

An Empirical Exploration of Diversity Perception

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Background

Describing Diversity

Based on demography:

- **Organizational Demography:** Diversity at the collective level, as a distribution of features across a group.
- **Relational Demography:** Diversity at both levels (collective and individual), e.g., as one's distance from a group.

Based on defining attributes:

- **Mono-attribute**, based on a single attribute.
- **Mutli-attribute**, based on a multitude of attributes.

Measuring Diversity

- **Richness:** Number of classes.
- **Shannon's Index:** $H = - \sum_i p_i \log p_i.$
- **Simpson's Index:** $\lambda = \sum_i p_i^2.$
- **Berger-Parker Index:** $bp = \max_i p_i.$
- Any dispersion metric...

Empirical Setting

Examined Factors

- Population awareness.
- Population ranking.
- Sample ranking.
- User involvement.
- Observed / Constructed diversity.
- **1040 participants.**

Question

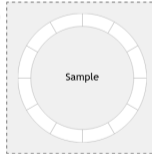
Assume you belong to the class shown right. Then, given the unranked population, also shown right...

Your class: ●



Population

...construct an unranked sample which is as diverse as possible.



Sample

Question

Given the unranked population, shown right...



Population

...how diverse would you consider the ranked sample shown right to be?

first last



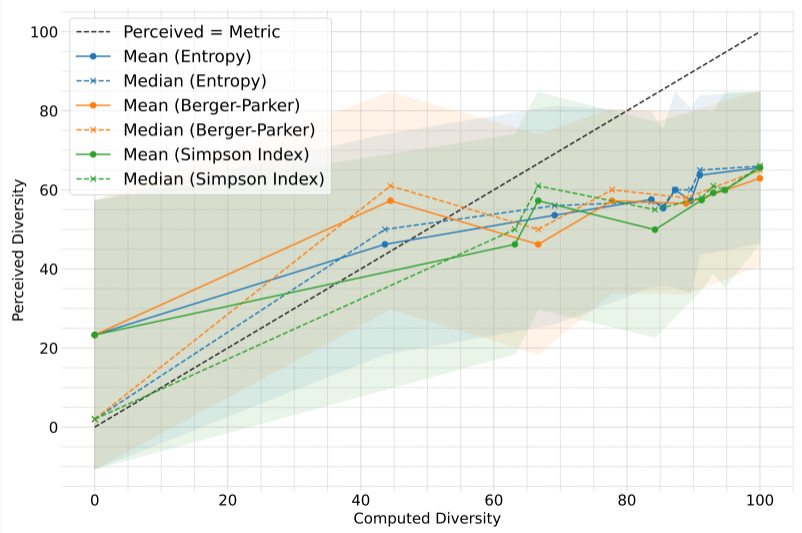
Sample

Low

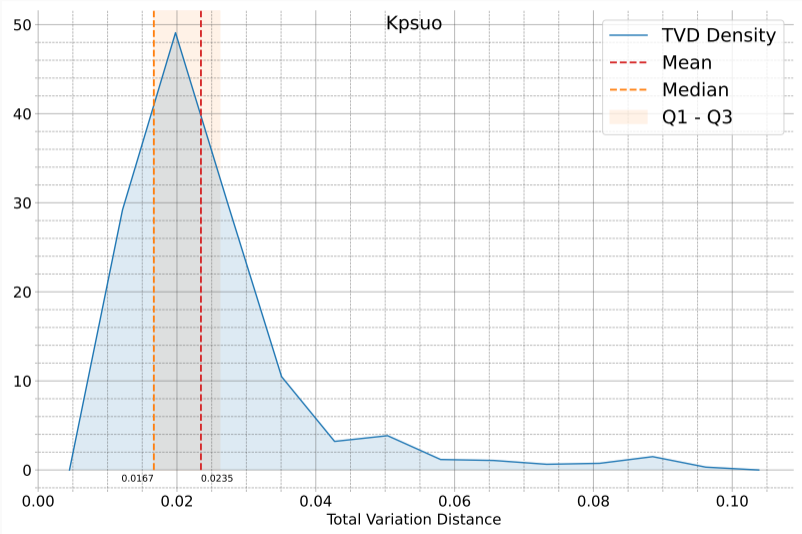


High

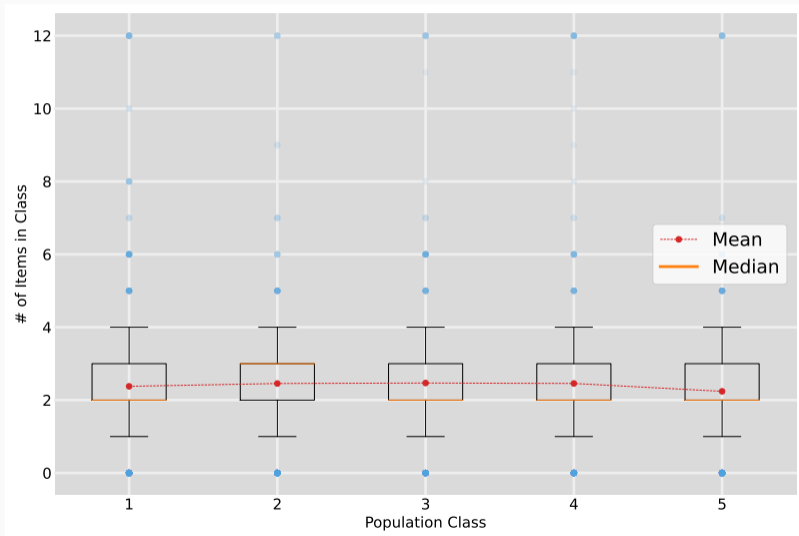
Fitness of Existing Metrics



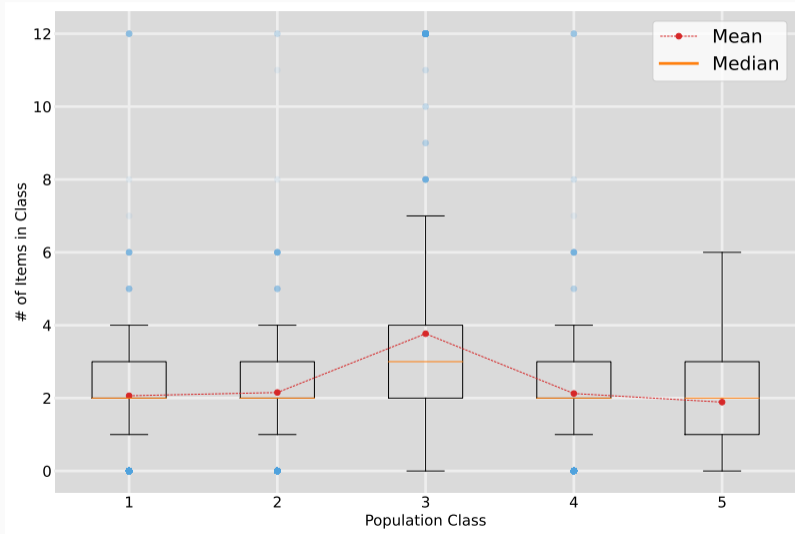
Effects of Population Awareness



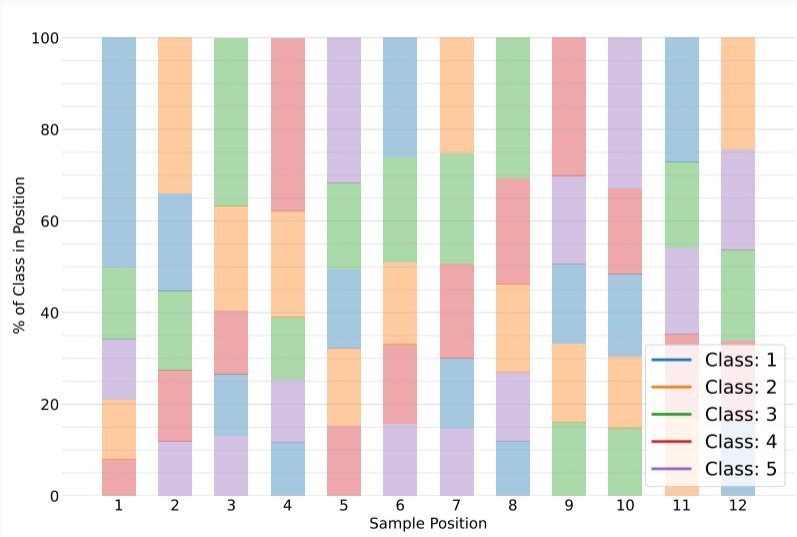
Effects of Class Participation (kpsuo)



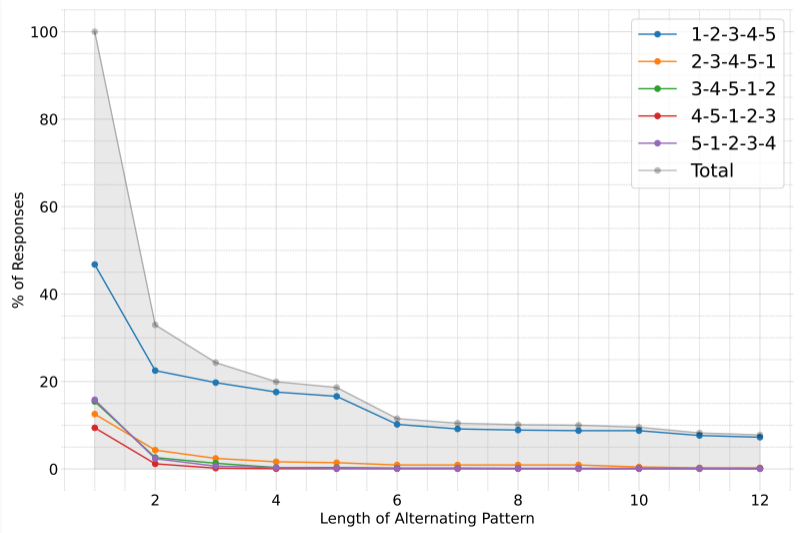
Effects of Class Participation (kpsUo)



Effects of Ranking (1/2)



Effects of Ranking (2/2)



Ongoing and Future Work

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- Further analysis of gathered data.
- Further explore any observed correlations.
- Repeat in more realistic / diverse settings.
- Design a more appropriate metric for quantifying perceived diversity.
- Apply and test in practice.

Thank you!