

How representative are undergraduate maths and physics in the UK?



Based on data from 2017 across all HE providers.

Note: this analysis only looks at raw participation. This is only one facet of participation in HE.

METRIC

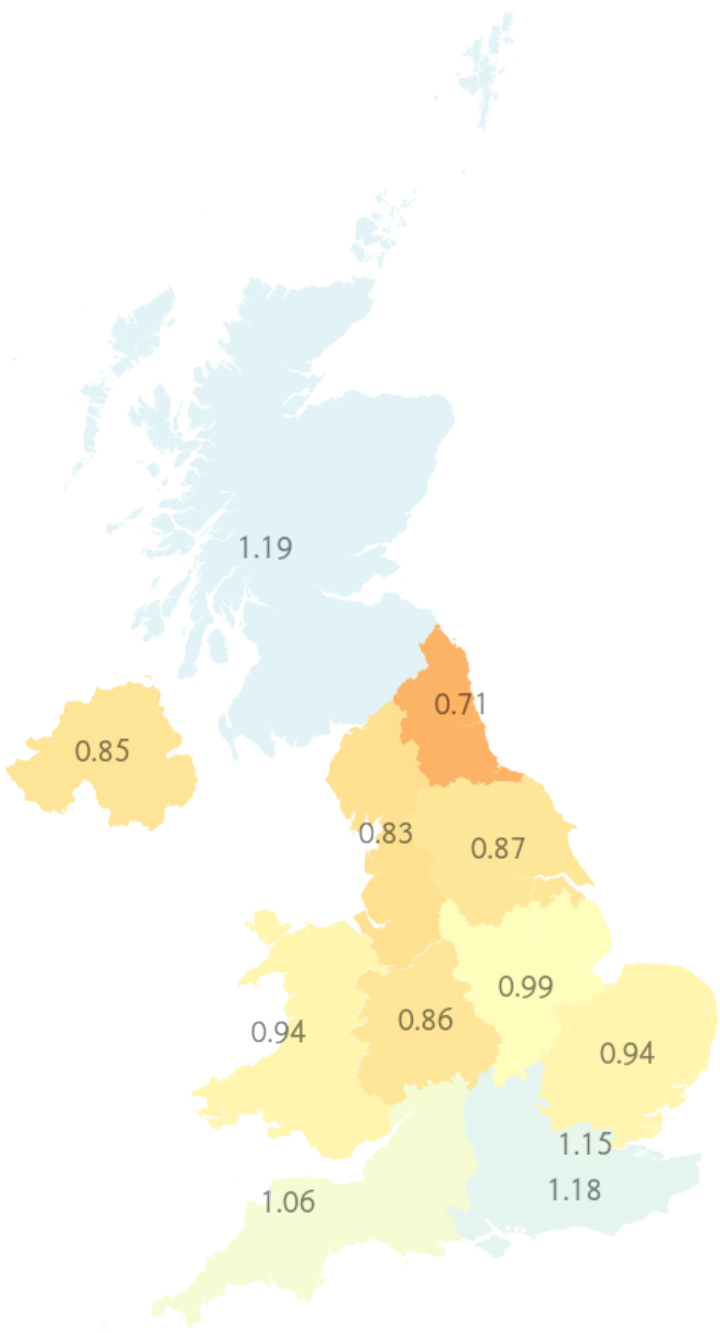
I'm going to use a **polarisation** metric which relates the fraction of a particular group X (e.g. white males taking physics) to the fraction in the **underlying population**.

$$P = \frac{f_X}{f_{tot}}$$

A value of $P=1$ then means X is representative of that group, while $P=0.5$ suggests there are ~half as many groups members as you'd expect.

PHYSICS

GENDER AND ETHNICITY

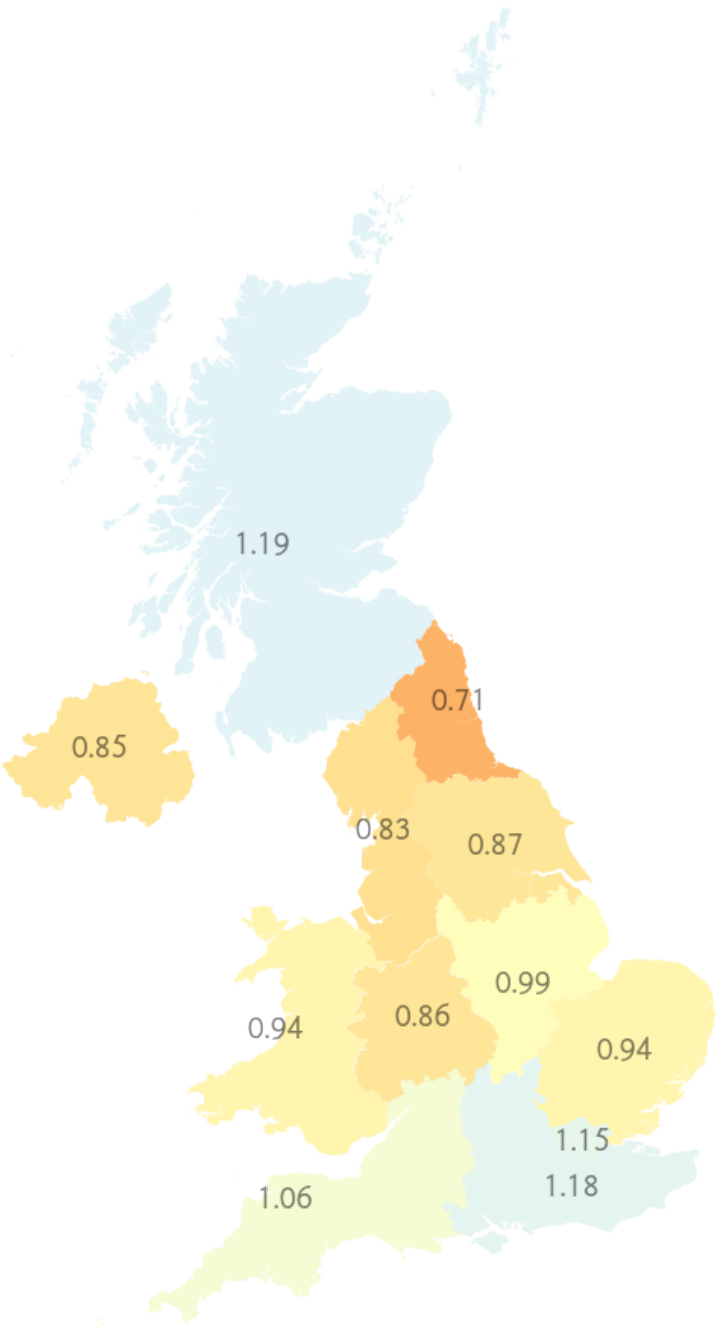


REGIONAL DOMICILE

PHYSICS

Significant gender gap

GENDER AND ETHNICITY

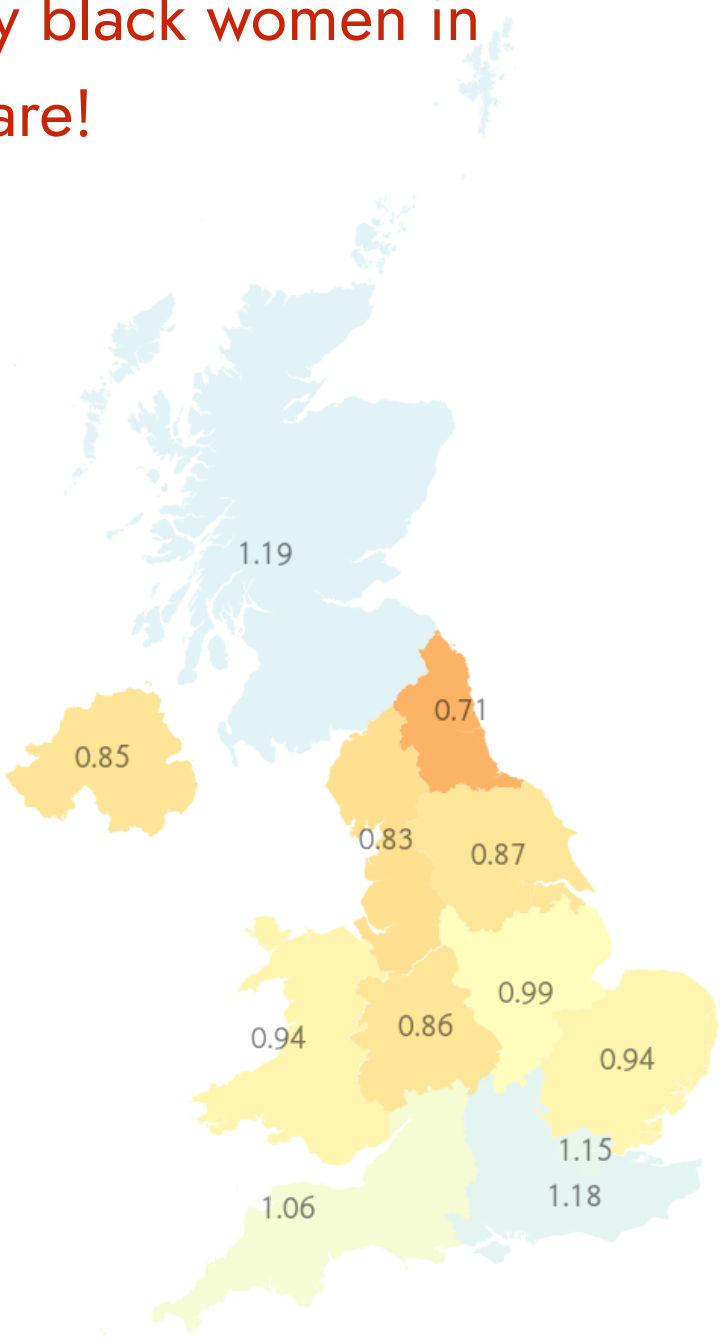
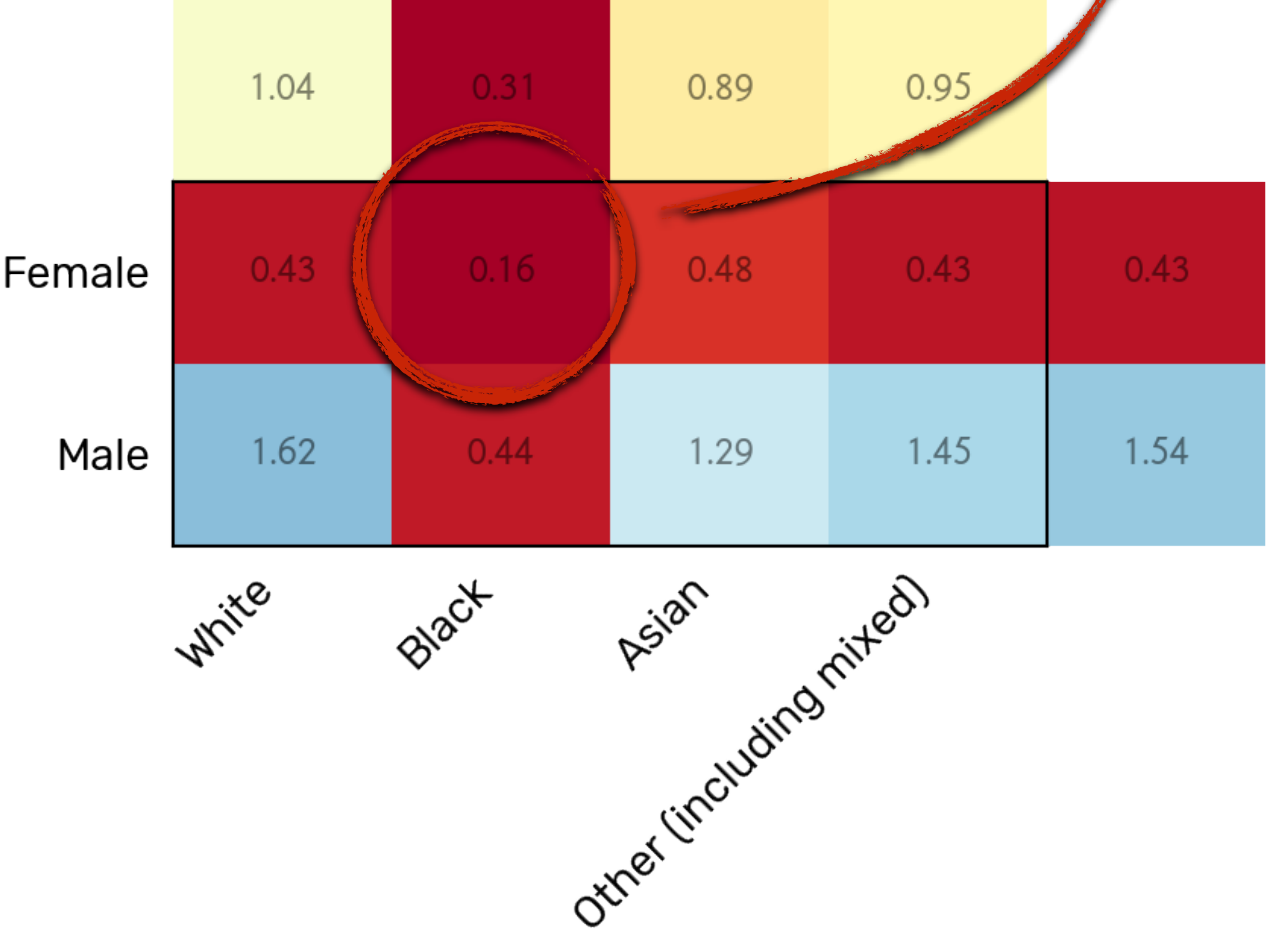


REGIONAL DOMICILE

PHYSICS

You'd expect ~7 times many black women in physics than there actually are!

GENDER AND ETHNICITY

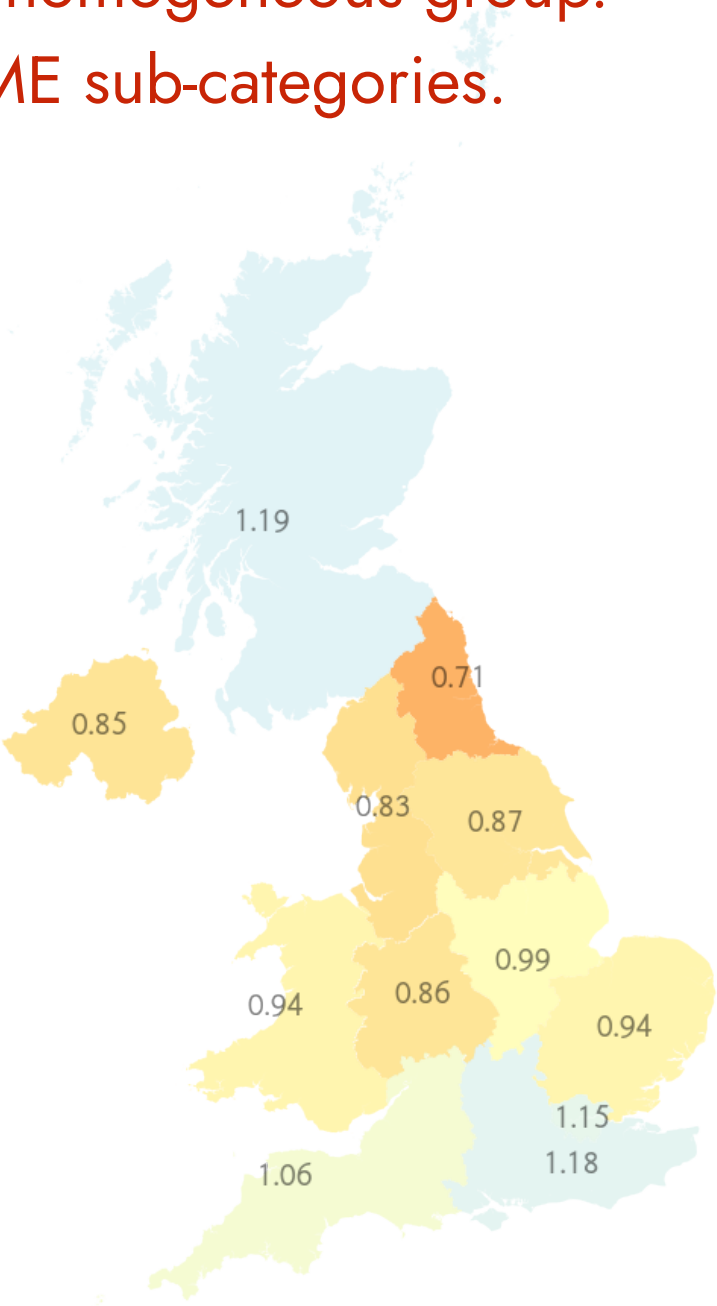


REGIONAL DOMICILE

PHYSICS

We can't treat BAME students as a homogeneous group.
Significant variation within the BAME sub-categories.

GENDER AND ETHNICITY

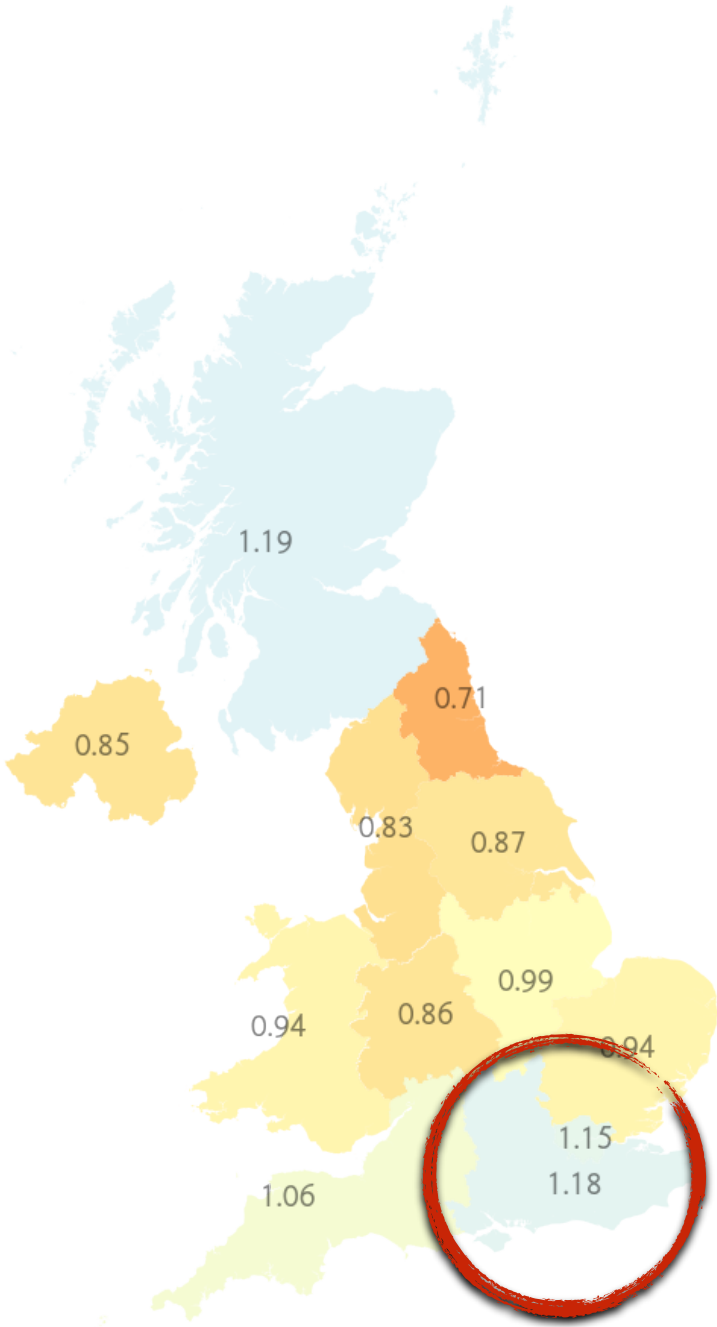


REGIONAL DOMICILE

PHYSICS

GENDER AND ETHNICITY

	1.04	0.31	0.89	0.95	
Female	0.43	0.16	0.48	0.43	0.43
Male	1.62	0.44	1.29	1.45	1.54
	White	Black	Asian	Other (including mixed)	

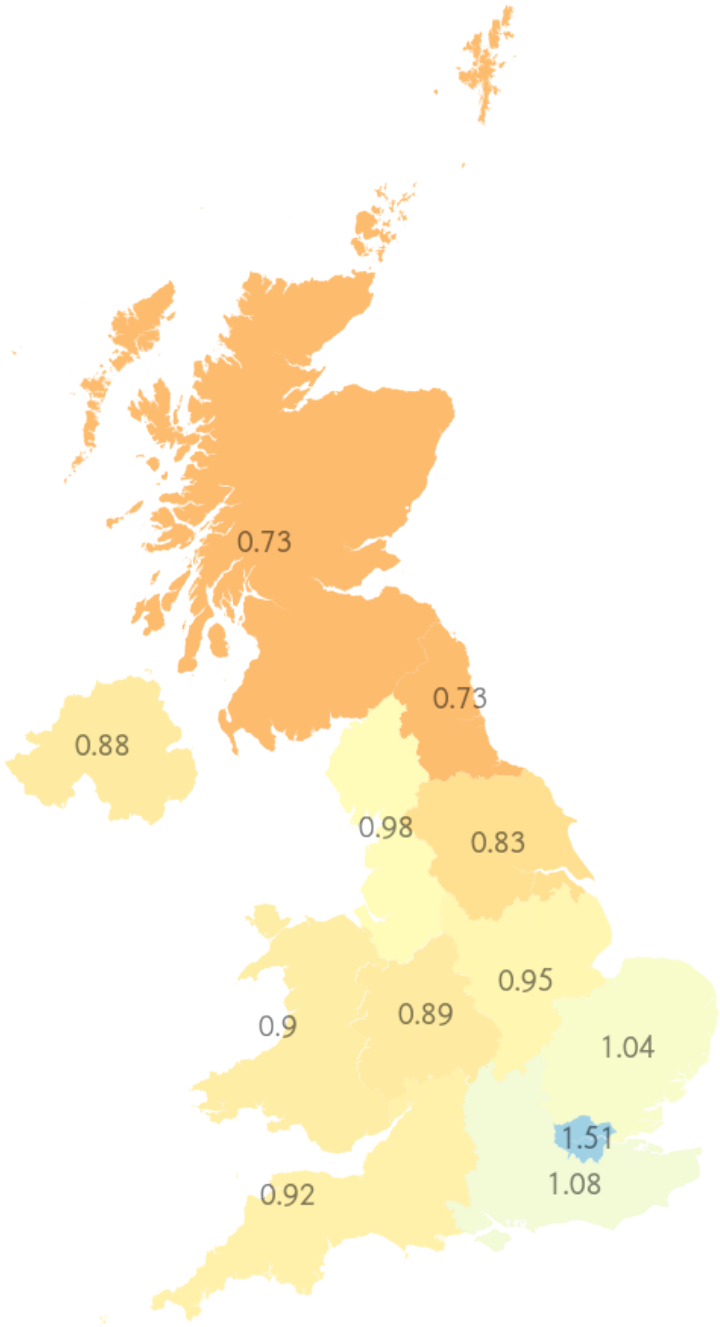
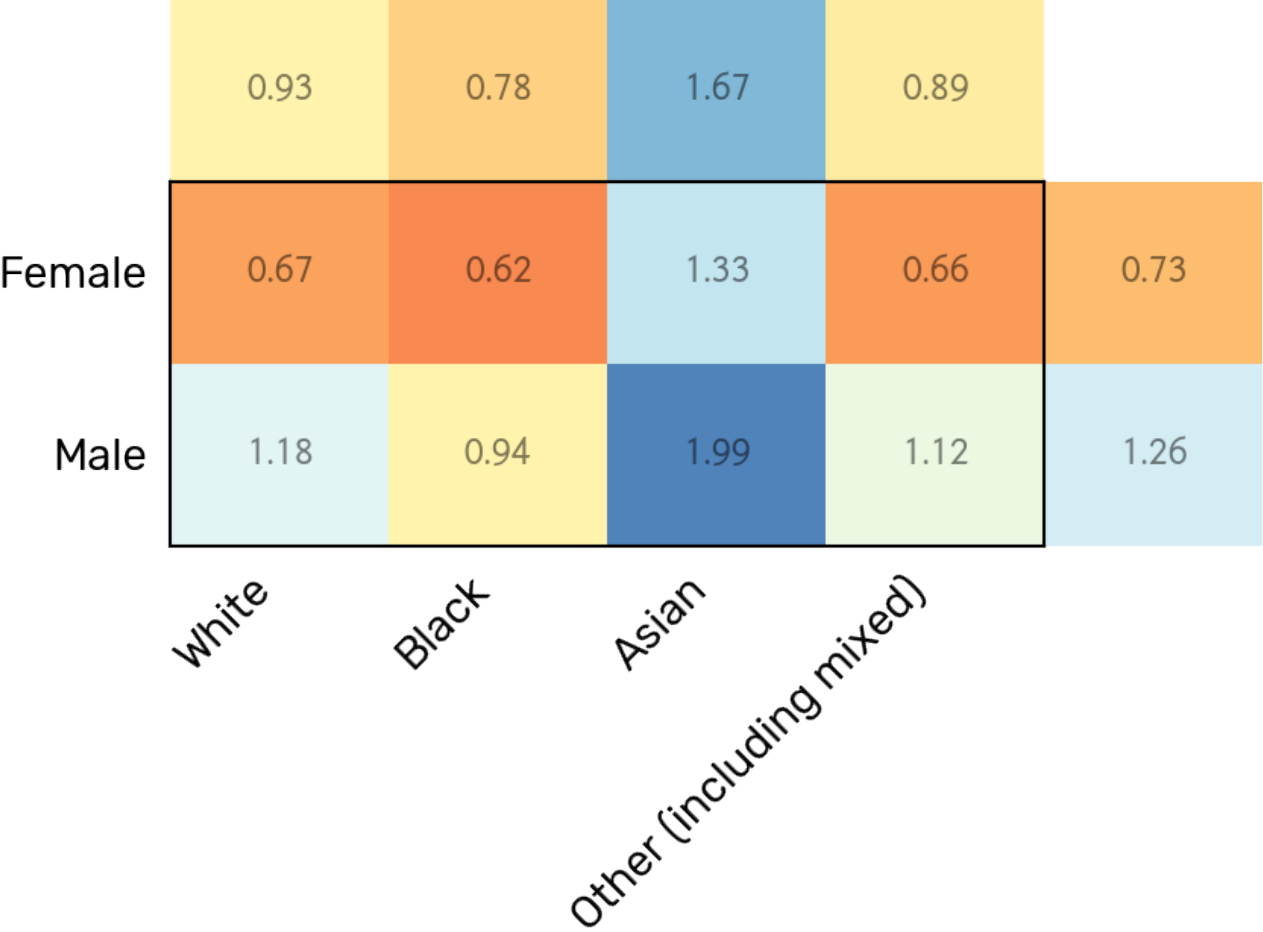


REGIONAL DOMICILE

Possible good work of SEPNet?

MATHEMATICS

GENDER AND ETHNICITY

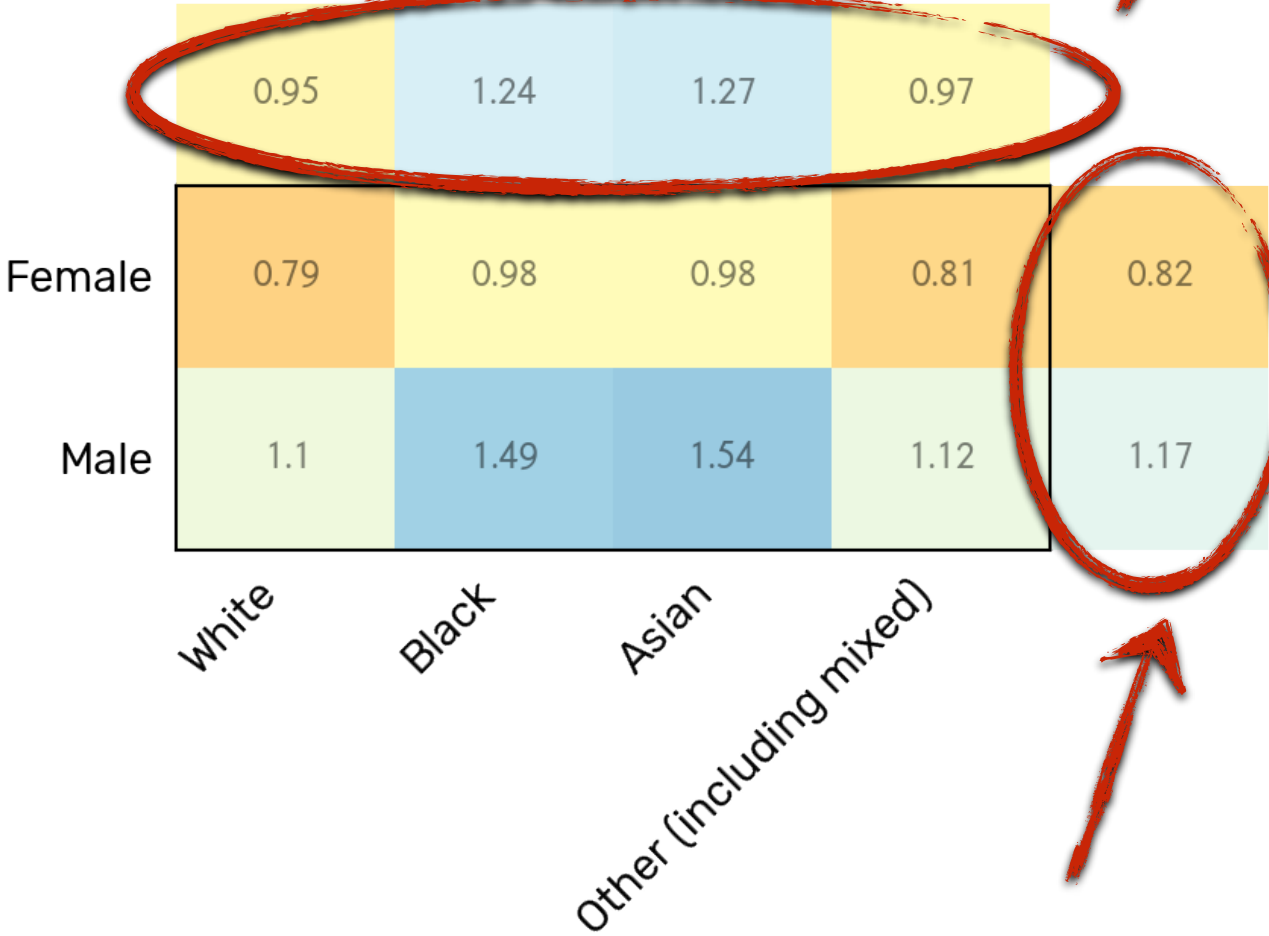


REGIONAL DOMICILE

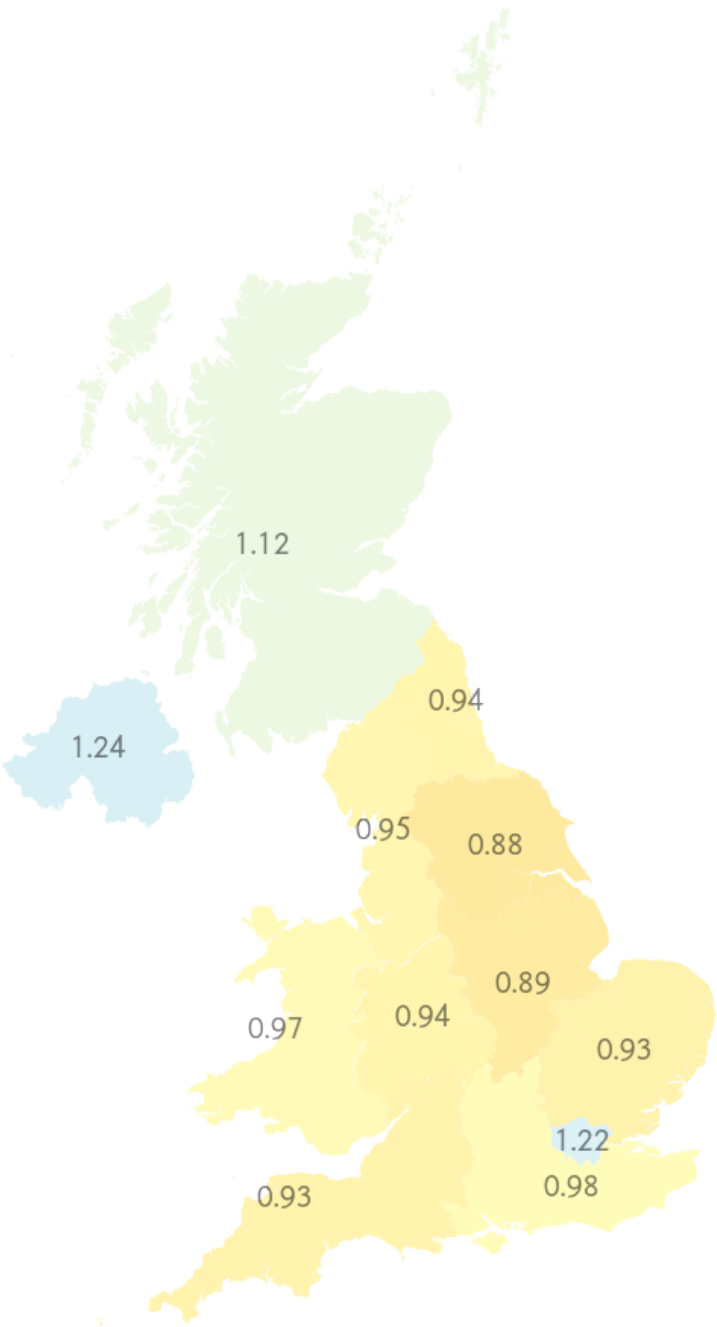
STEM

Ethnicity gap mostly missing

GENDER AND ETHNICITY

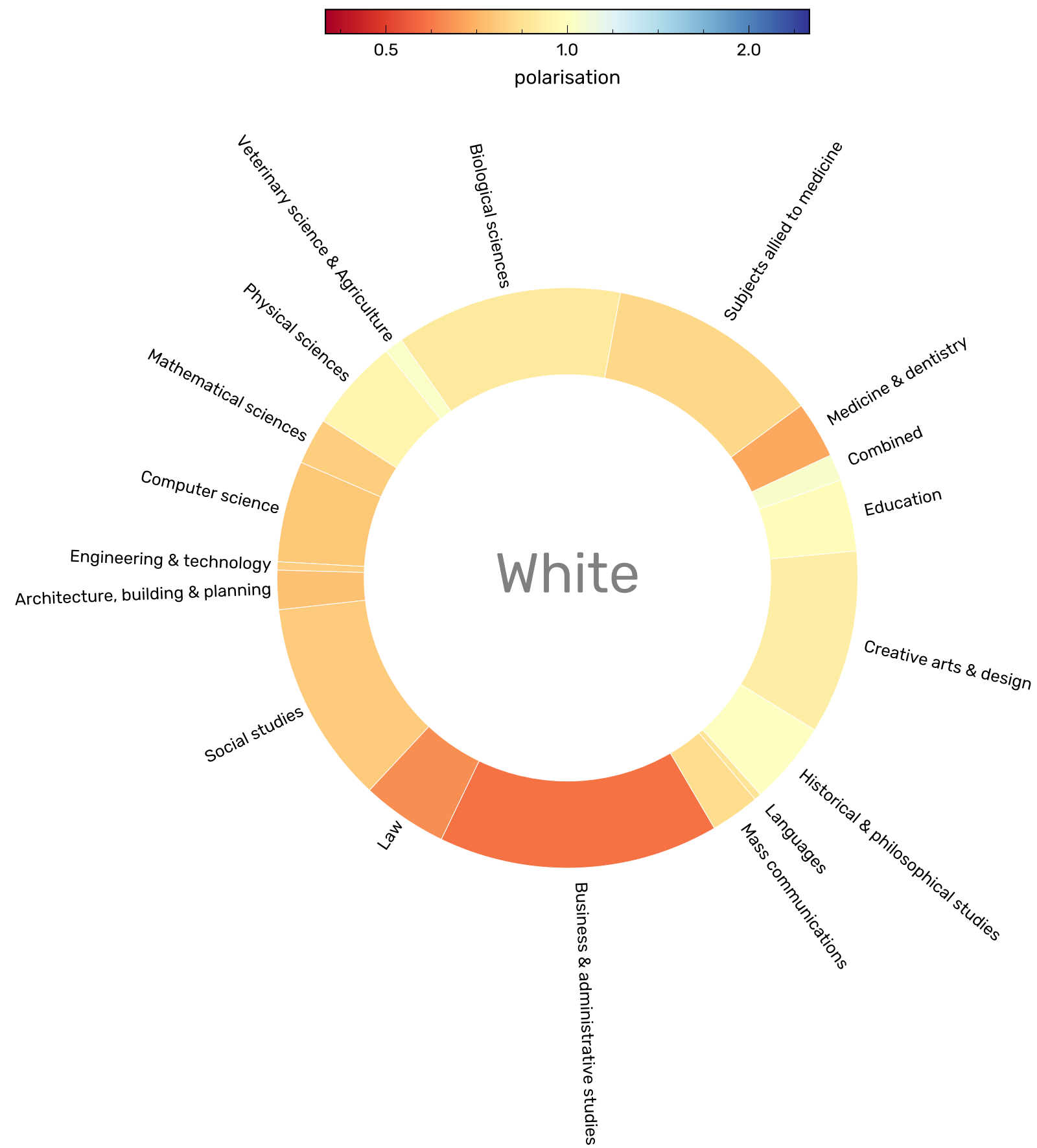


Weakened gender gap but still there



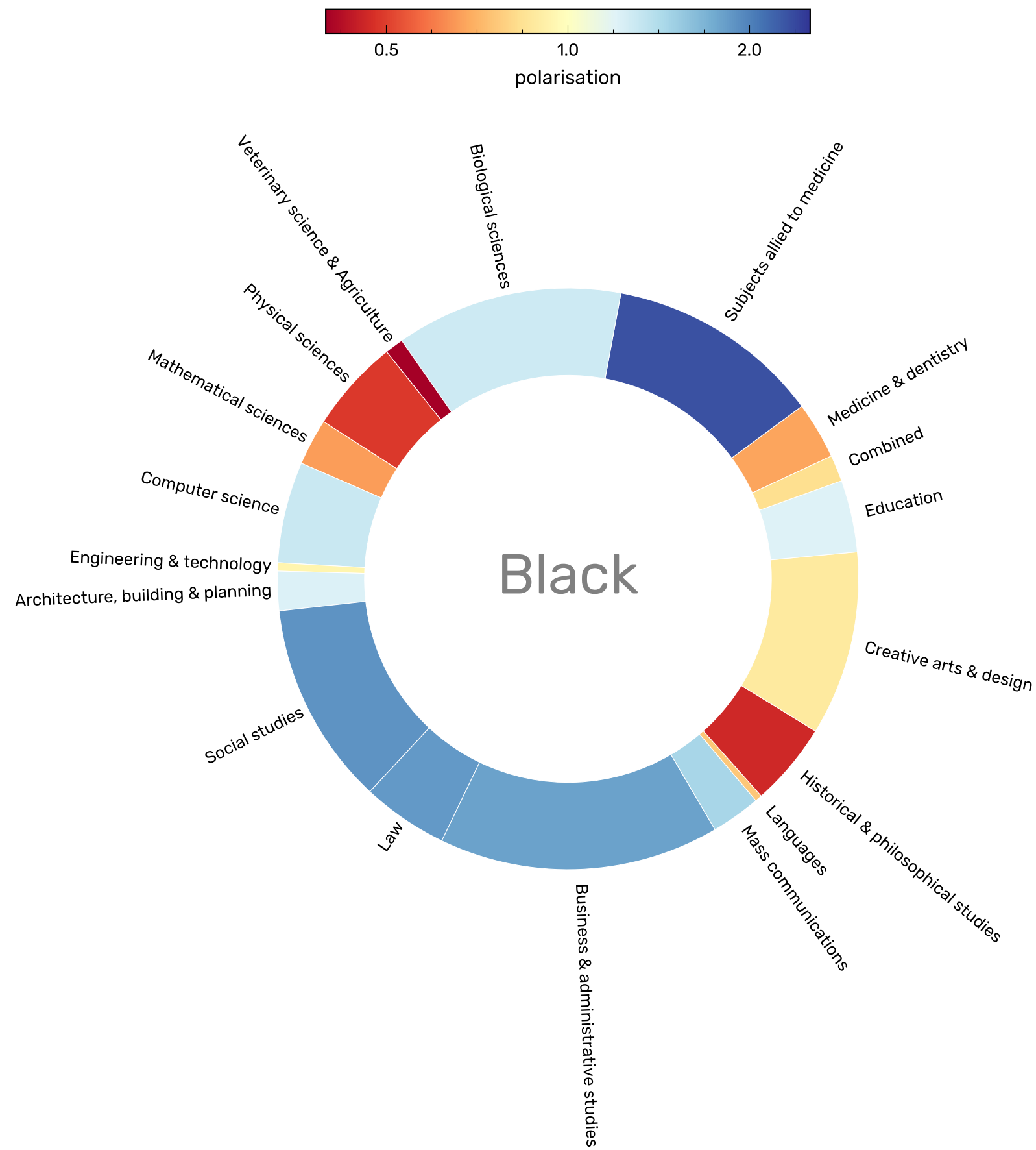
REGIONAL DOMICILE

WHITE



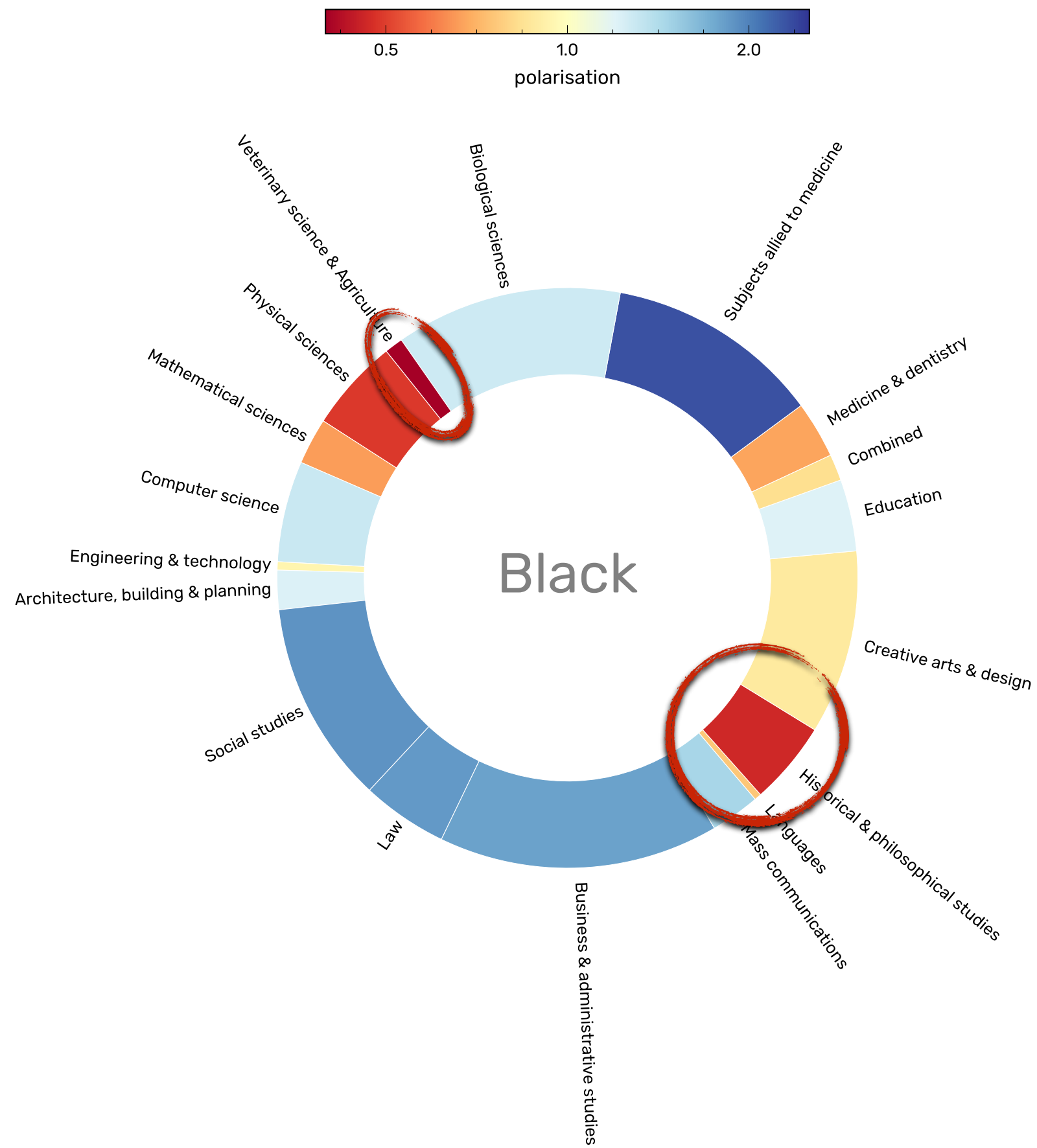
Segment size denotes relative number of students in each subject area.

BLACK



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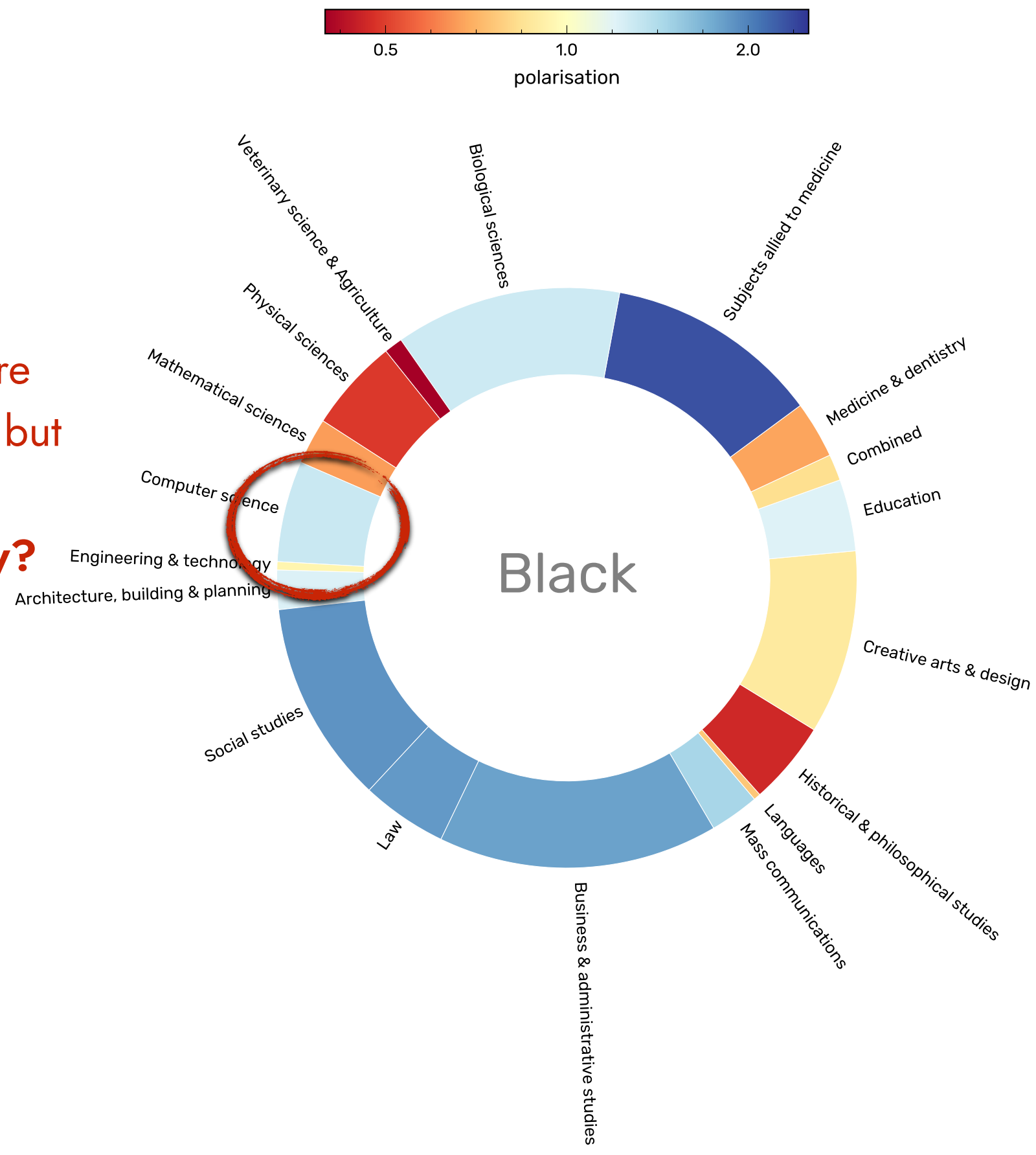
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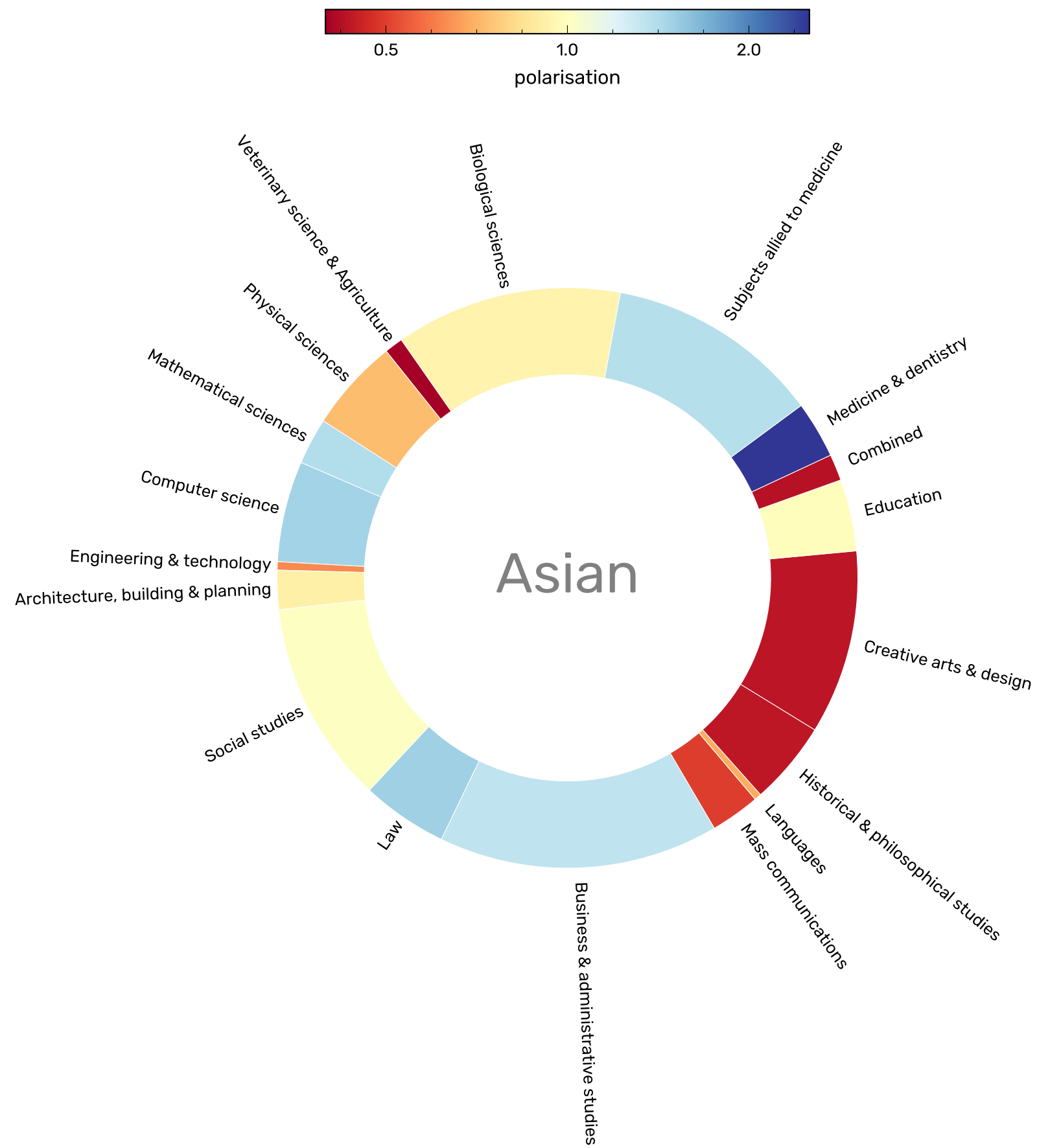
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Arguably require similar 'skillset' but not negatively polarised! **Why?**



Segment size denotes relative number of students in each subject area.

ASIAN



Segment size denotes relative number of students in each subject area.