Tangibilizing Accommodations: Clustering Occupations to Predict Disability Representation based on Worker Requirements

Victoria Udomsirirat, Dr. Fred Oswald, Ph.D., Felix Wu

NSF Research Experience for Undergraduates: Translational Research in Psychological Sciences (Human Factors)

INTRODUCTION
- Occupational Information Network (O*NET)
  - Currently used occupational database containing requirements for ~1,000 jobs
  - Information on occupations too broad to make personalized worker accommodations claims
- Occupational Requirements Survey (ORS)
  - Developed to collect job requirement information to aid worker accommodations process

METHODS
- Measures of interest
  - Service occupations
  - Worker requirements
  - Physical disability
  - Total of 25 occupations used in analysis

PROCEDURE
1. Datasets were provided by Bureau of Labor Statistics, Department of Labor, and Census Bureau
2. Datasets cleaned to only contain service occupations and physical requirements/disability, then merged together
3. Cluster and regression analyses conducted

ANALYSIS AND RESULTS
K-means Cluster Analysis
O*NET Cluster:
- 3 clusters: Cluster 1 (n=9), Cluster 2 (n=3), Cluster 3 (n=13)
- Between cluster variance (56.1%)
ORS Cluster
- 3 clusters: Cluster 1 (n=5), Cluster 2 (n=16), Cluster 3 (n=4)
- Between cluster variance (33%)

Regression Analyses
- O*NET Cluster of occupations does not predict distribution of worker disability ($F=2.24, p=0.1$)
- ORS Cluster does not predict distribution of worker disability ($F=0.12, p=0.8$)

DISCUSSION AND DIRECTIONS
- Examining similarities of occupational requirements can provide insight on how workers obtain jobs they may not meet the functional capacity for
- Alternative explanations must exist for workers who have obtained their jobs (i.e. accommodations)
- Study limited in that it contained only 25 occupations and discrepancies may exist from using data across 3 datasets
- Future directions include clustering across major groups of occupations and utilizing compiled dataset for occupations

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