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Identifying the Human Values behind Arguments

Background

"Epistemological Why"
- Why is this true?
- Ever branching reasons (infinitely?)

Source: kialo.com

Wealthy countries should provide a universal basic income

Such income would improve the lives of many people

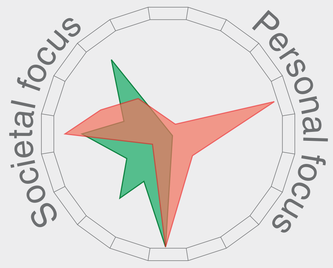
epistemological support

ethical support

Such income would improve working capabilities and conditions

It is good if people *have a comfortable life*

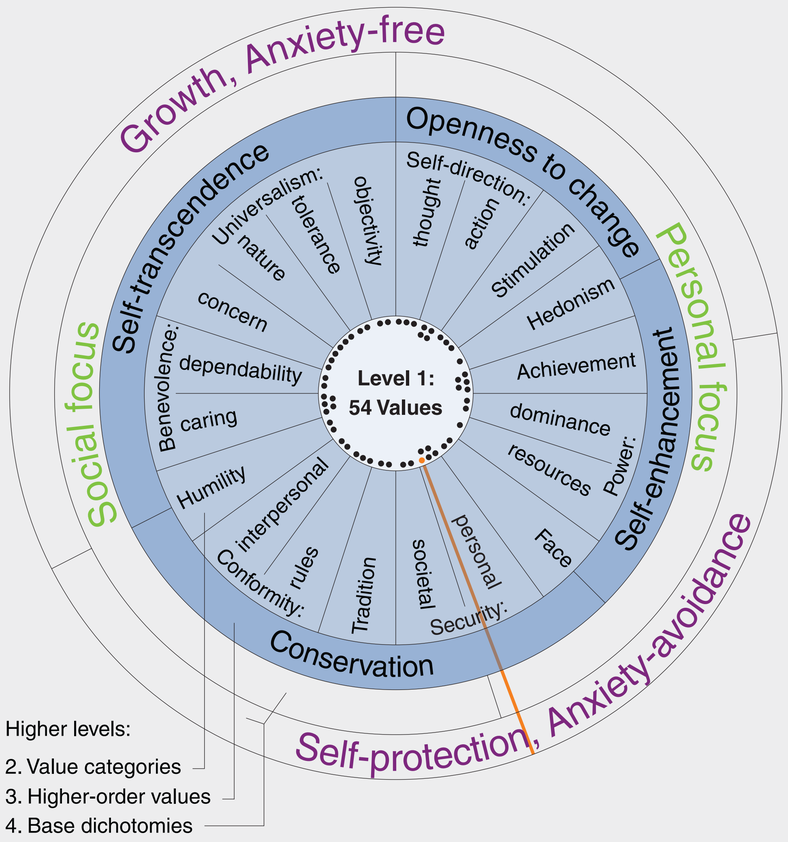
"Ethical Why"
- Why is this good?
- Leading to *values* (finite set)



Human Values
are (1) beliefs (2) pertaining to desirable end states or modes of conduct, that (3) transcend specific situations, (4) guide selection or evaluation of behavior, people, and events, and (5) are ordered by importance relative to other values to form a system of value priorities.
(Schwartz)

- Can be resorted to in arguments
- Are most often implicit in argumentation
- Are an aspect of argument strength (through relative importance)

Operationalization



Multi-level value taxonomy
- Consolidated from 4 authoritative sources from social science
- Adapting Schwartz' circular taxonomy
- For each value: description of aspects that arguments might list
- Tested and refined during data collection

Example value: Have a comfortable life
E.g., arguments listing
- subsistence income
- having no financial worries
- a higher general happiness
- a prosperous life

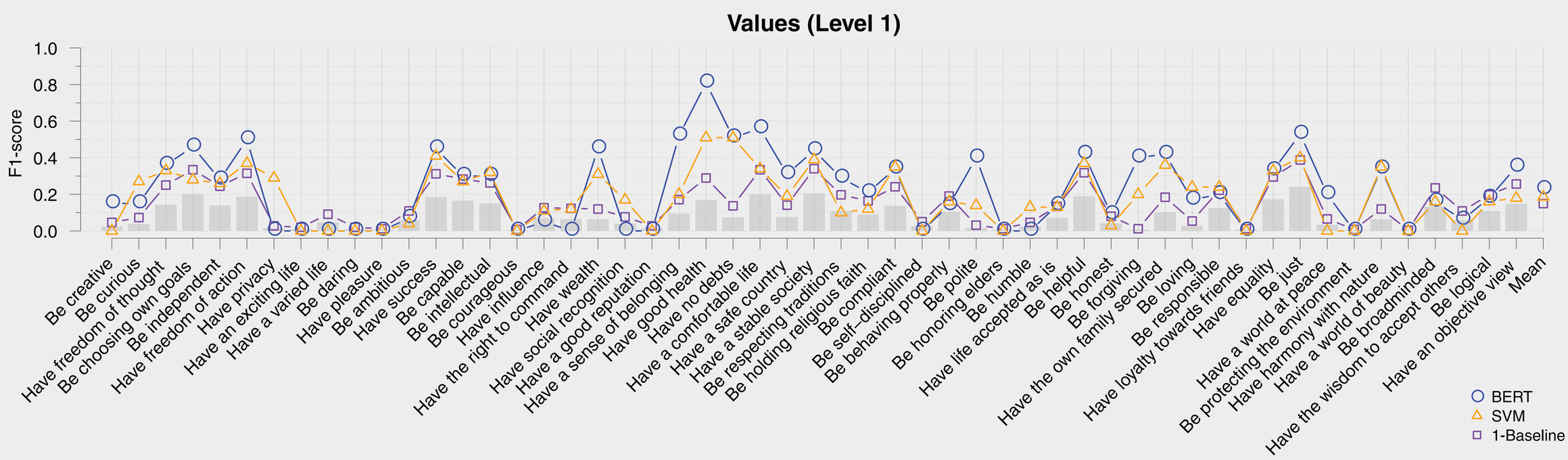
Webis-ArgValues-22
- Dataset of 5270 English arguments annotated according to the taxonomy
- 3 annotators/argument
- 2:40 minutes/argument on average
- Value-wise Krippendorff's α of 0.49

https://publications.webis.de#kiesel_2022b

Multi-label Classification

Initial experiments
- Out-of-the-box models
- Baseline that classifies each argument as resorting to all values
- More experiments (cross-region) in the paper

Model	Level 1				Level 2				Level 3			
	P	R	F_1	Acc	P	R	F_1	Acc	P	R	F_1	Acc
BERT	**0.40**	0.19	**0.25**	**0.92**	**0.39**	0.30	**0.34**	**0.84**	0.65	0.78	0.71	**0.67**
SVM	0.21	0.19	0.20	0.88	0.30	0.30	0.30	0.77	**0.66**	0.68	0.67	0.65
1-Baseline	0.08	**1.00**	0.16	0.08	0.18	**1.00**	0.28	0.18	0.60	**1.00**	**0.75**	0.60



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