

Automated Data Analysis Report

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1. Clustering Results

Best Parameters: {'epsilon': 2.393369097964607, 'min_samples': 6, 'silhouette': 0.33287232534725236}, Best Silhouette Score: 0.333

2. ANOVA Results

Results for wife_religion: F-value = 20296.886, P-value = 0.000

Tukey-HSD Test Results: Multiple Comparison of Means - Tukey HSD, FWER=0.05

```
===== group1 group2 meandiff p-adj
lower upper reject ----- -1 1 1.8704 0.0 1.7661 1.9746 True -1 3
1.8704 0.0 1.7712 1.9696 True -1 4 1.8704 0.0 1.7697 1.971 True -1 5 -0.9352 0.0 -1.0377 -0.8327
True -1 6 -0.9352 0.0 -1.0422 -0.8282 True 1 3 -0.0 1.0 -0.0359 0.0359 False 1 4 -0.0 1.0 -0.0398
0.0398 False 1 5 -2.8055 0.0 -2.8498 -2.7613 True 1 6 -2.8055 0.0 -2.8593 -2.7518 True 3 4 0.0 1.0
-0.0237 0.0237 False 3 5 -2.8055 0.0 -2.8361 -2.7749 True 3 6 -2.8055 0.0 -2.8488 -2.7623 True 4 5
-2.8055 0.0 -2.8406 -2.7704 True 4 6 -2.8055 0.0 -2.8521 -2.759 True 5 6 -0.0 1.0 -0.0504 0.0504
False -----
```

Results for wife_working: F-value = 3630.540, P-value = 0.000

Tukey-HSD Test Results: Multiple Comparison of Means - Tukey HSD, FWER=0.05

```
===== group1 group2 meandiff p-adj
lower upper reject ----- -1 1 0.8207 0.0 0.582 1.0594 True -1 3
1.3462 0.0 1.119 1.5735 True -1 4 -0.9616 0.0 -1.1922 -0.731 True -1 5 1.3462 0.0 1.1114 1.5811 True
-1 6 -0.9616 0.0 -1.2067 -0.7165 True 1 3 0.5255 0.0 0.4434 0.6077 True 1 4 -1.7823 0.0 -1.8734
-1.6912 True 1 5 0.5255 0.0 0.4242 0.6269 True 1 6 -1.7823 0.0 -1.9055 -1.6591 True 3 4 -2.3078 0.0
-2.3621 -2.2536 True 3 5 -0.0 1.0 -0.0701 0.0701 False 3 6 -2.3078 0.0 -2.4069 -2.2087 True 4 5
2.3078 0.0 2.2274 2.3882 True 4 6 0.0 1.0 -0.1066 0.1066 False 5 6 -2.3078 0.0 -2.4233 -2.1923 True
-----
```

Results for media_exposure: F-value = 10811.880, P-value = 0.000

Tukey-HSD Test Results: Multiple Comparison of Means - Tukey HSD, FWER=0.05

```
===== group1 group2 meandiff p-adj
lower upper reject ----- -1 1 1.2734 0.0 1.1315 1.4153 True -1 3
-2.5468 0.0 -2.6819 -2.4117 True -1 4 -2.5468 0.0 -2.6839 -2.4097 True -1 5 -2.5468 0.0 -2.6864
-2.4072 True -1 6 -2.5468 0.0 -2.6925 -2.4011 True 1 3 -3.8202 0.0 -3.869 -3.7713 True 1 4 -3.8202 0.0
-3.8743 -3.766 True 1 5 -3.8202 0.0 -3.8804 -3.7599 True 1 6 -3.8202 0.0 -3.8934 -3.7469 True 3 4 -0.0
1.0 -0.0323 0.0323 False 3 5 -0.0 1.0 -0.0417 0.0417 False 3 6 -0.0 1.0 -0.0589 0.0589 False 4 5 0.0
1.0 -0.0478 0.0478 False 4 6 0.0 1.0 -0.0634 0.0634 False 5 6 0.0 1.0 -0.0687 0.0687 False
-----
```

Results for age_children_interaction: F-value = 15.977, P-value = 0.000

Tukey-HSD Test Results: Multiple Comparison of Means - Tukey HSD, FWER=0.05

```
===== group1 group2 meandiff p-adj
lower upper reject ----- -1 1 -1.2763 0.0003 -2.1265 -0.4261 True -1
3 -1.7529 0.0 -2.5622 -0.9436 True -1 4 -1.9621 0.0 -2.7835 -1.1407 True -1 5 -1.8269 0.0 -2.6633
-0.9905 True -1 6 -1.9877 0.0 -2.8605 -1.1148 True 1 3 -0.4766 0.0001 -0.7692 -0.184 True 1 4
-0.6858 0.0 -1.0103 -0.3614 True 1 5 -0.5506 0.0002 -0.9115 -0.1897 True 1 6 -0.7114 0.0001 -1.1501
-0.2727 True 3 4 -0.2092 0.025 -0.4025 -0.016 True 3 5 -0.074 0.9587 -0.3237 0.1756 False 3 6
-0.2348 0.4035 -0.5878 0.1181 False 4 5 0.1352 0.7583 -0.1511 0.4215 False 4 6 -0.0256 1.0 -0.4054
0.3542 False 5 6 -0.1608 0.8751 -0.5721 0.2505 False -----
```

Results for edu_interaction: F-value = 55.231, P-value = 0.000

Tukey-HSD Test Results: Multiple Comparison of Means - Tukey HSD, FWER=0.05

```

===== group1 group2 meandiff p-adj
lower upper reject -----
-1 1 -1.1287 0.0009 -1.9296 -0.3278 True -1
3 0.0767 0.9997 -0.6857 0.8391 False -1 4 0.1563 0.9926 -0.6174 0.9301 False -1 5 0.6846 0.1309
-0.1033 1.4725 False -1 6 0.7676 0.0832 -0.0546 1.5899 False 1 3 1.2054 0.0 0.9298 1.4811 True 1 4
1.285 0.0 0.9794 1.5907 True 1 5 1.8133 0.0 1.4733 2.1533 True 1 6 1.8964 0.0 1.4831 2.3097 True 3
4 0.0796 0.8133 -0.1025 0.2617 False 3 5 0.6079 0.0 0.3727 0.843 True 3 6 0.6909 0.0 0.3584 1.0234
True 4 5 0.5283 0.0 0.2586 0.798 True 4 6 0.6113 0.0 0.2536 0.9691 True 5 6 0.0831 0.9902 -0.3044
0.4705 False -----

```

3. Cluster Variability

| | antecedent support | consequent support | support | confidence \ |
|-------|--------------------|--------------------|-----------|--------------|
| count | 42.000000 | 42.000000 | 42.000000 | 42.000000 |
| mean | 0.168162 | 0.379675 | 0.080507 | 0.489911 |
| std | 0.104944 | 0.053132 | 0.051028 | 0.094273 |
| min | 0.062785 | 0.230594 | 0.036530 | 0.320856 |
| 25% | 0.090468 | 0.333333 | 0.045662 | 0.444724 |
| 50% | 0.130708 | 0.390411 | 0.059361 | 0.496713 |
| 75% | 0.226313 | 0.425799 | 0.088756 | 0.510443 |
| max | 0.428082 | 0.428082 | 0.213470 | 0.769231 |

| | lift | leverage | conviction | zhangs_metric | total_items | coverage |
|-------|-----------|-----------|------------|---------------|-------------|-----------|
| count | 42.000000 | 42.000000 | 42.000000 | 42.000000 | 42.000000 | 42.000000 |
| mean | 1.291581 | 0.017107 | 1.257707 | 0.260709 | 2.690476 | 0.168162 |
| std | 0.167568 | 0.014045 | 0.272600 | 0.107497 | 0.467901 | 0.104944 |
| min | 1.134799 | 0.004746 | 1.086022 | 0.130561 | 2.000000 | 0.062785 |
| 25% | 1.175932 | 0.008405 | 1.119062 | 0.177983 | 2.000000 | 0.090468 |
| 50% | 1.208708 | 0.013528 | 1.152477 | 0.232774 | 3.000000 | 0.130708 |
| 75% | 1.378380 | 0.019793 | 1.237219 | 0.311055 | 3.000000 | 0.226313 |
| 3 max | 1.796923 | 0.070776 | 2.478311 | 0.579718 | 3.000000 | 0.428082 |

| | antecedent support | consequent support | support | confidence \ |
|-------|--------------------|--------------------|-----------|--------------|
| count | 33.000000 | 33.000000 | 33.000000 | 33.000000 |
| mean | 0.212121 | 0.359626 | 0.113302 | 0.536347 |
| std | 0.139517 | 0.075309 | 0.081804 | 0.111667 |
| min | 0.073529 | 0.264706 | 0.044118 | 0.378947 |
| 25% | 0.099265 | 0.283088 | 0.051471 | 0.466667 |
| 50% | 0.136029 | 0.349265 | 0.084559 | 0.548148 |
| 75% | 0.349265 | 0.397059 | 0.132353 | 0.590909 |
| max | 0.496324 | 0.496324 | 0.272059 | 0.851852 |

| | lift | leverage | conviction | zhangs_metric | total_items | coverage |
|-------|-----------|-----------|------------|---------------|-------------|-----------|
| count | 33.000000 | 33.000000 | 33.000000 | 33.000000 | 33.000000 | 33.000000 |
| mean | 1.505561 | 0.034331 | 1.457631 | 0.417759 | 2.848485 | 0.212121 |
| std | 0.225781 | 0.021253 | 0.408258 | 0.089219 | 0.364110 | 0.139517 |
| min | 1.283951 | 0.010570 | 1.166189 | 0.245526 | 2.000000 | 0.073529 |
| 25% | 1.374316 | 0.018666 | 1.251414 | 0.357143 | 3.000000 | 0.099265 |
| 50% | 1.392888 | 0.031831 | 1.334378 | 0.418550 | 3.000000 | 0.136029 |
| 75% | 1.574074 | 0.036048 | 1.527778 | 0.457152 | 3.000000 | 0.349265 |
| 4 max | 2.365217 | 0.074989 | 3.399816 | 0.630522 | 3.000000 | 0.496324 |

| | antecedent support | consequent support | support | confidence \ |
|-------|--------------------|--------------------|-----------|--------------|
| count | 16.000000 | 16.000000 | 16.000000 | 16.000000 |
| mean | 0.230198 | 0.257426 | 0.094678 | 0.430119 |
| std | 0.101197 | 0.100256 | 0.049170 | 0.166763 |
| min | 0.069307 | 0.148515 | 0.039604 | 0.266667 |
| 25% | 0.165842 | 0.193069 | 0.056931 | 0.298529 |
| 50% | 0.198020 | 0.198020 | 0.089109 | 0.320856 |
| 75% | 0.336634 | 0.341584 | 0.111386 | 0.591176 |
| max | 0.435644 | 0.435644 | 0.198020 | 0.714286 |

| | lift | leverage | conviction | zhangs_metric | total_items | coverage |
|-------|-----------|-----------|------------|---------------|-------------|-----------|
| count | 16.000000 | 16.000000 | 16.000000 | 16.000000 | 16.000000 | 16.000000 |
| mean | 1.687226 | 0.037607 | 1.383560 | 0.519623 | 2.500000 | 0.230198 |
| std | 0.265425 | 0.020920 | 0.315130 | 0.129621 | 0.516398 | 0.101197 |
| min | 1.377273 | 0.014214 | 1.102723 | 0.341564 | 2.000000 | 0.069307 |
| 25% | 1.507574 | 0.019974 | 1.143299 | 0.422688 | 2.000000 | 0.165842 |
| 50% | 1.644969 | 0.034751 | 1.246463 | 0.496250 | 2.500000 | 0.198020 |
| 75% | 1.796449 | 0.047936 | 1.510166 | 0.615792 | 3.000000 | 0.336634 |
| 1 max | 2.142424 | 0.078032 | 2.122772 | 0.769335 | 3.000000 | 0.435644 |

| | antecedent support | consequent support | support | confidence \ |
|-------|--------------------|--------------------|-----------|--------------|
| count | 18.000000 | 18.000000 | 18.000000 | 18.000000 |
| mean | 0.219157 | 0.336015 | 0.108046 | 0.508400 |
| std | 0.076342 | 0.037537 | 0.028875 | 0.058202 |
| min | 0.096552 | 0.275862 | 0.062069 | 0.408163 |
| 25% | 0.175862 | 0.337931 | 0.089655 | 0.500000 |
| 50% | 0.213793 | 0.337931 | 0.113793 | 0.516129 |
| 75% | 0.275862 | 0.370690 | 0.137931 | 0.542869 |
| max | 0.337931 | 0.379310 | 0.137931 | 0.642857 |

| | lift | leverage | conviction | zhangs_metric | total_items | coverage |
|-------|-----------|-----------|------------|---------------|-------------|-----------|
| count | 18.000000 | 18.000000 | 18.000000 | 18.000000 | 18.000000 | 18.000000 |
| mean | 1.516875 | 0.036047 | 1.363338 | 0.434456 | 2.777778 | 0.219157 |
| std | 0.120650 | 0.008902 | 0.135964 | 0.057102 | 0.427793 | 0.076342 |
| min | 1.387560 | 0.019263 | 1.223543 | 0.321429 | 2.000000 | 0.096552 |
| 25% | 1.457398 | 0.032580 | 1.313793 | 0.392157 | 3.000000 | 0.175862 |
| 50% | 1.479592 | 0.038098 | 1.368276 | 0.439145 | 3.000000 | 0.213793 |
| 75% | 1.527321 | 0.044709 | 1.374384 | 0.479092 | 3.000000 | 0.275862 |
| 5 max | 1.902332 | 0.044709 | 1.853793 | 0.525021 | 3.000000 | 0.337931 |

| | | | | | | | |
|----|-------|--------------------|--------------------|------------|---------------|-------------|-----------|
| | | antecedent support | consequent support | support | confidence \ | | |
| | count | 18.000000 | 18.000000 | 18.000000 | 18.000000 | | |
| | mean | 0.197347 | 0.644279 | 0.140962 | 0.838605 | | |
| | std | 0.140811 | 0.171269 | 0.076828 | 0.207872 | | |
| | min | 0.044776 | 0.373134 | 0.044776 | 0.518519 | | |
| | 25% | 0.067164 | 0.432836 | 0.067164 | 0.579091 | | |
| | 50% | 0.119403 | 0.776119 | 0.119403 | 1.000000 | | |
| | 75% | 0.361940 | 0.776119 | 0.208955 | 1.000000 | | |
| | max | 0.402985 | 0.776119 | 0.283582 | 1.000000 | | |
| | | lift | leverage | conviction | zhangs_metric | total_items | coverage |
| | count | 18.000000 | 18.000000 | 18.000000 | 18.000000 | 18.000000 | 18.000000 |
| | mean | 1.309973 | 0.033526 | inf | 0.305400 | 2.888889 | 0.197347 |
| | std | 0.055343 | 0.019359 | NaN | 0.085126 | 0.323381 | 0.140811 |
| | min | 1.224038 | 0.010025 | 1.289009 | 0.234375 | 2.000000 | 0.044776 |
| | 25% | 1.288462 | 0.015037 | 1.407564 | 0.247986 | 3.000000 | 0.067164 |
| | 50% | 1.288462 | 0.026732 | NaN | 0.257578 | 3.000000 | 0.119403 |
| | 75% | 1.293793 | 0.047449 | NaN | 0.362245 | 3.000000 | 0.361940 |
| 6 | max | 1.470219 | 0.066830 | inf | 0.476190 | 3.000000 | 0.402985 |
| | | antecedent support | consequent support | support | confidence \ | | |
| | count | 29.000000 | 29.000000 | 29.000000 | 29.0 | | |
| | mean | 0.097701 | 0.442529 | 0.097701 | 1.0 | | |
| | std | 0.032035 | 0.099860 | 0.032035 | 0.0 | | |
| | min | 0.083333 | 0.250000 | 0.083333 | 1.0 | | |
| | 25% | 0.083333 | 0.416667 | 0.083333 | 1.0 | | |
| | 50% | 0.083333 | 0.500000 | 0.083333 | 1.0 | | |
| | 75% | 0.083333 | 0.500000 | 0.083333 | 1.0 | | |
| | max | 0.166667 | 0.500000 | 0.166667 | 1.0 | | |
| | | lift | leverage | conviction | zhangs_metric | total_items | coverage |
| | count | 29.000000 | 29.000000 | 29.0 | 29.000000 | 29.0 | 29.000000 |
| | mean | 2.427586 | 0.054837 | inf | 0.619122 | 3.0 | 0.097701 |
| | std | 0.775931 | 0.022298 | NaN | 0.116632 | 0.0 | 0.032035 |
| | min | 2.000000 | 0.041667 | inf | 0.545455 | 3.0 | 0.083333 |
| | 25% | 2.000000 | 0.041667 | NaN | 0.545455 | 3.0 | 0.083333 |
| | 50% | 2.000000 | 0.041667 | NaN | 0.545455 | 3.0 | 0.083333 |
| | 75% | 2.400000 | 0.062500 | NaN | 0.636364 | 3.0 | 0.083333 |
| -1 | max | 4.000000 | 0.125000 | inf | 0.900000 | 3.0 | 0.166667 |

4. Rule Metrics Comparison

| mean | std | min | 25% | 50% | 75% |
|----------------|---------------------|---------------------|---------------------|---------------------|--------------|
| 91100884440497 | 0.09427321097816364 | 0.32085561497326204 | 0.44472389585981975 | 0.49671319417765825 | 0.5104427736 |
| 3467925967239 | 0.11166707123207359 | 0.37894736842105264 | 0.46666666666666667 | 0.548148148148148 | 0.5909090909 |
| 01194057168322 | 0.1667626043350457 | 0.26666666666666666 | 0.2985294117647059 | 0.32085561497326204 | 0.5911764705 |
| 3995887126361 | 0.05820159786792579 | 0.40816326530612246 | 0.5 | 0.5161290322580645 | 0.5428692699 |
| 6045641601197 | 0.2078719998105836 | 0.5185185185185185 | 0.5790909090909091 | 1.0 | 1.0 |

| | | | | | |
|---------------|--------------------|--------------------|--------------------|--------------------|--------------|
| 1.0 | 0.0 | 1.0 | 1.0 | 1.0 | 1.0 |
| 9802563448316 | 0.1380484715492421 | 0.3770491803278688 | 0.6289384502656165 | 0.7142857142857142 | 0.7824620041 |

5. Top Unique Rules per Cluster

Cluster 3:

Rule: frozenset({'edu_interaction_(12.0, 16.0]', 'age_children_interaction_(42.0, 87.0]')) -> frozenset({'standard_of_living_index_4'}) (Support: 0.048, Confidence: 0.600, Lift: 1.402)
Rule: frozenset({'age_children_interaction_(42.0, 87.0]', 'standard_of_living_index_3'}) -> frozenset({'edu_interaction_(6.0, 12.0]')) (Support: 0.054, Confidence: 0.580, Lift: 1.486)
Rule: frozenset({'edu_interaction_(6.0, 12.0]', 'age_children_interaction_(87.0, 164.0]')) -> frozenset({'husband_occupation_3'}) (Support: 0.045, Confidence: 0.520, Lift: 1.221)
Rule: frozenset({'age_children_interaction_(87.0, 164.0]', 'standard_of_living_index_3'}) -> frozenset({'husband_occupation_3'}) (Support: 0.037, Confidence: 0.508, Lift: 1.193)
Rule: frozenset({'age_children_interaction_(87.0, 164.0]')) -> frozenset({'standard_of_living_index_4'}) (Support: 0.116, Confidence: 0.505, Lift: 1.180)

Cluster 4:

Rule: frozenset({'Cluster_(3.0, 4.0]', 'edu_interaction_(12.0, 16.0]')) -> frozenset({'standard_of_living_index_4'}) (Support: 0.272, Confidence: 0.685, Lift: 1.381)
Rule: frozenset({'edu_interaction_(12.0, 16.0]')) -> frozenset({'Cluster_(3.0, 4.0]', 'standard_of_living_index_4'}) (Support: 0.272, Confidence: 0.685, Lift: 1.381)
Rule: frozenset({'husband_occupation_2', 'age_children_interaction_(42.0, 87.0]')) -> frozenset({'edu_interaction_(6.0, 12.0]')) (Support: 0.055, Confidence: 0.652, Lift: 1.867)
Rule: frozenset({'edu_interaction_(6.0, 12.0]', 'age_children_interaction_(42.0, 87.0]')) -> frozenset({'husband_occupation_2'}) (Support: 0.055, Confidence: 0.652, Lift: 2.365)
Rule: frozenset({'Cluster_(3.0, 4.0]', 'standard_of_living_index_2')) -> frozenset({'husband_occupation_3'}) (Support: 0.096, Confidence: 0.591, Lift: 1.576)

Cluster 1:

Rule: frozenset({'husband_occupation_2', 'standard_of_living_index_3'}) -> frozenset({'age_children_interaction_(164.0, 768.0]')) (Support: 0.050, Confidence: 0.714, Lift: 1.640)
Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'standard_of_living_index_2'}) -> frozenset({'husband_occupation_2'}) (Support: 0.109, Confidence: 0.688, Lift: 2.042)
Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'husband_occupation_2'}) -> frozenset({'standard_of_living_index_2'}) (Support: 0.109, Confidence: 0.611, Lift: 1.715)
Rule: frozenset({'standard_of_living_index_3'}) -> frozenset({'age_children_interaction_(164.0, 768.0]')) (Support: 0.119, Confidence: 0.600, Lift: 1.377)
Rule: frozenset({'husband_occupation_2'}) -> frozenset({'standard_of_living_index_2'}) (Support: 0.198, Confidence: 0.588, Lift: 1.650)

Cluster 5:

Rule: frozenset({'age_children_interaction_(164.0, 768.0]')) -> frozenset({'husband_occupation_2'}) (Support: 0.117, Confidence: 0.548, Lift: 1.446)

Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'Cluster_(4.0, 6.0]') -> frozenset({'husband_occupation_2'}) (Support: 0.117, Confidence: 0.548, Lift: 1.446)
 Rule: frozenset({'age_children_interaction_(164.0, 768.0]') -> frozenset({'Cluster_(4.0, 6.0]', 'husband_occupation_2'}) (Support: 0.117, Confidence: 0.548, Lift: 1.446)
 Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'standard_of_living_index_4'}) -> frozenset({'husband_occupation_2'}) (Support: 0.069, Confidence: 0.526, Lift: 1.388)
 Rule: frozenset({'Cluster_(4.0, 6.0]', 'standard_of_living_index_3'}) -> frozenset({'edu_interaction_(6.0, 12.0]') (Support: 0.110, Confidence: 0.516, Lift: 1.527)

Cluster 6:

Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'Cluster_(4.0, 6.0]') -> frozenset({'standard_of_living_index_4'}) (Support: 0.119, Confidence: 1.000, Lift: 1.288)
 Rule: frozenset({'age_children_interaction_(164.0, 768.0]') -> frozenset({'Cluster_(4.0, 6.0]', 'standard_of_living_index_4'}) (Support: 0.119, Confidence: 1.000, Lift: 1.288)
 Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'husband_occupation_2'}) -> frozenset({'standard_of_living_index_4'}) (Support: 0.045, Confidence: 1.000, Lift: 1.288)
 Rule: frozenset({'age_children_interaction_(87.0, 164.0]', 'husband_occupation_2'}) -> frozenset({'standard_of_living_index_4'}) (Support: 0.209, Confidence: 1.000, Lift: 1.288)
 Rule: frozenset({'edu_interaction_(6.0, 12.0]', 'husband_occupation_2'}) -> frozenset({'standard_of_living_index_4'}) (Support: 0.060, Confidence: 1.000, Lift: 1.288)

Cluster -1:

Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'husband_occupation_3'}) -> frozenset({'edu_interaction_(6.0, 12.0]') (Support: 0.083, Confidence: 1.000, Lift: 2.000)
 Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'standard_of_living_index_3'}) -> frozenset({'edu_interaction_(6.0, 12.0]') (Support: 0.083, Confidence: 1.000, Lift: 2.000)
 Rule: frozenset({'husband_occupation_3', 'standard_of_living_index_3'}) -> frozenset({'edu_interaction_(12.0, 16.0]') (Support: 0.083, Confidence: 1.000, Lift: 4.000)
 Rule: frozenset({'age_children_interaction_(87.0, 164.0]', 'edu_interaction_(12.0, 16.0]') -> frozenset({'husband_occupation_3'}) (Support: 0.083, Confidence: 1.000, Lift: 2.000)
 Rule: frozenset({'edu_interaction_(12.0, 16.0]', 'standard_of_living_index_3'}) -> frozenset({'age_children_interaction_(87.0, 164.0]') (Support: 0.083, Confidence: 1.000, Lift: 2.000)

6. Top 10 Common Rules Sorted by Absolute Coverage Difference

Rule: frozenset({'edu_interaction_(12.0, 16.0]', 'husband_occupation_2', 'standard_of_living_index_4'}) (Abs Coverage Difference: 0.236)
 Rule: frozenset({'edu_interaction_(12.0, 16.0]', 'husband_occupation_2', 'standard_of_living_index_4'}) (Abs Coverage Difference: 0.225)
 Rule: frozenset({'edu_interaction_(12.0, 16.0]', 'standard_of_living_index_4', 'husband_occupation_2'}) (Abs Coverage Difference: 0.200)
 Rule: frozenset({'edu_interaction_(6.0, 12.0]', 'standard_of_living_index_3'}) (Abs Coverage Difference: 0.177)
 Rule: frozenset({'edu_interaction_(12.0, 16.0]', 'standard_of_living_index_4'}) (Abs Coverage Difference: 0.163)
 Rule: frozenset({'husband_occupation_3', 'edu_interaction_(6.0, 12.0]') (Abs Coverage Difference: 0.150)

Rule: frozenset({'age_children_interaction_(164.0, 768.0]', 'standard_of_living_index_4'}) (Abs Coverage Difference: 0.140)
Rule: frozenset({'edu_interaction_(6.0, 12.0]', 'standard_of_living_index_3'}) (Abs Coverage Difference: 0.115)
Rule: frozenset({'husband_occupation_3', 'edu_interaction_(6.0, 12.0]'}) (Abs Coverage Difference: 0.115)
Rule: frozenset({'standard_of_living_index_4', 'edu_interaction_(12.0, 16.0]', 'age_children_interaction_(87.0, 164.0]'}) (Abs Coverage Difference: 0.114)

7. Cluster Visualizations



