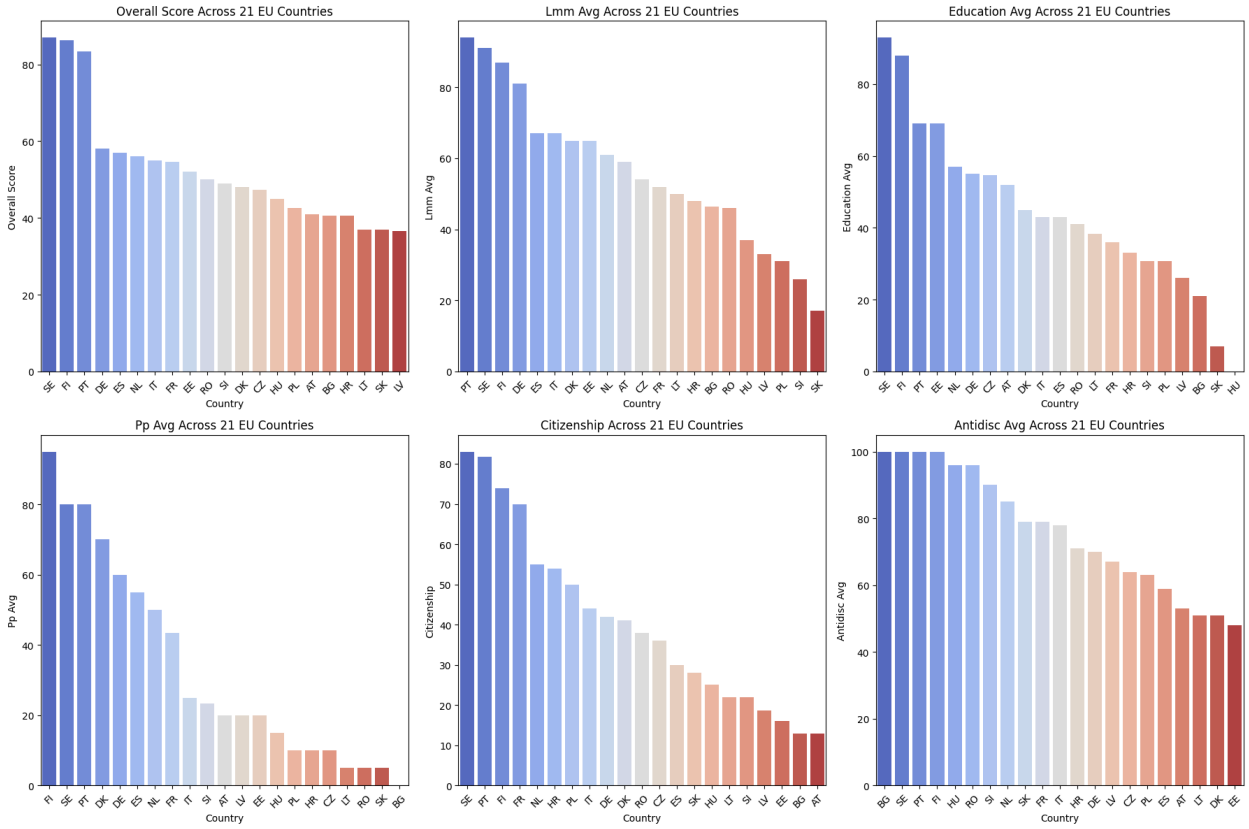
Appendix E. Study 3 Initial Results

As exploratory analysis was already conducted, this section includes results on policy domain scores, testing for policy imbalance, and clustering outcomes.

1. Policy Domain Scores

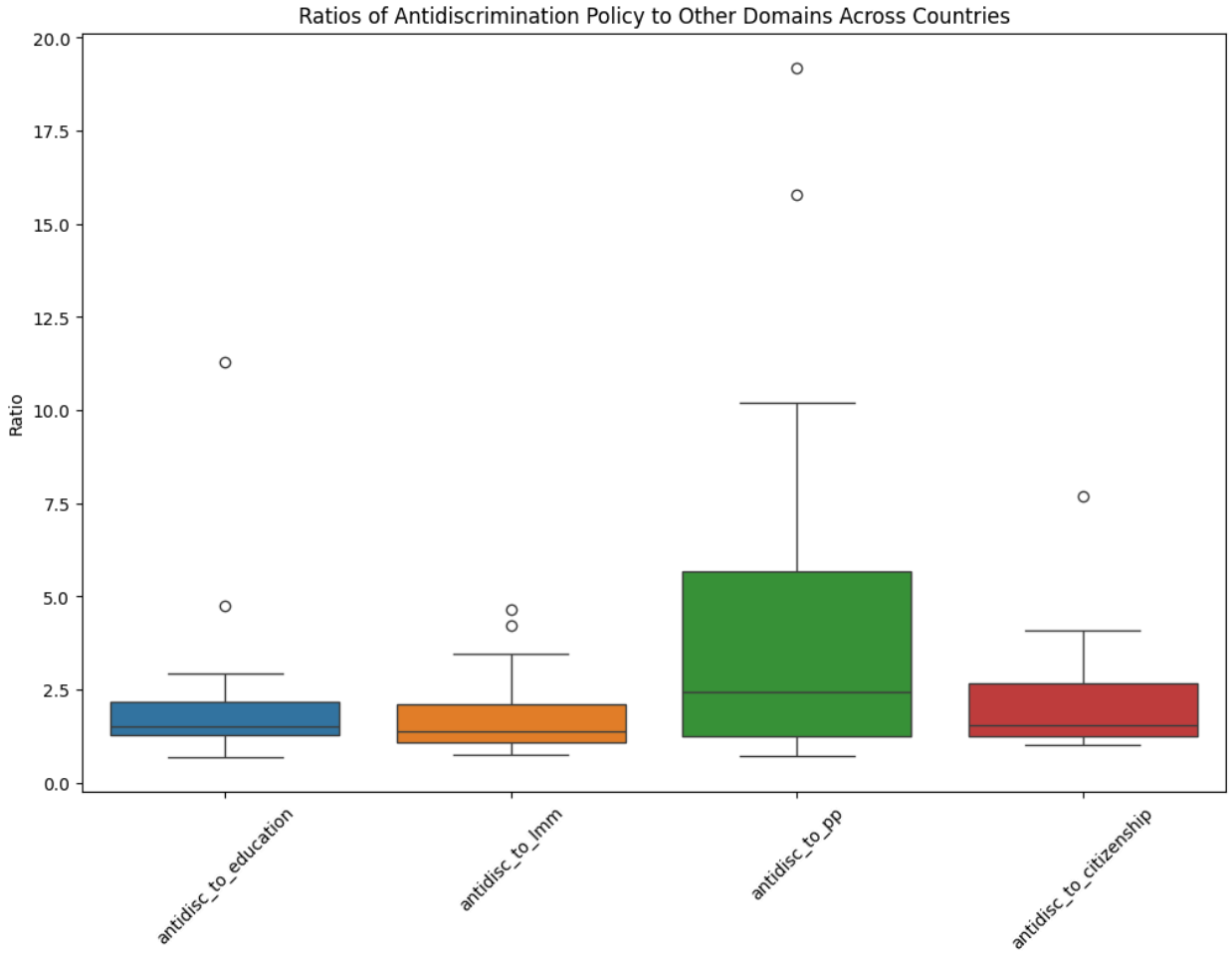
Visualising initial policy score distributions showed a visible policy effectiveness spike in Anti-Discrimination Policy Effectiveness [Figure 1]. This was interesting since most sub-domains in anti-discrimination policies were linked to other social integration policies (labour market mobility, education, etc.). So, I decided to conduct a policy imbalance test to see if imbalances existed unilaterally [Equation 1].



$$\text{PolicyImbalance}_{i,j} = \frac{\text{AntiDiscrimination}_i}{\text{PolicyDomain}_{i,j}}$$

Figure 1.

This revealed significant policy imbalances that were confirmed with a t-test.



Paired t-test (Antidiscrimination vs. Education): T-test Result (statistic=6.392411311269584, p value=9.016813748321408e-07, df=26)

Paired t-test (Antidiscrimination vs. Labor Mobility): T-test Result (statistic=4.805327444991322, p value=5.618130576011526e-05, df=26)

Figure 2.

K-means and Hierarchical clustering methods were then used to validate, complement, and confirm exploratory analysis.

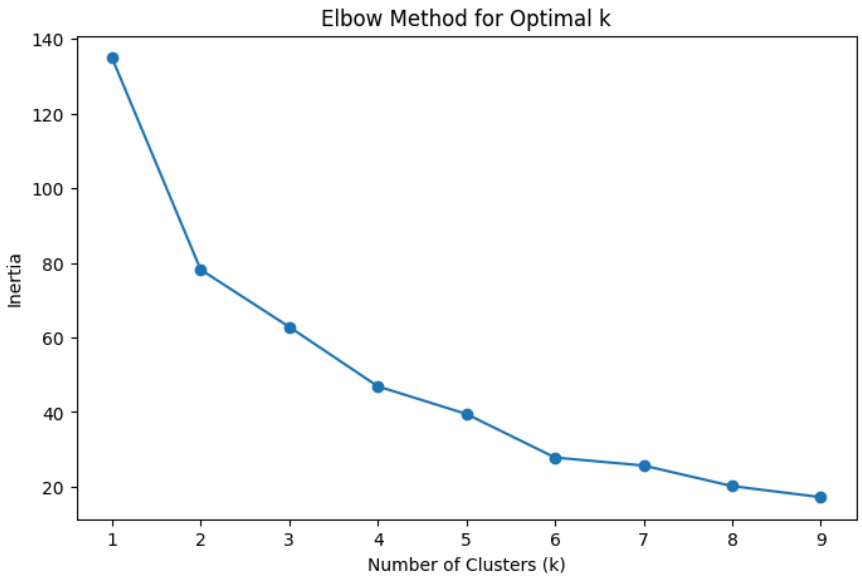


Figure 3.

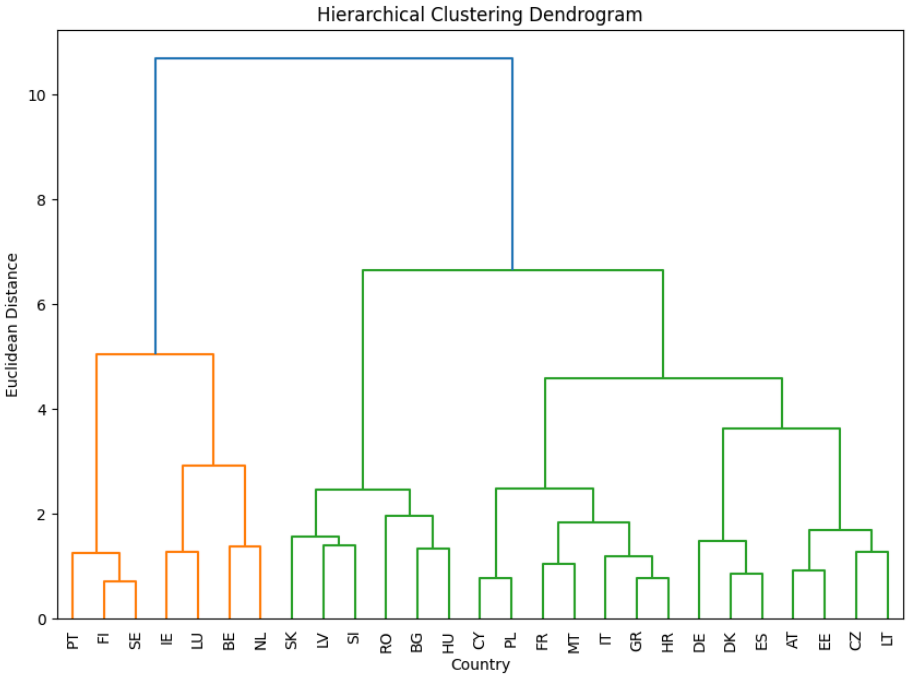


Figure 4.

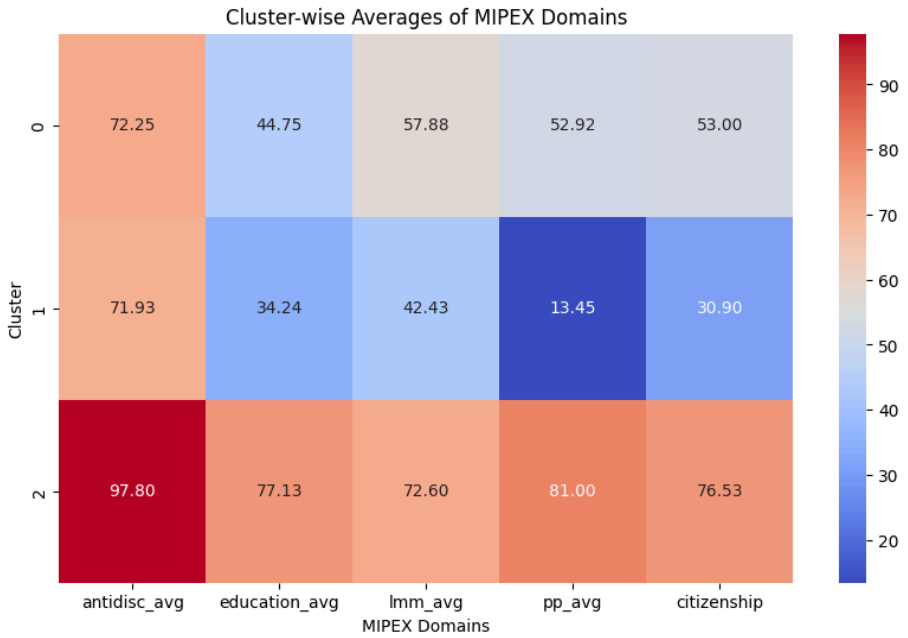


Figure 5.

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Countries in Cluster 0:
['DE', 'DK', 'ES', 'FR', 'IE', 'IT', 'MT', 'NL']

Countries in Cluster 1:
['AT', 'BG', 'CY', 'CZ', 'EE', 'GR', 'HR', 'HU', 'LT', 'LV', 'PL', 'RO', 'SI', 'SK']

Countries in Cluster 2:
['BE', 'FI', 'LU', 'PT', 'SE']
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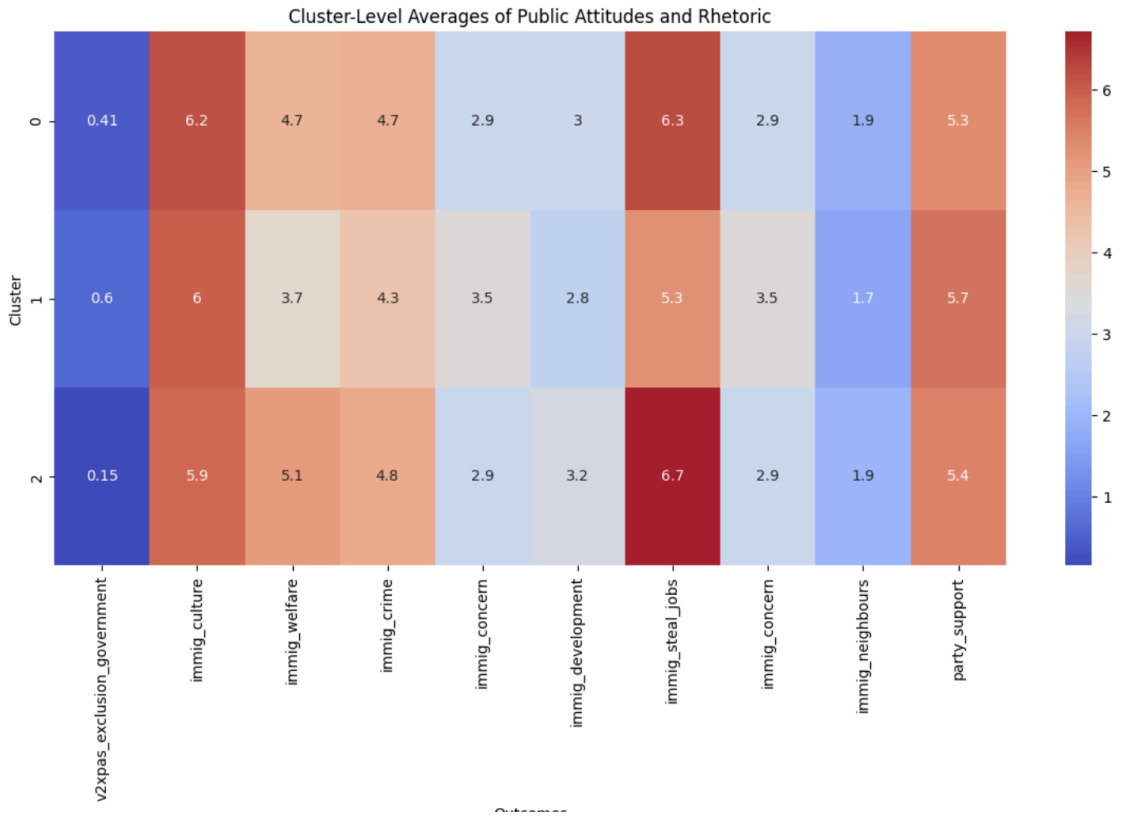
They were then mapped onto the main datasets, and showed significant clustering results as confirmed by the Kruskal-Wallis and one-way ANOVA tests.



	Outcome	ANOVA F-statistic	ANOVA p-value	Kruskal-Wallis H-statistic	Kruskal-Wallis p-value
0	v2xpas_exclusion_government	8.909808	0.002043	9.961039	0.006870
1	immig_culture	0.276594	0.761527	0.893939	0.639563
2	immig_welfare	8.707550	0.002263	10.909091	0.004277
3	immig_crime	0.972492	0.397145	1.344156	0.510646
4	immig_concern	8.548046	0.002455	9.870130	0.007190
5	immig_development	6.284019	0.008512	8.961039	0.011328
6	immig_steal_jobs	6.361857	0.008132	7.006494	0.030099
7	immig_neighbours	12.173455	0.000453	14.073593	0.000879
8	party_support	1.904489	0.177719	3.088745	0.213446

Figure 6.