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Diversity and Inequalities in Ethnicity and Religion in the UK, 2001-2021

Part of:



In collaboration with:



Supervisory Team:

Prof Gemma Catney (Principal Supervisor)

Prof Christopher Lloyd (Secondary Supervisor)

Dr. Sarah Wood / Dr. Jesse Ransley (External Supervisors (ONS))

Dr. Momoko Nishikido (Assistant Supervisor)

Presentation overview

1. Context and Research Questions
2. Summary Population figures
3. Spatial representations
4. Diversity - *Reciprocal Diversity Index (RDI)*
5. Segregation – *Dissimilarity (D)* measure
6. Concluding remarks (and maybe a taste of the Ethnicity work, time allowing...)



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Research Context

- Previous research on ethnicity, including ethnic diversity, segregation and inequalities
- Novel research even though data is publicly available



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Some of the RQs of the overall PhD project...

RQ1: What is the current state of religious diversity in England and Wales, and how has the population indicating a religious affiliation changed over time?

RQ2: How has the religious landscape in England and Wales diversified geographically over recent decades?

Other RQs include intersection of religion with other census variables (e.g. ethnicity, age) and health inequalities



Focus of presentation today...

Diversity/Diversification

Religion in England and Wales

- What are the geographies of religious diversity, and how have these changed over time?

Segregation

- To what extent do people of different religious groups share residential neighbourhoods, and how has this changed over time?

Religion Question in Census

- **Optional** question
- **First introduced** in Census 2001
- The religion people connect or identify with (their **religious affiliation**), **whether or not they practice or have belief in it**. This question was voluntary and includes people who identified with one of 8 tick-box response options, including "No religion", alongside those who chose not to answer this question.

Religion

10 categories

- No religion
- Christian
- Buddhist
- Hindu
- Jewish
- Muslim
- Sikh
- Other religion
- Not answered
- Does not apply



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Summary Population Figures (for those indicating affiliation to a religion) – England and Wales

Religion	Census 2001	Census 2011	Census 2021	%Population difference between 2001 & 2011	%Population difference between 2011 & 2021	%Population difference between 2001 & 2021
Christian	37,338,486 (71.75%)	33,243,175 (59.28%)	27,446,763 (46.16%)	-10.97	-17.44	-26.49
Muslim	1,546,769 (2.97%)	2,706,066 (4.83%)	3,868,338 (6.51%)	74.95	42.95	150.09
Hindu	552,364 (1.6%)	816,633 (1.46%)	1,033,156 (1.74%)	47.84	26.51	87.04
Sikh	329,341 (0.63%)	423,158 (0.75%)	524,225 (0.88%)	28.49	23.88	59.17
Buddhist	144,191 (0.28%)	247,743 (0.44%)	272,315 (0.46%)	71.82	9.92	88.86
Jewish	260,094 (0.5%)	263,346 (0.47%)	271,287 (0.46%)	1.25	3.02	4.3
Other religion	150,624 (0.29%)	240,530 (0.43%)	348,245 (0.59%)	59.69	44.78	131.2
No religion	7,709,267 (14.81%)	14,097,229 (25.14%)	22,109,849 (37.18%)	82.86	56.84	186.8
Not answered	4,010,658 (7.71%)	4,038,032 (7.2%)	3,588,191 (6.3%)	0.68	-11.14	-10.53

Spatial representation

- Maps showing proportions of population affiliated to each religion at different Census years

Geographies

Lower Super Output Area (LSOA) – up to 3K population

Local Authority (LA) – Administrative boundary

Census Days

2001

2011

2021



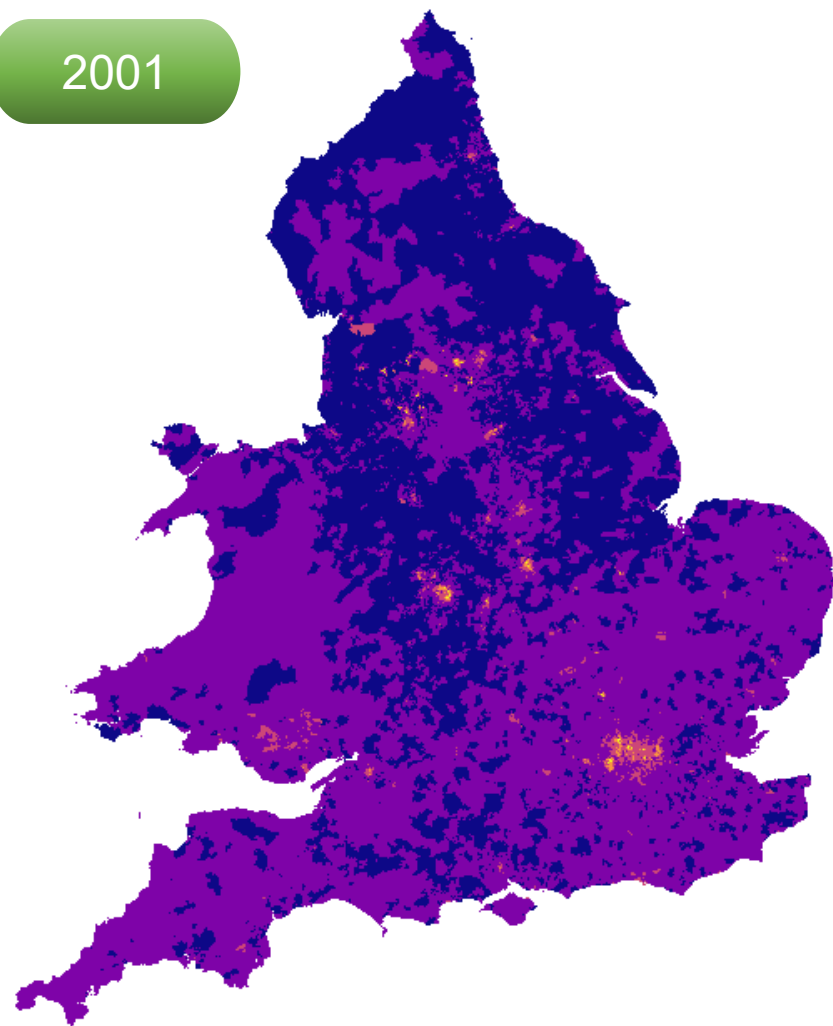
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Christians

Proportion of Christians by LSOA in 2001

Proportion 0-20% 21-40% 41-60% 61-80% 81-100%

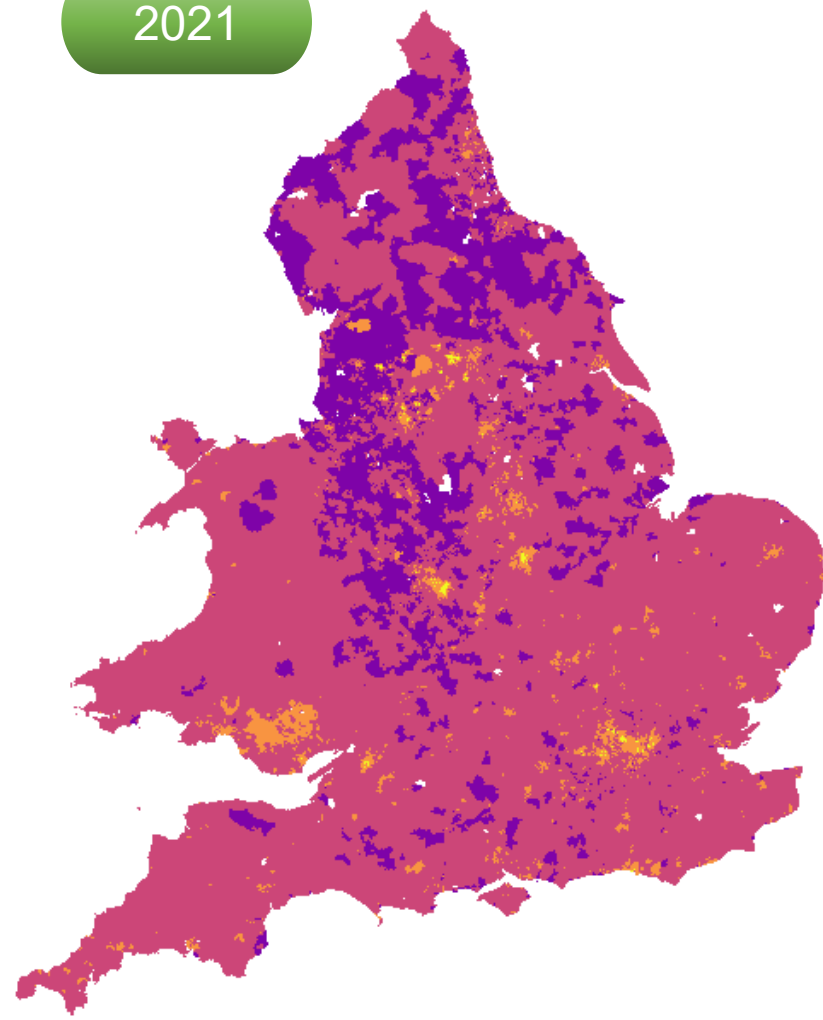
2001



Proportion of Christians by LSOA in 2021

Proportion 0-20% 21-40% 41-60% 61-80% 81-100% NA

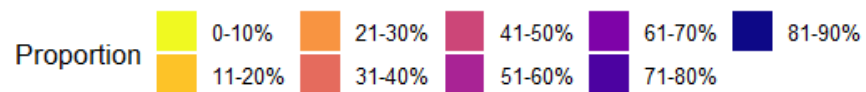
2021



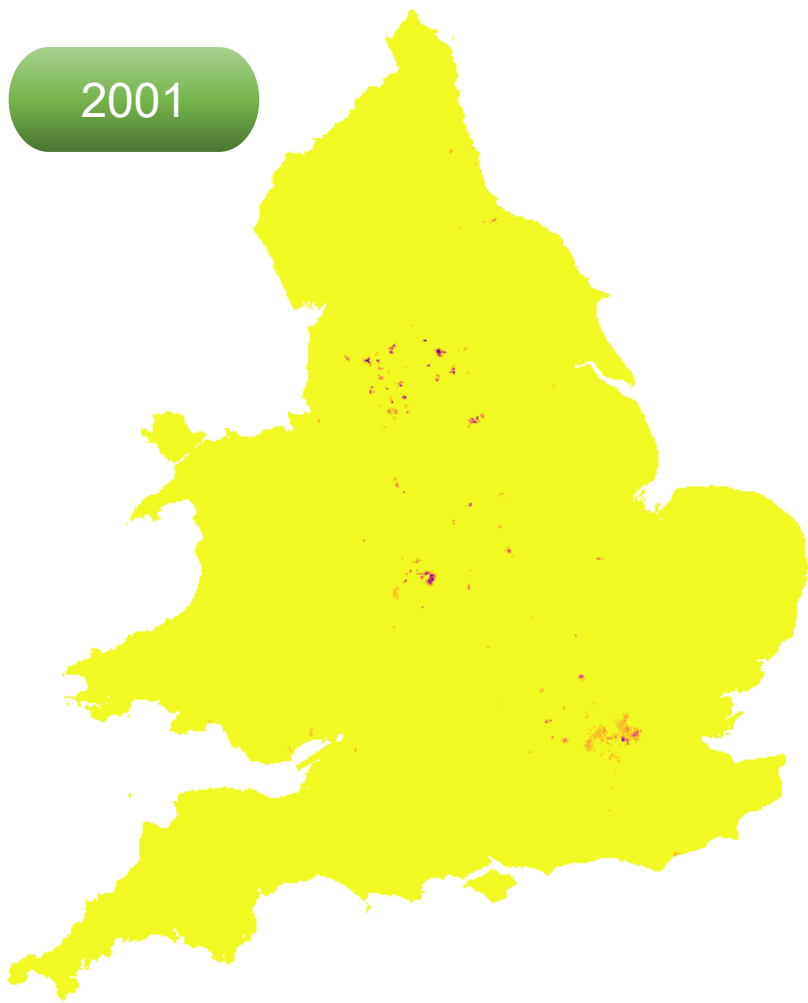
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Muslims

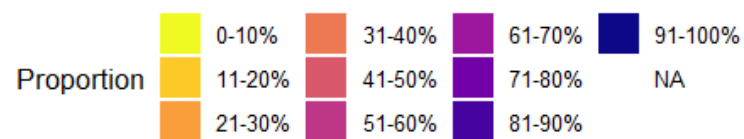
Proportion of Muslims by LSOA in 2001



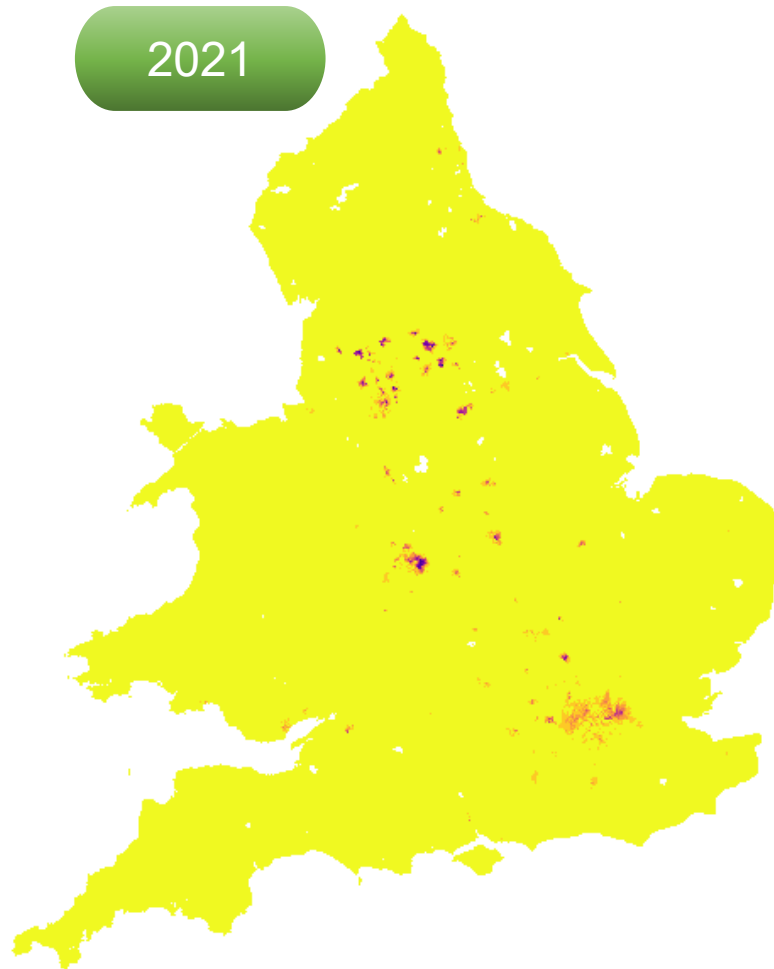
2001



Proportion of Muslims by LSOA in 2021



2021



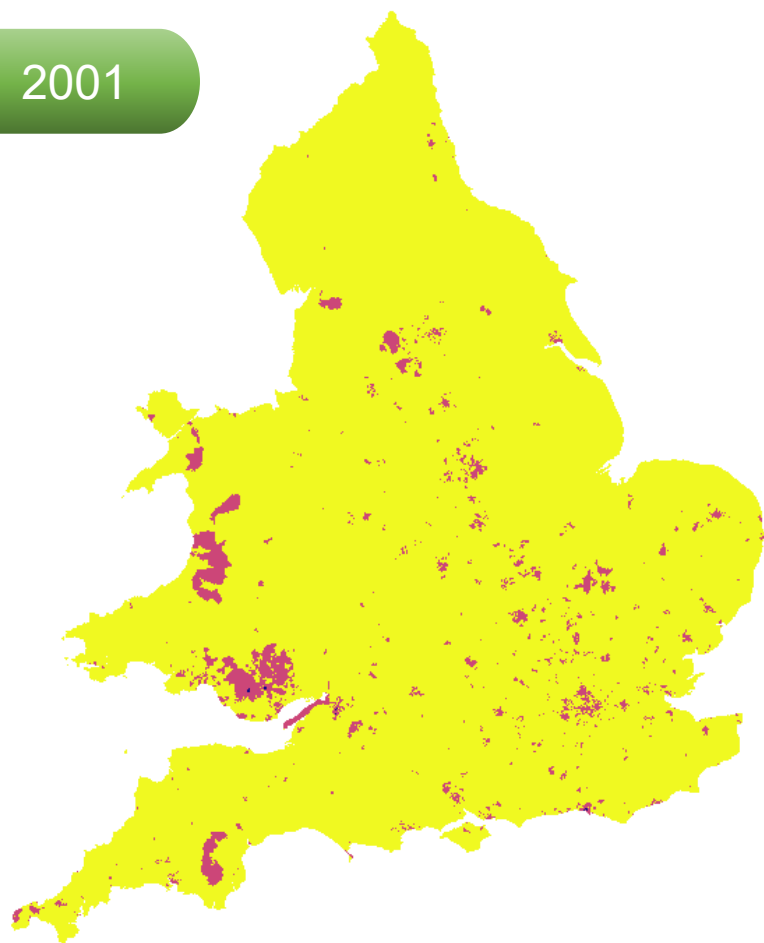
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No Religion

Proportion of people who are not affiliated to any religion ('No religion') by LSOA in 2001

Proportion 0-20% 21-40% 41-60%

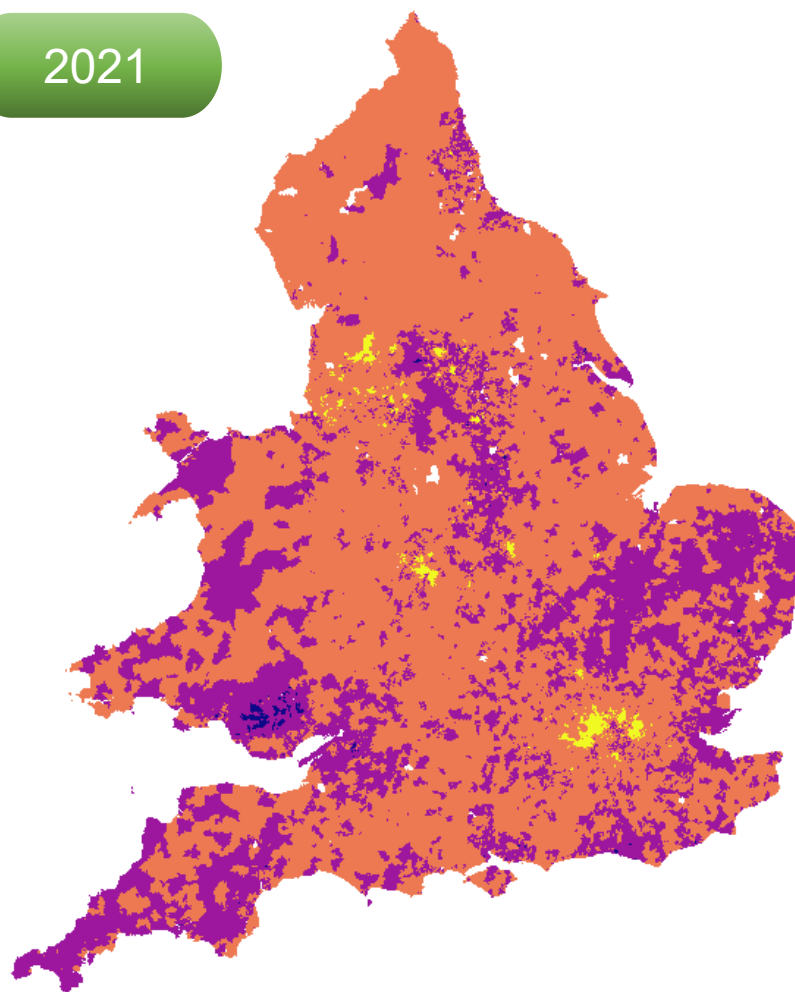
2001



Proportion of people who are not affiliated to any religion ('No religion') by LSOA in 2021

Proportion 0-20% 21-40% 41-60% 61-80% NA

2021



About the Reciprocal Diversity Index (RDI)

$$RDI_i = 1 / \sum_{m=1}^M \left(\frac{N_{im}}{N_i} \right)^2$$

- To measure how diverse something is—whether it's a group of people, an ecosystem, or any collection of different things.
- Higher RDI score implies higher diversity



Visualising RDI

Religious Reciprocal Diversity Index (RDI) by Local Authority

Lowest RDI Score = 1.3 , Highest RDI Score = 4.86

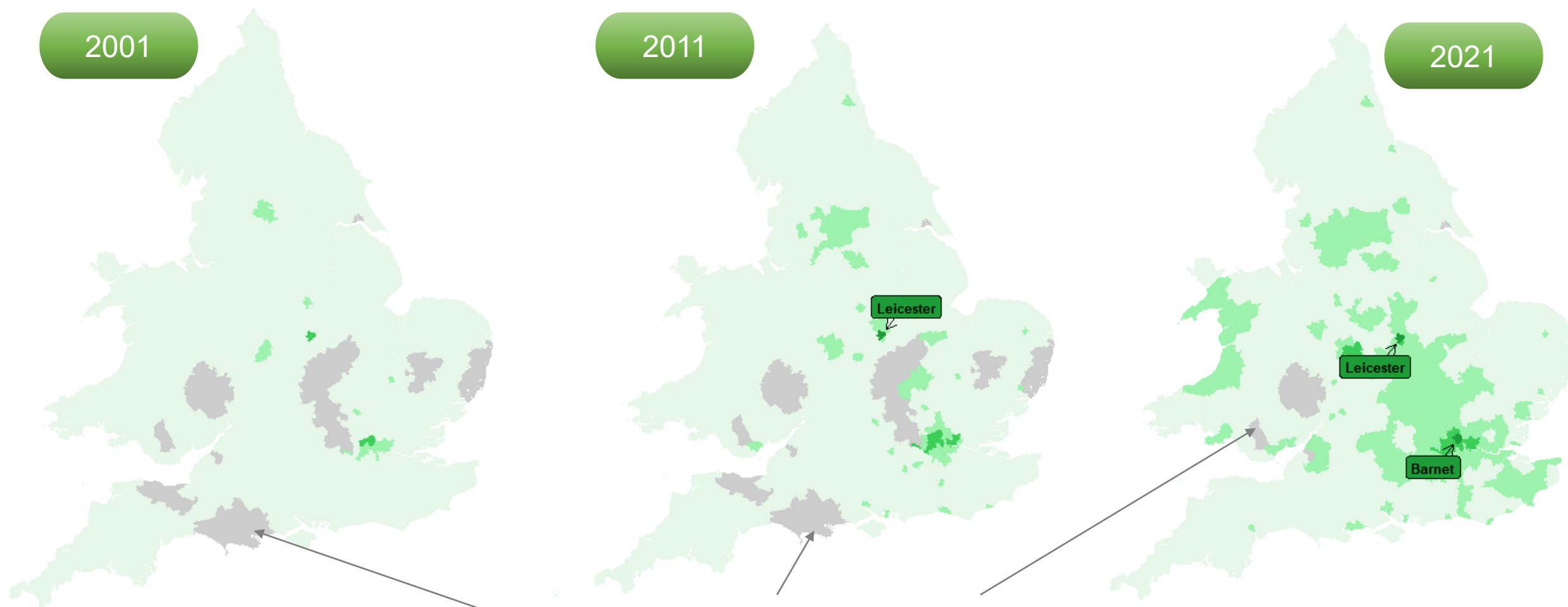
RDI Category

Not Diverse (1.3-2.4)	Somewhat Diverse (2.5-3.5)	Fairly Diverse (3.6-4.5)	Very Diverse (>4.6)
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2001

2011

2021

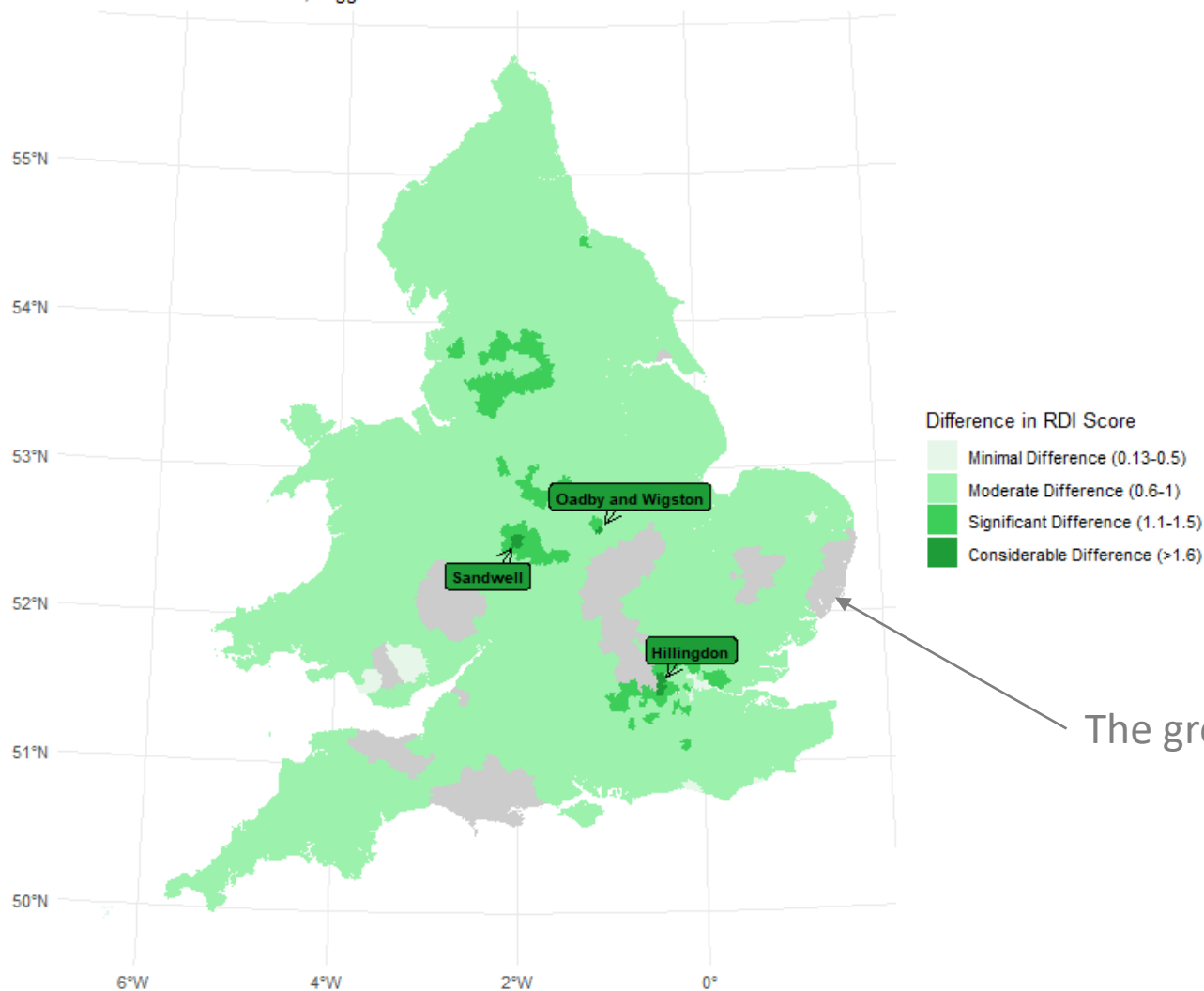


The grey areas shows inconsistent geography names

Visualising RDI – the difference between Census 2021 and Census 2001 – Local Authority

Difference in RDI between Census 2021 and Census 2001

Smallest Difference = 0.13 , Biggest Difference = 2.02



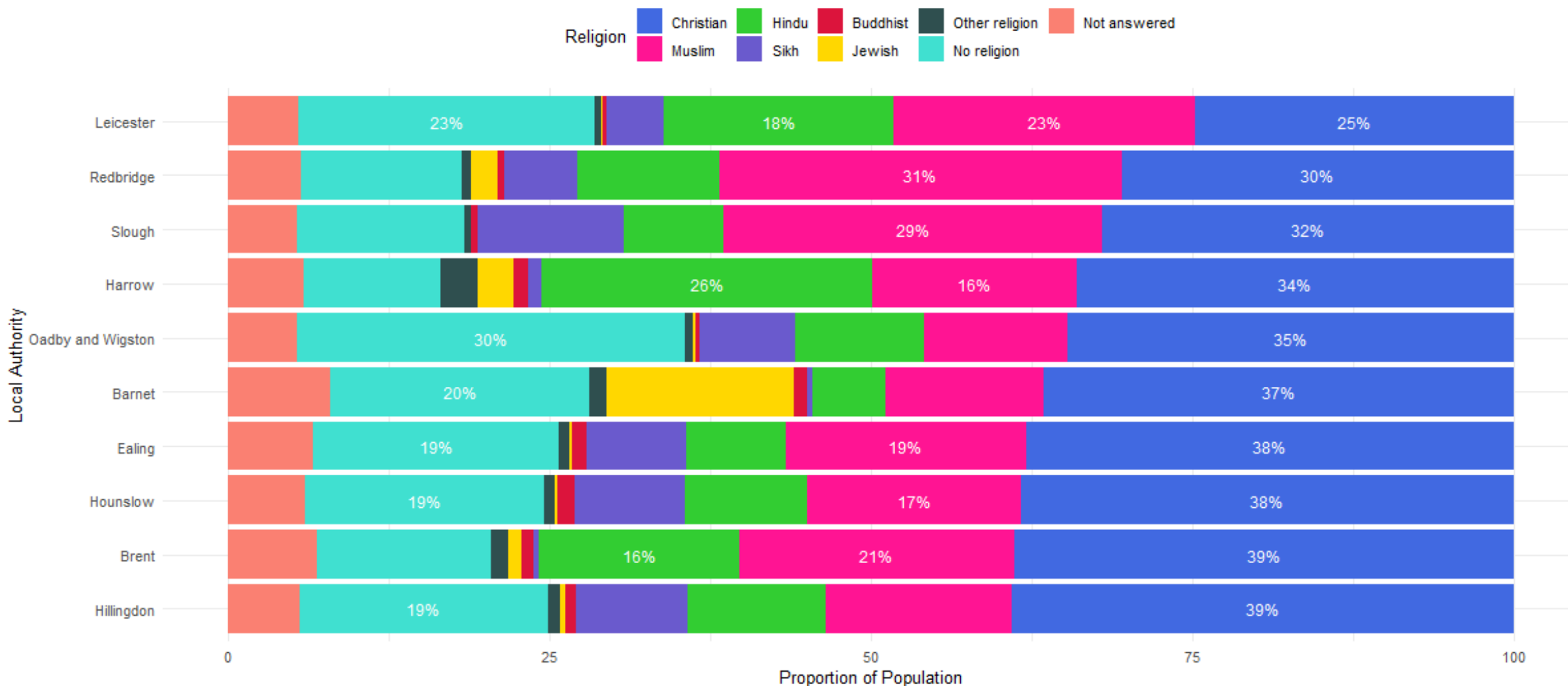
The grey areas shows inconsistent geography names



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Visualising RDI – Top ten most diverse Local Authorities - 2021

Proportional Population by Religion for Top Ten Most Diverse LAs (by RDI Scores) in 2021



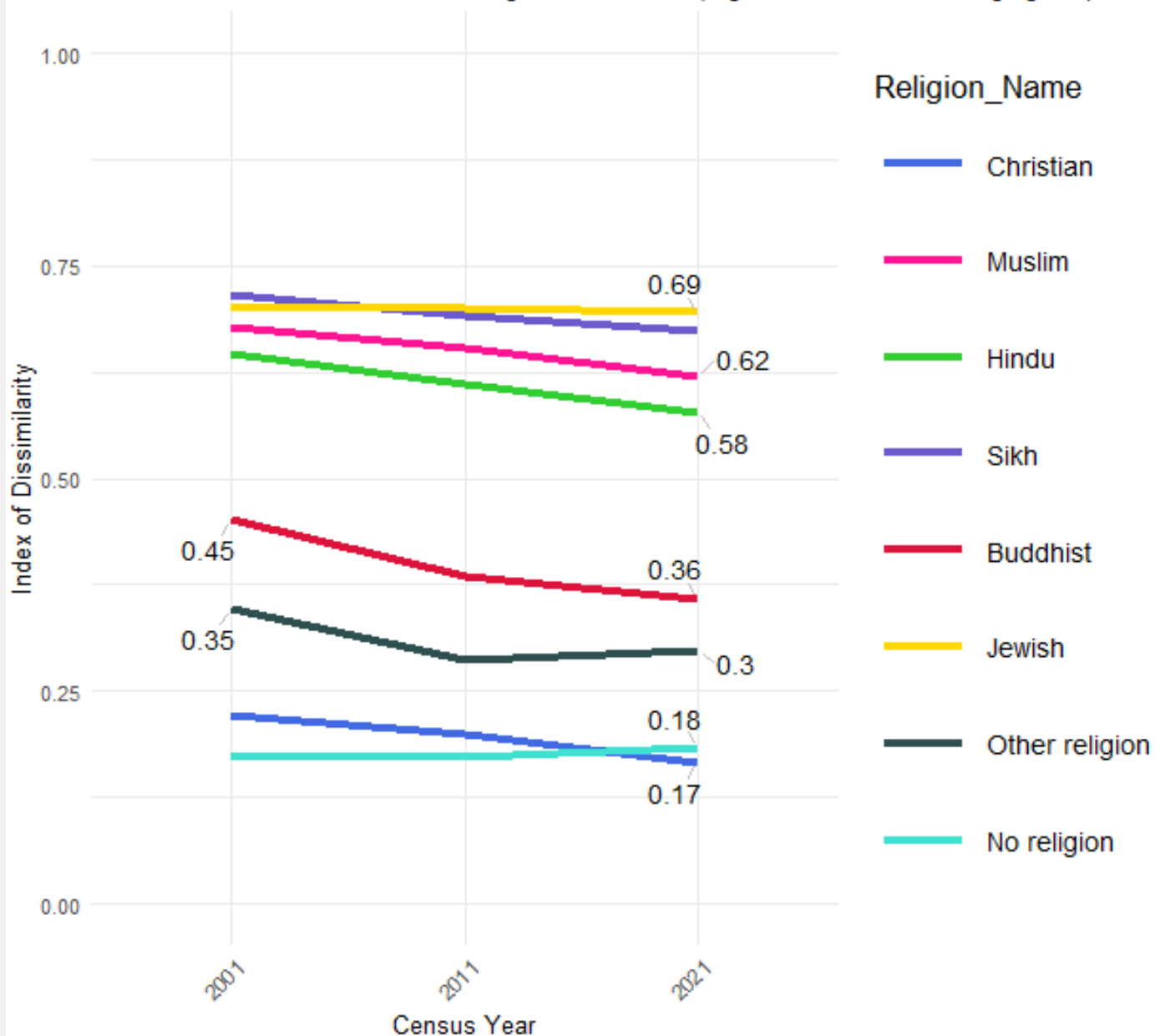
About the Dissimilarity Index (D)

- To measure **how evenly two groups are spread** across different areas, such as neighbourhoods in a city. It's often used in **studies of segregation**—for example, to see if religious or ethnic groups tend to live separately or mix together
- Higher D-value implies reduced mixing with the other group(s)

$$D = 0.5 \times \sum_{i=1}^{N_I} \left| \frac{N_{im}}{N_m} - \frac{N_{in}}{N_n} \right|$$



Residential Segregation (Dissimilarity Index, D) of Religious Groups
Over The Three Census Periods in England and Wales (Higher D Value = more segregated)



Residential Segregation- Change Over Time – England and Wales

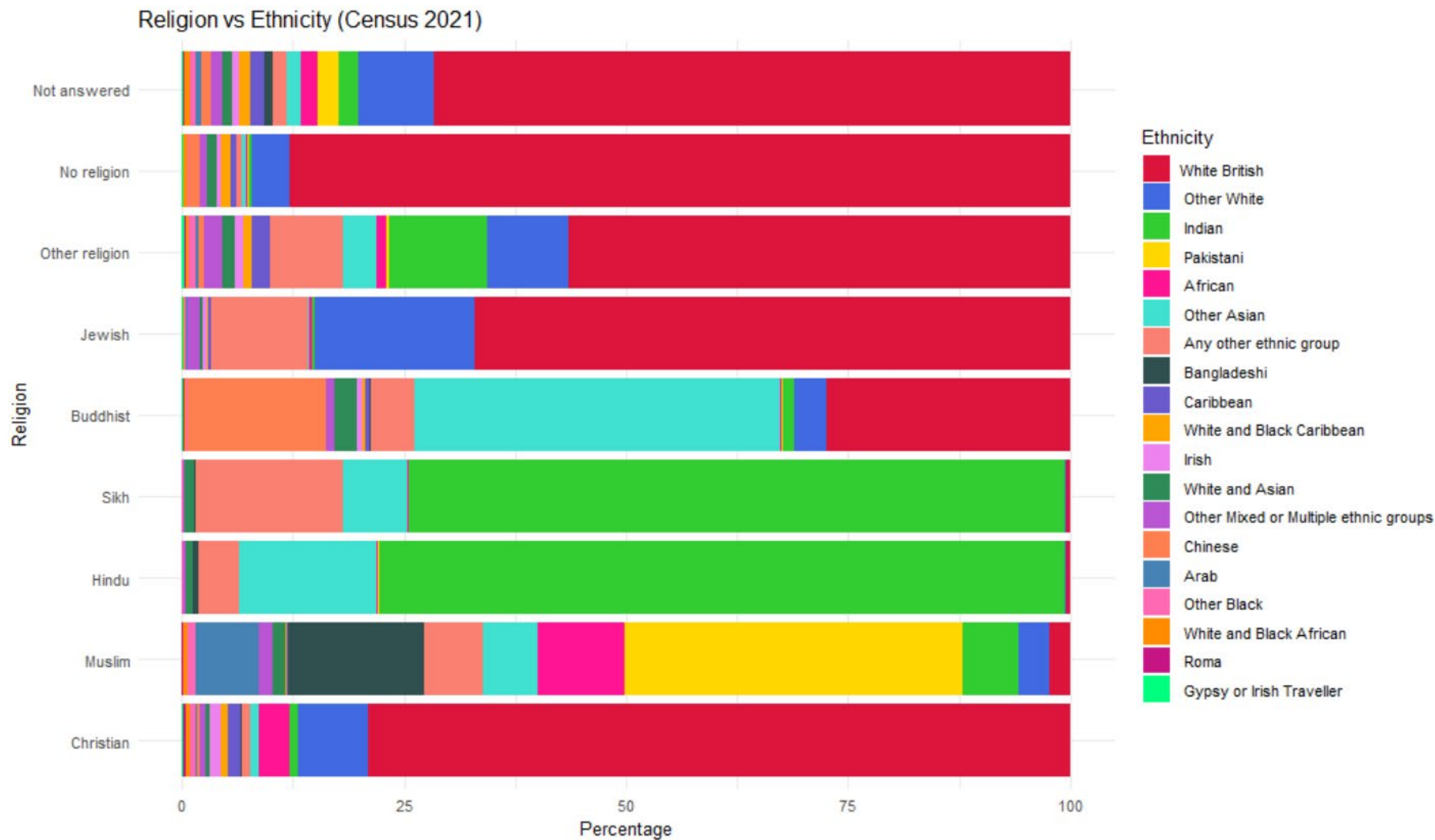


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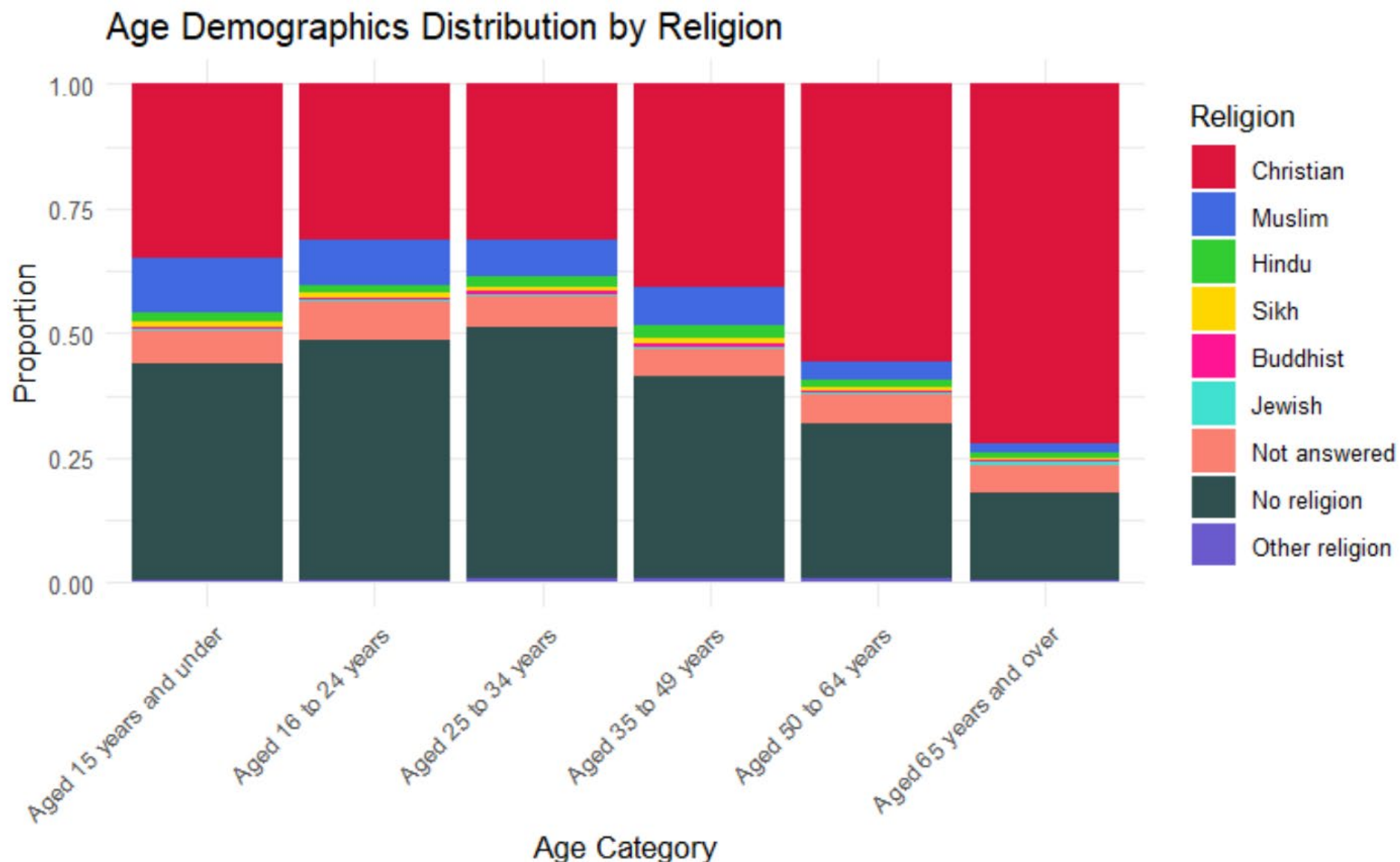
Do we have time to discuss intersectionality?

```
IF time_remaining > time_required_for_UKCUC_Presentation
  THEN
    GO TO intersection_slides
  ELSE
    GO TO thank_you_slide
  END IF
```

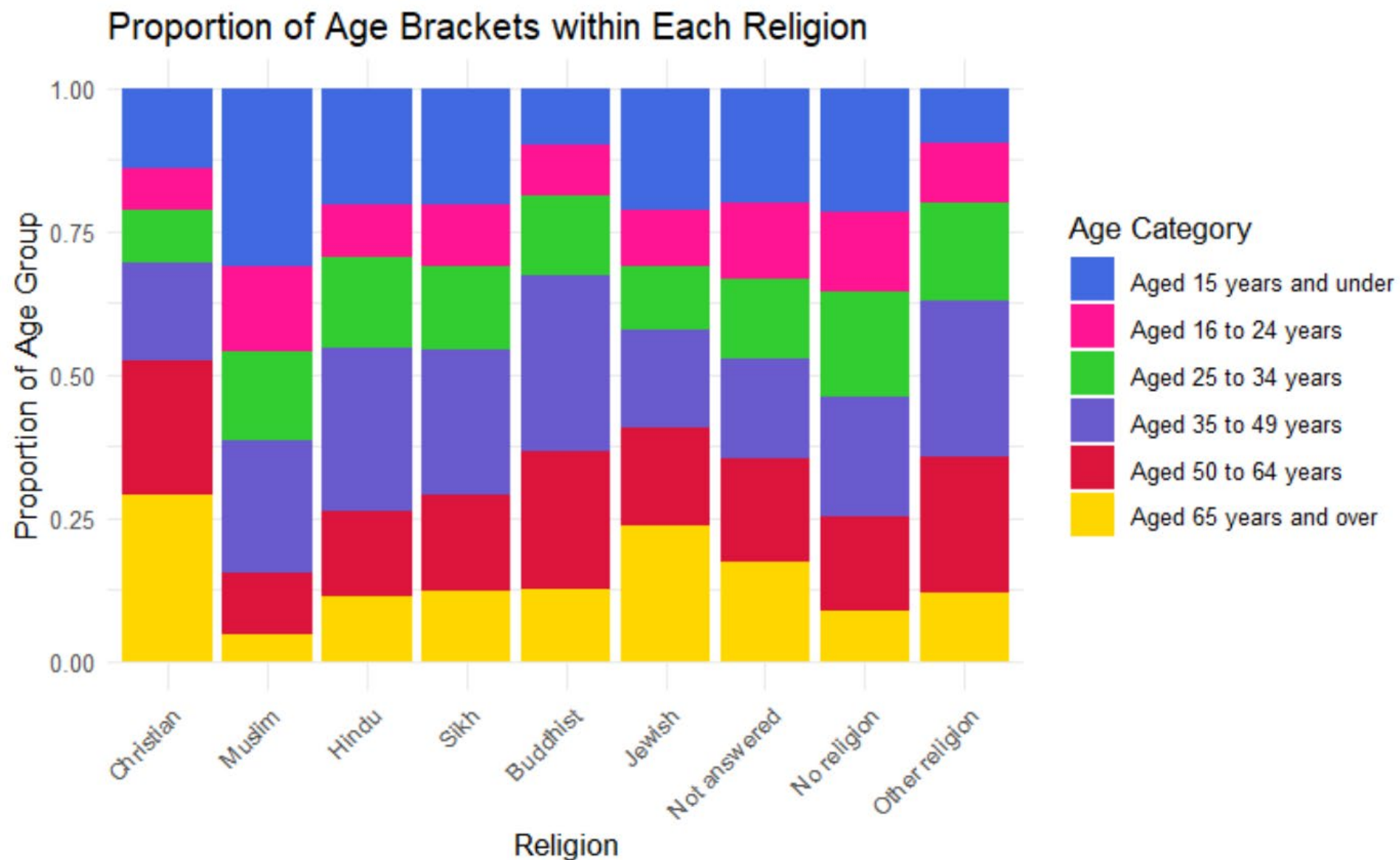
Religion and Ethnicity



Religion and Age



Religion and Age



Concluding Remarks and Further work

- Takeaways
 - Policy implications – co-designing solutions to social challenges
- Intersectional work – e.g. ethnicity and age
- Collaboration with ONS – Health Inequalities

Thank you!