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## Abstract

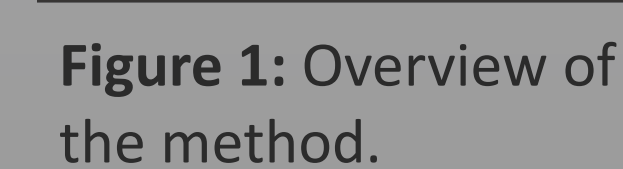
## Introduction & Hypothesis

We present an alternative approach for investigating cultural differences based on data that represent the linguistic use of value terms using Thesaurus databases. We follow the intuition that this data reflects similarities in language use. **We hypothesize that differences in the importance and understanding of certain moral values within a culture will show up in different “semantic neighborhoods” of terms representing those values.** To test this hypothesis, we calculated value distances and value maps based on Thesaurus data for English (USA) and German (Germany). We then compared value pairs whose differences may reflect common differences in understanding of values related to the common conceptions of individual freedom and social justice in either country .

## Method

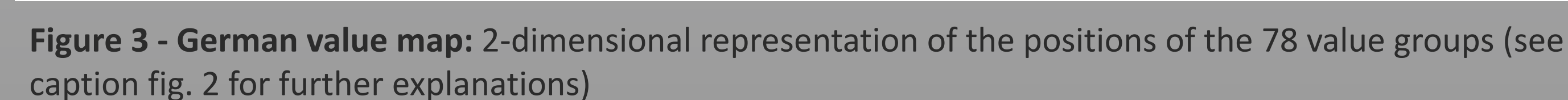
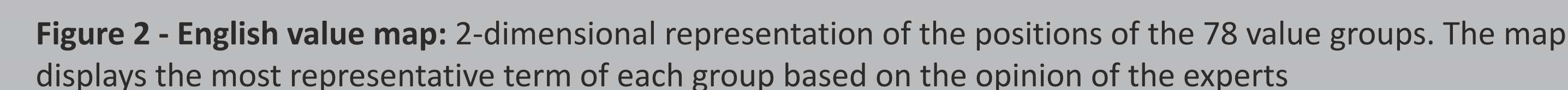
- 1) *Identify terms describing values both in English and German in order to allow for cross-cultural comparison of the value maps.*
- 2) *Create a word-bag for each term containing all (partial) synonyms, using thesaurus listings: Databases “thesaurus.com” for English and “woxikon.de” for German were used to give each English term and its German equivalent a related group of words.*
- 3) *Check for additional value candidates in the synonyms, resulting in a list of total 460 terms and word-bags per language.*

5-9) *Identify and assign terms to 78 groups (clusters) of synonyms:* The suggestions provided by the map were given to English and German experts (philosophers, psychologists, language experts) who made refinements to the groups using the map as heuristics. After pooling the expert feedback, an improved version of value grouping was given to the experts for a second revision. In this way, 78 value groups were identified (21 English and 11 German values remained unattributed). The final value map was created using the synonyms of all terms of a group for the word-bag of the group and by applying the procedure of step 4. In the map, we only show the term that the experts considered to be the best descriptor of the group.



## Results

An example for the first difference is the group “love” vs. “Liebe” that includes four terms in English (affection, dedication, devotion, love) but only three terms in German (Hingabe, Innigkeit, Liebe). For outlining examples of the second difference, we display the maps for the English and German value groups in Figs. 2 and 3. Remember that a 2D-map cannot display the topology of the original 78D space perfectly. To outline this, on our 2D map, smaller position points and lighter grey scaling indicate values whose neighborhoods are not represented to scale (i.e. the values’ neighbors on the 2D map only represent badly the original neighbors in the 78D space). The 2D maps pictured below are only a heuristic tool to understand the data space. The red lines on the two-dimensional map connect the four (or five) most closely-related value groups as modeled by our 78-dimensional space for the four values discussed in our table (see Discussion).



## Discussion

We have analyzed those pairs (i.e., translated) of values by investigating their “semantic neighborhood” in the original data space. The four examples below exemplify that differences in semantic neighborhoods seem to support popular beliefs on differences in understanding and interpretation of the meaning of moral values in Germany and the USA (Table 1). For example, the American understanding of equality goes into the direction of “treating everybody in the same way”, whereas the German “Gleichheit” reflects the fact that equality in Germany is often discussed with respect to protecting the society from economic inequality in order to preserve harmony within society. In addition, being autonomous in the US involves mainly personal control over the environment, whereas the semantic neighborhood of the German “Autonomie” indicates a more relational understanding of autonomy.

**Table 1:** The semantic neighborhoods of selected value pairs in US-English and German.

## Conclusion

1) Relying on “thesaurus similarity” as outlined in our study (i.e., the identified value groups) can be used to optimize the translation of survey tools across languages.

3) Maps resulting from such studies can be used as exploratory tools for identifying further differences with respect to the importance and semantic framing of values across cultures.

### Work Cited

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