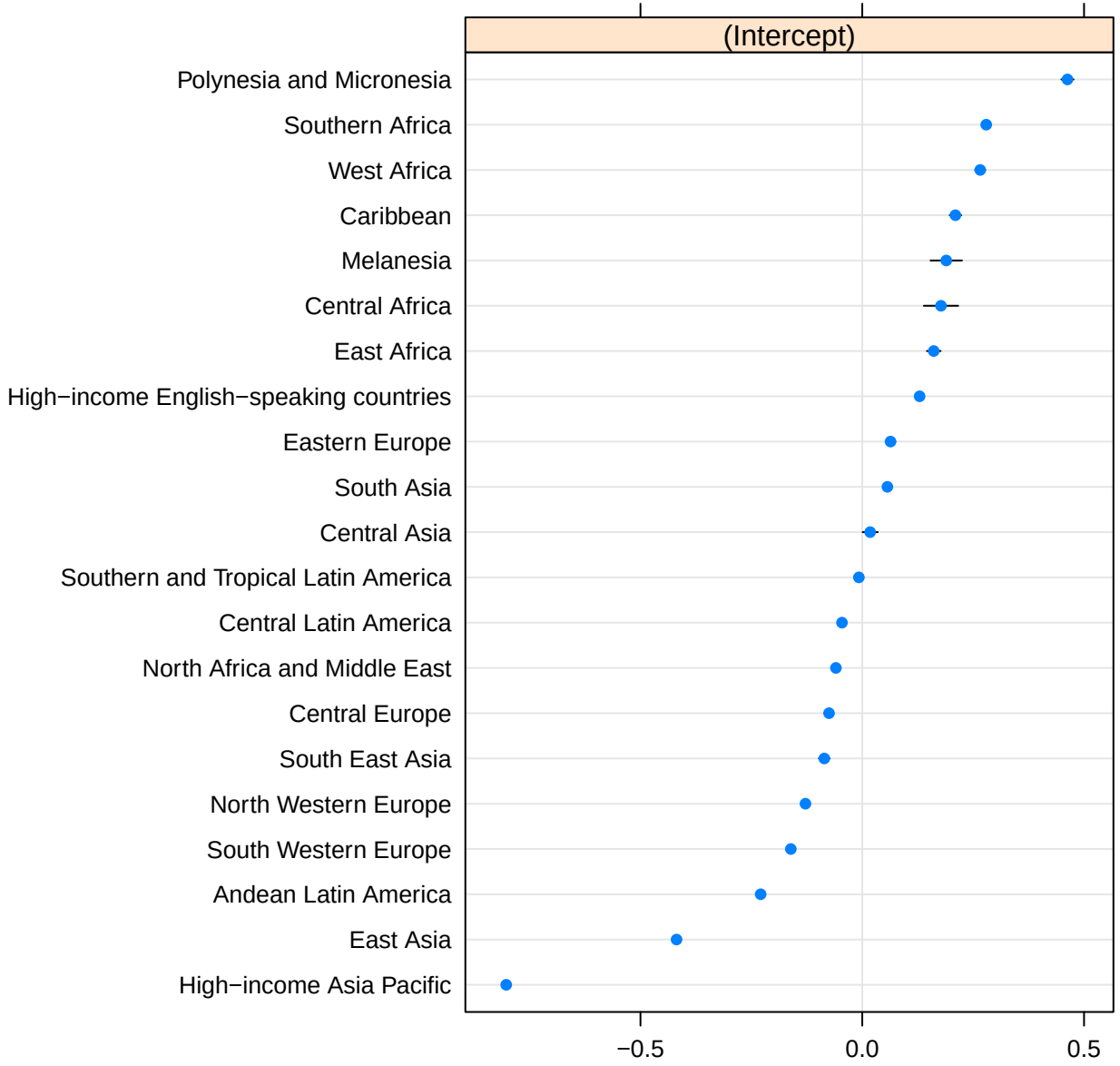
Dependent variable: Prevalence (35 kg/m^2 ≤ BMI < 40 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	-1.56 (-1.64, -1.48)
Inverse mean BMI	-73.9 (-74.9, -72.8)
Mid-age of age group	0.0015 (0.0012, 0.0018)
Male sex	-0.027 (-0.036, -0.017)
Study mid-year (per one more recent year since 1975)	0.0087 (0.0086, 0.0088)
Natural logarithm of per-capita gross domestic product	0.066 (0.063, 0.069)
Inverse mean BMI * mid-age of age group	-0.60 (-0.62, -0.58)
Inverse mean BMI * male sex	-20.2 (-20.9, -19.6)
Number of data points used to fit the model = 16,015	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.891.


(Intercept)
Polynesia and Micronesia
Melanesia
Southern Africa
Central Africa
Eastern Europe
West Africa
East Africa
Caribbean
High−income English−speaking countries
Southern and Tropical Latin America
North Western Europe
Central Asia
North Africa and Middle East
Central Latin America
South Asia
South East Asia
South Western Europe
Central Europe
Andean Latin America
East Asia
High−income Asia Pacific
−0.4
−0.2
0.0
0.2

Dependent variable: Prevalence (BMI ≥40 kg/m^2)	
Age range: 18 years and older	
Independent variable: Inverse mean BMI	
Variables	**Coefficients (95% CI)**
Intercept	0.32 (0.19, 0.46)
Inverse mean BMI	-86.9 (-88.4, -85.4)
Mid-age of age group	0.0050 (0.0037, 0.0062)
Male sex	-0.60 (-0.64, -0.56)
Study mid-year (per one more recent year since 1975)	0.0078 (0.0076, 0.0080)
Natural logarithm of per-capita gross domestic product	0.096 (0.091, 0.100)
Inverse mean BMI * mid-age of age group	-0.30 (-0.33, -0.27)
Inverse mean BMI * male sex	8.09 (7.09, 9.10)
Number of data points used to fit the model = 12,623	

Traditional R^2 is not clearly defined for mixed-effect models. The conditional R^2 for the model, which describes the proportion of variance explained by both fixed and random factors,[4] was 0.882.


(Intercept)
Polynesia and Micronesia
Southern Africa
West Africa
Caribbean
Melanesia
Central Africa
East Africa
High−income English−speaking countries
Eastern Europe
South Asia
Central Asia
Southern and Tropical Latin America
Central Latin America
North Africa and Middle East
Central Europe
South East Asia
North Western Europe
South Western Europe
Andean Latin America
East Asia
High−income Asia Pacific
−0.5
0.0
0.5

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2 Schwarz G. Estimating the dimension of a model. Ann Stat 1978; 6(2): 461-4.

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4 Nakagawa S, Schielzeth H. A general and simple method for obtaining R2 from generalized linear mixed-effects models. Methods Ecol Evol 2013; 4(2): 133-42.