

GDP per capita is a poor predictor of national well-being

Adrien Fabre (CNRS, CIRED)

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Introduction

What makes a country happy?

Which country is the happiest?

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What do we mean by “happy”? Subjective well-being.

Literature

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We challenge this finding.

Primer of the results

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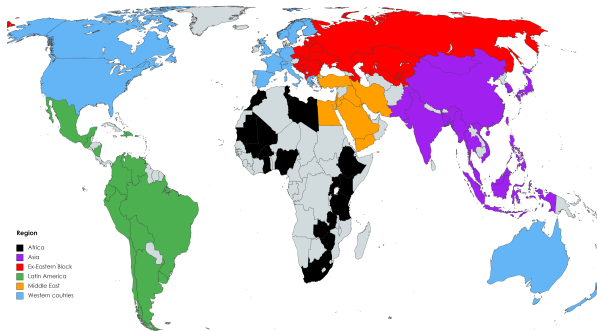
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Another simple variable, the country's (macro) region, is a better predictor of national well-being.

Design

Data

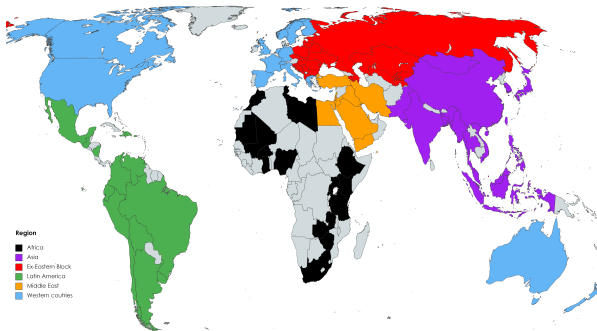
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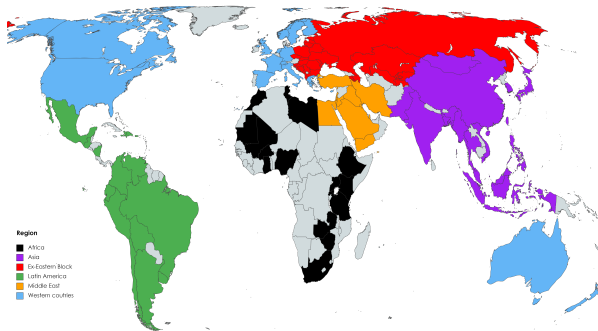


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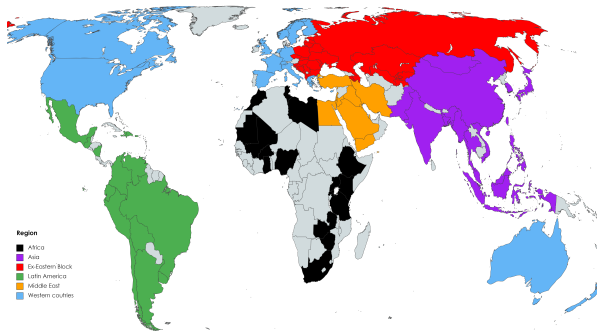
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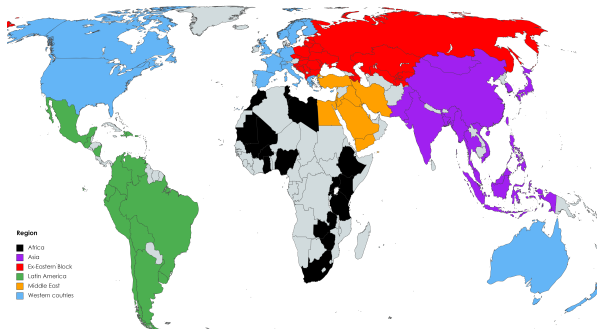
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Satisfaction: “All things considered, how satisfied are you with your life as a whole these days?”

1-Completely dissatisfied – *10-Completeley satisfied*; PNR



What is national well-being?

With the two well-being questions, **we can define various** national **indicators** (all weighted using survey weights, all excluding PNR).

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Happy + Satisfied: average of **Happy** and **Satisfied**

This is the variable used by Inglehart & Klingemann (2000)

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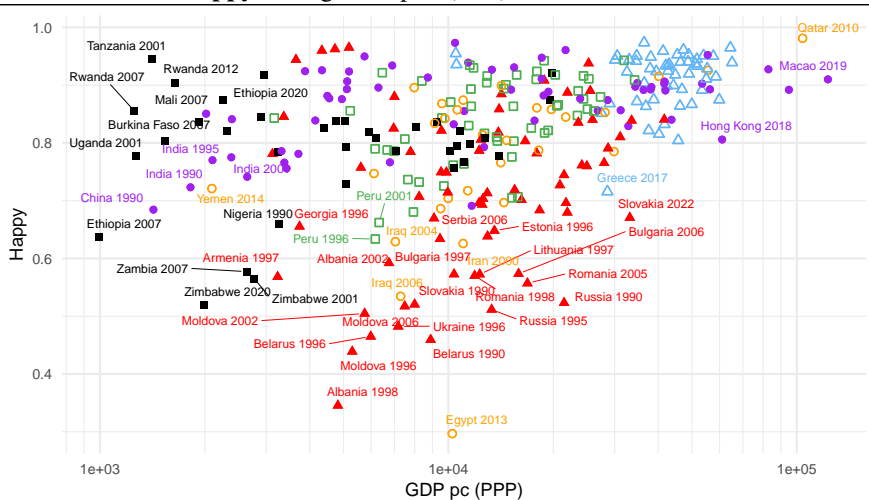
We manually impute missing income data using IMF data.

For robustness, we also run our analyses without this imputation (excluding countries with missing GDP data).

National well-being and income

Graphical evidence

Happy vs. log GDP p.c. (PPP) — All waves of WVS.

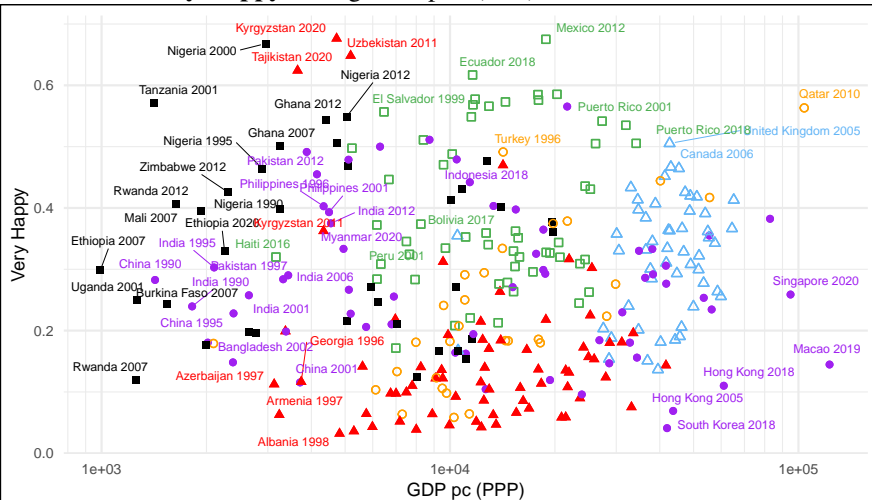


Waves = 1 to 7 ($R^2 = 0.17$)

■ Africa ● Asia ▲ Ex-Eastern Block □ Latin America ○ Middle East △ Western

Graphical evidence

Very Happy vs. log GDP p.c. (PPP) — All waves of WVS.

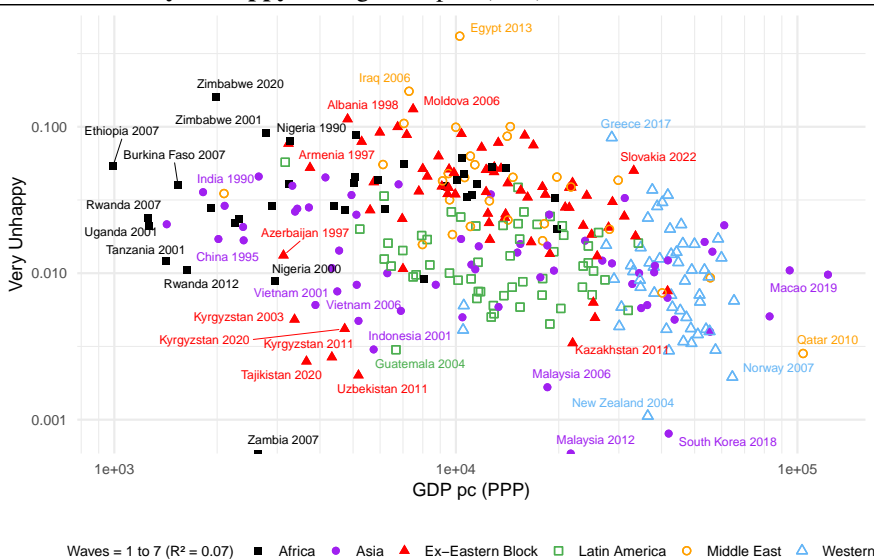


Waves = 1 to 7 ($R^2 = 0.01$)

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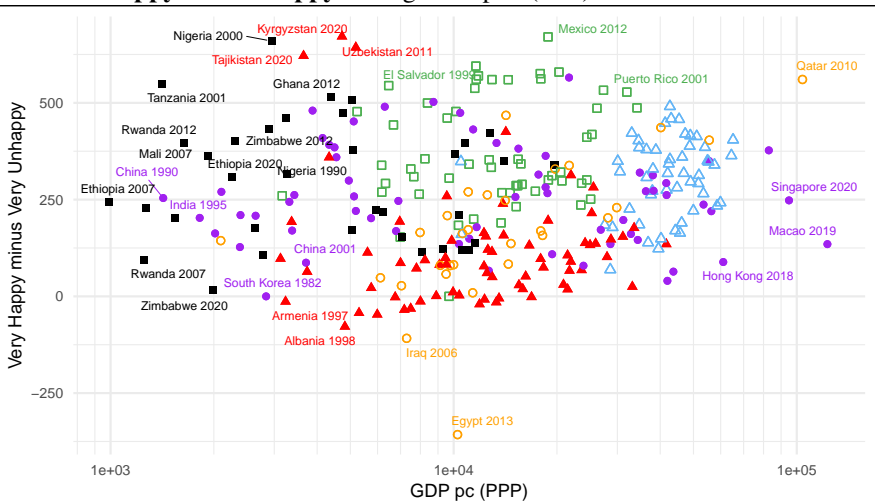
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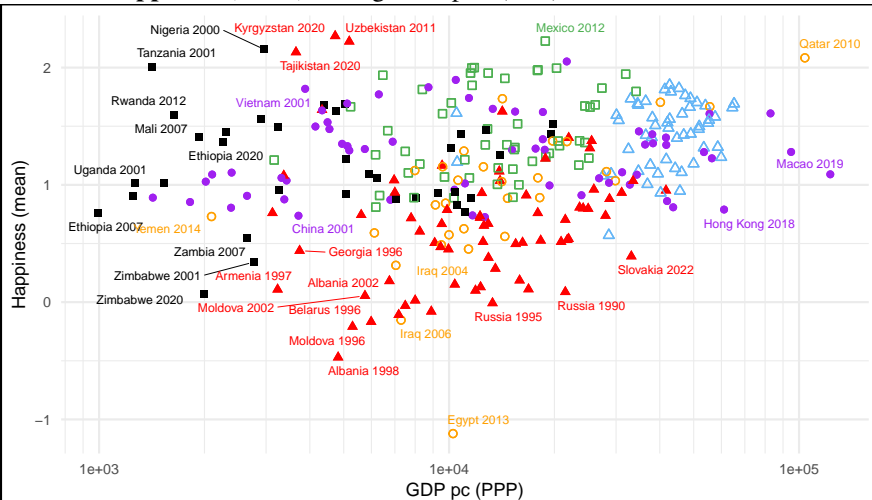


Waves = 1 to 7 ($R^2 = 0.02$)

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Graphical evidence

Happiness (mean) vs. log GDP p.c. (PPP) — All waves of WVS.

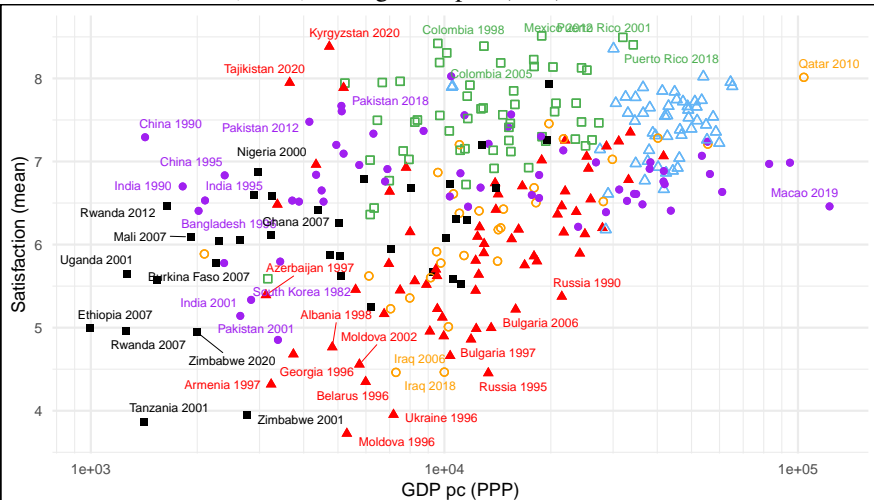


Waves = 1 to 7 ($R^2 = 0.07$)

■ Africa ● Asia ▲ Ex-Eastern Block □ Latin America ○ Middle East △ Western

Graphical evidence

Satisfaction (mean) vs. log GDP p.c. (PPP) — All waves of WVS.



Waves = 1 to 7 ($R^2 = 0.15$)

■ Africa

● Asia

▲ Ex-Eastern Block

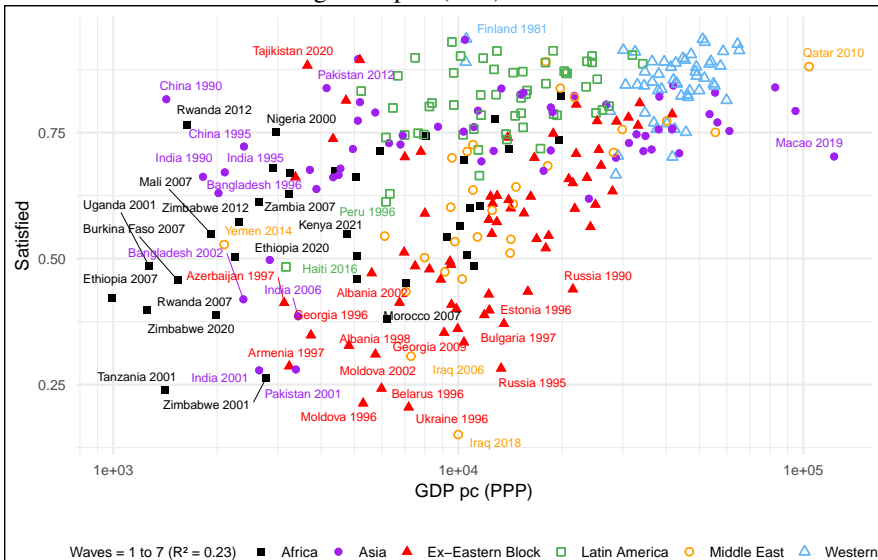
□ Latin America

○ Middle East

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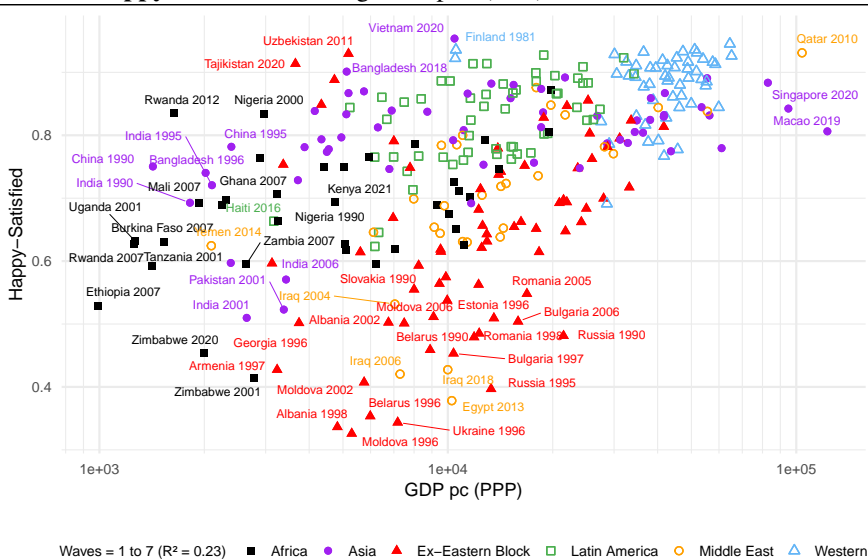
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Satisfied vs. log GDP p.c. (PPP) — All waves of WVS.



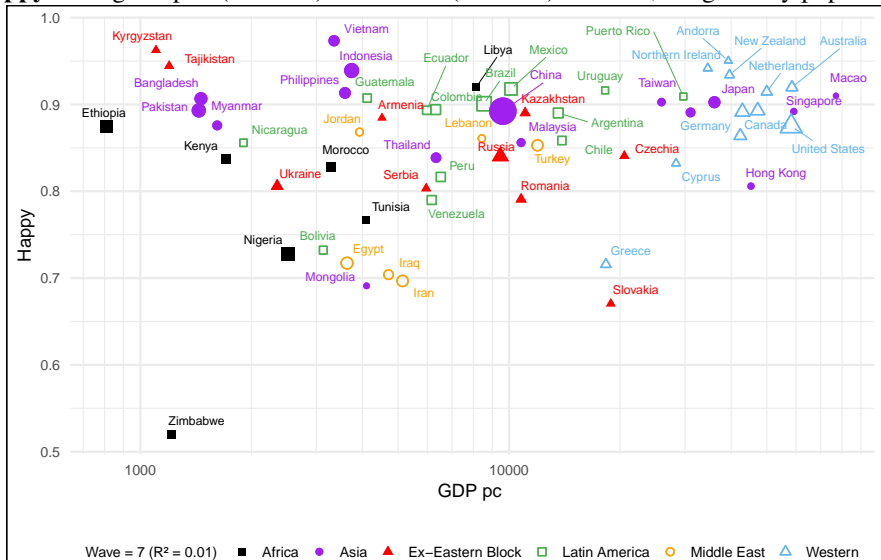
Graphical evidence

Happy + Satisfied vs. log GDP p.c. (PPP) — All waves of WVS.



Graphical evidence

Happy vs. log DP p.c. (nominal) — Wave 7 (2017-22) of WVS, weighted by population.



Variance explained by GDP p.c. [► More results](#)

For different *well-being* and *income* indicators, we compute the R^2 of the regression:

$$well-being_i = \alpha + \beta income_i + u_i$$

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Happiness variable	log GDP p.c.		sextile PPP	Income cluster				Mean	Max
	PPP	nominal		k = 5 PPP	k = 6 PPP	k = 7 PPP	k = 7 nominal		
Very Happy	0	0	0.04	0.01	0.01	0.02	0.04	0.02	0.04
Happy	0.1	0.12	0.14	0.13	0.12	0.13	0.15	0.13	0.15
Very Unhappy	0.05	0.06	0.07	0.07	0.07	0.07	0.1	0.07	0.1
Satisfied	0.19	0.23	0.19	0.2	0.22	0.21	0.24	0.21	0.24
Satisfaction (mean)	0.14	0.16	0.13	0.14	0.16	0.15	0.18	0.15	0.18
Happiness (mean)	0.03	0.04	0.07	0.06	0.05	0.06	0.08	0.06	0.08
Happy + Satisfied	0.17	0.21	0.19	0.19	0.2	0.2	0.23	0.2	0.23
V. Happy – V. Unhappy	0	0.01	0.05	0.02	0.02	0.03	0.05	0.03	0.05
Mean	0.09	0.1	0.11	0.1	0.1	0.11	0.13	0.11	0.13
Max	0.19	0.23	0.19	0.2	0.22	0.21	0.24	0.21	0.24
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Happiness (mean) is poorly explained by income (8% at best).

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Looking at all waves combined, **Kyrgyzstan**–2020 is the happiest country–year according to 3 indicators

Finland, Malaysia, Mexico, Qatar, Vietnam according to other indicators.

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Counting the occurrences of countries for each wave–indicator (including all waves combined), **Switzerland** is the happiest (10 occurrences) followed by **Mexico** (9) and **Kyrgyzstan** (6).

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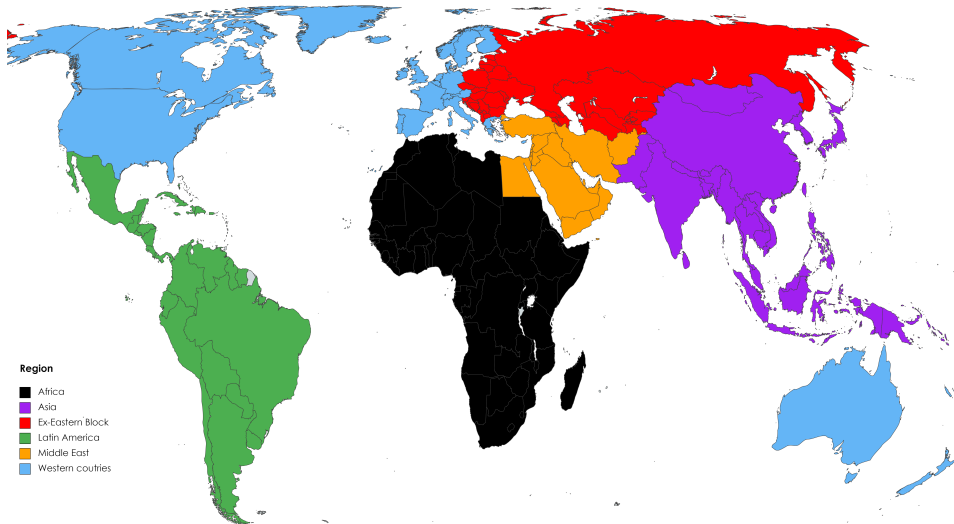
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The happiest countries are Western (24), in Latin America (19) or elsewhere (21).

Region vs. GDP per capita as predictor of well-being

Region grouping

WVS countries grouped into six world regions.



Comparing the share of variance explained by income vs. region

For different *well-being* and *income* indicators, we run regressions and compute corresponding R^2 :

$$well-being_i = \alpha_1 + \beta_1 income_i + u_i \quad (1)$$

$$well-being_i = \alpha_2 + \gamma_2 region_i + e_i \quad (2)$$

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$s_i = \frac{R_1^2 + (R_3^2 - R_2^2)}{R_3^2}$ is the share of explained variance that is explained by income.

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This follows the LMG methodology (Lindeman, Merenda & Gold, 1980; Grömping, 2007).

Share of explained variance that is explained by income [► More results](#)

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Very Unhappy	0.19	0.25	0.27	0.27	0.27	0.26	0.38	0.27	0.38
Satisfied	0.36	0.42	0.35	0.37	0.39	0.38	0.44	0.39	0.44
Satisfaction (mean)	0.27	0.32	0.26	0.27	0.29	0.28	0.34	0.29	0.34
Happiness (mean)	0.1	0.14	0.21	0.16	0.15	0.17	0.22	0.16	0.22
Happy + Satisfied	0.33	0.4	0.36	0.36	0.37	0.37	0.43	0.38	0.43
V. Happy – V. Unhappy	0.02	0.03	0.14	0.06	0.06	0.09	0.14	0.08	0.14
Mean	0.19	0.24	0.26	0.23	0.24	0.24	0.31	0.24	0.31
Max	0.36	0.42	0.36	0.37	0.39	0.38	0.44	0.39	0.44
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Region is a better predictor of national well-being than income

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This indicator explains 22% of the explained variance for **Happiness** and 34% for **Satisfaction**.

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This indicator explains 22% of the explained variance for **Happiness** and 34% for **Satisfaction**.

Region is a better predictor than region in 95% of alternative specifications: looking at each wave separately, weighting countries by population, dropping pandemic years...

(including 86% of 88 specifications involving the best-predicting income variable) [► More results](#)

Conclusion

Take away and future research

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National well-being is more correlated with the world region than with the GDP p.c.

Richest countries are not necessarily the happiest.

If there is a link between income and well-being, it is that rich countries do not experience low well-being.

Poor countries can be happy too. Growth is not necessarily the best goal.

Take away and future research

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Despite evidence against translation issues (Sandvik et al., 93; Diener & Lucas, 99; Scollon et al., 05),

We should check whether emotions are better predicted by region than income.

Robustness checks

Variance explained by PPP income cluster (k = 7) [Go back](#)

Happiness variable	All waves		Only selected waves						
	Pop. weight	1 & 2	3	4	5	6	7	Mean	Max
Very Happy	0.05	0.24	0.07	0.15	0.07	0.2	0.25	0.14	0.25
Happy	0.23	0.22	0.22	0.23	0.23	0.21	0.13	0.21	0.23
Very Unhappy	0.06	0.22	0.15	0.16	0.18	0.12	0.18	0.15	0.22
Satisfied	0.23	0.18	0.23	0.36	0.29	0.22	0.16	0.24	0.36
Satisfaction (mean)	0.16	0.17	0.18	0.33	0.21	0.19	0.13	0.2	0.33
Happiness (mean)	0.11	0.18	0.13	0.2	0.16	0.2	0.15	0.16	0.2
Happy + Satisfied	0.28	0.21	0.25	0.32	0.28	0.24	0.17	0.25	0.32
V. Happy – V. Unhappy	0.06	0.15	0.08	0.16	0.09	0.2	0.21	0.14	0.21
Mean	0.15	0.2	0.16	0.24	0.19	0.2	0.17	0.19	0.24
Max	0.28	0.24	0.25	0.36	0.29	0.24	0.25	0.25	0.36
Number of obs.	304	26	56	40	58	60	64		

Share of explained variance that is explained by PPP income cluster (k = 7) [Go back](#)

Happiness variable	All waves		Only selected waves						
	Pop. weight	1 & 2	3	4	5	6	7	Mean	Max
Very Happy	0.16	0.29	0.09	0.31	0.13	0.48	0.51	0.28	0.51
Happy	0.53	0.33	0.33	0.53	0.36	0.51	0.47	0.44	0.53
Very Unhappy	0.2	0.26	0.27	0.36	0.33	0.46	0.43	0.33	0.46
Satisfied	0.54	0.25	0.28	0.58	0.4	0.46	0.32	0.4	0.58
Satisfaction (mean)	0.34	0.23	0.23	0.5	0.31	0.4	0.24	0.32	0.5
Happiness (mean)	0.31	0.24	0.18	0.44	0.25	0.47	0.4	0.32	0.47
Happy + Satisfied	0.54	0.27	0.32	0.57	0.39	0.48	0.36	0.42	0.57
V. Happy – V. Unhappy	0.2	0.2	0.11	0.34	0.16	0.47	0.45	0.28	0.47
Mean	0.35	0.26	0.23	0.45	0.29	0.47	0.4	0.35	0.47
Max	0.54	0.33	0.33	0.58	0.4	0.51	0.51	0.44	0.58
Number of obs.	304	26	56	40	58	60	64		