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Personal values and their structure under universal and lexical approaches

Ingwer Borg [a,*], Henrik Dobewall [b], Toivo Aavik [c]

[a] WWU Münster, Fachrichtung Psychologie, Fliednerstraße 21, 48149 Münster, Germany
[b] University of Helsinki, Institute of Behavioural Sciences, Siltavuorenpenger 1-5, FI-00014, Finland
[c] University of Tartu, Institute of Psychology, Näituse 2, 50409 Tartu, Estonia

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ABSTRACT

The value circle is based on a theory that explains how individuals arrive at judgments on the importance of different values. The circle arises because the individuals are assumed to search for a compromise position relative to a set of universal basic values that have a pattern of incompatibilities and similarities. Evidence for the value circle is based on data collected by instruments based on this theory and developed so that its values would be universally valid (e.g., the Schwartz Value Survey, SVS). It is studied here whether ratings on values constructed by a lexical method (i.e., the Estonian Value Inventory, EVI) also support the value circle. It is found that when using scaling methods such as unfolding and MDS, the value circle emerges for both types of data. It can also be shown that the two approaches yield information that is to some extent complementary and that has stabilizing effects on the value circle. Factors from factor analysis (used in previous studies of the EVI and the SVS) can be embedded into the value circle.

1. Introduction

Values (e.g., Achievement, Security) are "conceptions of the desirable that influence the ways people select action and evaluate event" (Schwartz & Bilsky, 1987, p. 550). They convey broad goals that serve as guiding principles in a person's life. The most studied and established value theory to date is the Schwartz (1992) value theory, also called the Theory of Universals in Values (TUV). It posits that there are a small number of basic values related to motivational goals underlying them. The relations among these values are determined by practical and psychological conflicts and compatibilities: Values are compatible if they guide similar perceptions, preferences, and behaviors. Values are conflicting if they guide opposing perceptions, preferences, and behaviors, or if the pursuit of one value prevents the pursuit of the other value.

The pattern of compatibilities and conflicts among the values implies that the inter-correlations among items measuring values show certain gradients that can be visualized as a circle of wedge-like regions known as a circumplex. This pattern, typically found by using multidimensional scaling (MDS), has been replicated in numerous studies, with samples from many different countries, and using a variety of questionnaires (e.g. Dobewall & Rudnev, 2014; Döring et al., 2015; Schwartz, 1992). If one summarizes the various value items that measure each value into value indexes, the ten regions can be condensed into ten points (Groenen & Borg, 2015). This turns the circumplex into a circle of value points ordered as Power—Achievement—Hedonism—Stimulation—Self-Direction—Universalism—Benevolence—Tradition—Conformity—Security—Power.

Borg, Bardi, and Schwartz (2015) have shown that the value circle does not only exist across persons (i.e., for correlation-based MDS), but also within persons. Their unfolding model says that different persons in a sample share a common structure of values but each person positions him- or herself differently relative to this common structure. More concretely, they show that the common structure is the value circle described above, and that each person can be represented by a point that is positioned so that the distance between this point and a particular value point corresponds (inversely) to this person's rating of importance for this value.

The unfolding model for values implies the correlation-based MDS value circle. To see this, we randomly locate 100 person points on the inside of a unit disk, and position ten value points on the rim of this disk (Fig. 1, left panel). We then compute the distances from each person point to all value points and correlate these distances across persons. Using these correlations as data in MDS perfectly recovers the configuration of value points on the rim of the unit disk, with zero *Stress* (Fig. 1, right panel).

Based on its psychological foundations and its huge number of replications, the value circle can be considered the incumbent theory

* Corresponding author.
E-mail addresses: ingwer.borg@gmail.com (I. Borg), henrik.dobewall@helsinki.fi (H. Dobewall), toivo.aavik@ut.ee (T. Aavik).

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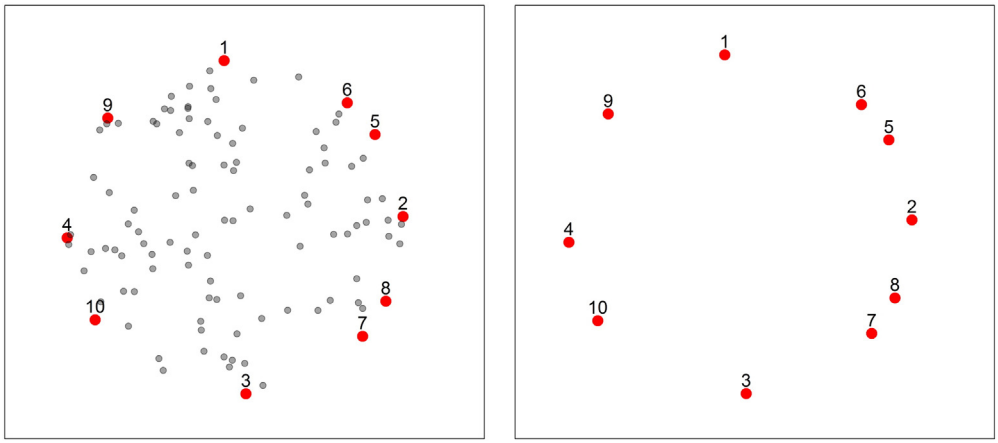

Fig. 1. Person points (gray) randomly distributed in a disk with ten value points (large, numbered) on its rim; MDS representation of the inter-correlations of the person-value distances of the plot on the left-hand side (*Stress* = 0).

on values. Yet, it relies on questionnaire data collected by instruments such as the Portrait Value Questionnaire (PVQ) or the Schwartz Value Survey (SVS): These instruments were constructed so that they would hold universally. In its most recent version (Schwartz, Sagiv, & Boehnke, 2000), the SVS is comprised of 57 items, of which 45 items are used for analyses as they have been found to have equivalent meanings across cultures. Each item is an indicator of one of the basic values. Participants are asked to assess each value (e.g., "PLEASURE (gratification of desires)") as a guiding principle in their life on a scale from 0 (*not important*) to 7 (*of extreme importance*), with an additional score of −1 (*opposed to my values*). The scores for ten basic values are computed as the average score across all the items that comprise each value.

The SVS has been derived "by reasoning that values represent, in the form of conscious goals, … *universal* [our emphasis] requirements of human existence to which all individuals and societies must be responsive" (Schwartz, 1992, p. 4f.). Various studies with several modifications of the value types were conducted by Schwartz and his co-workers: "In order to test the hypotheses derived from the … theory, it was necessary to generate a … theory-based survey to measure people's value priorities"(Schwartz, 1992, p. 16f.) Today, the most recent version of the SVS measures ten basic values that were found to work universally in different cultures and social groups. These ten basic values are predicted to generate a circular structure in an MDS representation of SVS items (Schwartz & Bilsky, 1987). Indeed, from the very beginning of the TUV, the value circle has been a cornerstone of the theory—if not its most important feature.

Other researchers have used completely different methodological approaches for constructing value items. They criticize the selection of items used by the SVS as arbitrary and intuitive (Renner, 2003) and suggest instead finding the items by the lexical method. This method claims that values, as important concepts in peoples' lives, should be "crystallized" in language in the form of single words (cf. Goldberg, 1990). So, starting from a *particular culture's language*, one may find values that differ from those identified by TUV-based research. Coming from that perspective, Renner (2003) developed the Austrian Value Questionnaire by first selecting words describing personal or societal values from a German dictionary and other text sources. Raters then reduced these words to a final list of words that were assessed as "guiding motives in life" by a large sample of respondents. Factor analyses led to factors termed Balance, Intellectualism, Conservatism, Salvation, and Profit. Renner (2003, p. 127) comments that "Conservatism, Salvation and Profit correlated moderately with domains of the Schwartz Value Survey. Openness to Experience correlated positively with Intellectualism and negatively with Conservatism. Correlations with other traits and value dimensions were low." He also argues that "the taxonomy claims to be more comprehensive than previous ones and to reflect culture specific values of German speaking countries".

Another lexical-based instrument for value measurement is the Estonian Value Inventory (EVI; Aavik & Allik, 2002). Its 48 items are value-describing words, all nouns, and arranged alphabetically. The respondents are asked to rate each value "as a guiding principle in your life, your aspirations, or what you are trying to avoid" and indicate their opinion on a seven-point scale from "personally extraordinarily important to aspire" to "personally extraordinarily important to avoid". The items of the EVI were derived from an exhaustive list of value-describing words culled by experts from The Ontological Lexicon of the Estonian Language. Other experts then rated these words "on the extent to which they described values or guiding principles, which they believed to be important to achieve or important to avoid in peoples' lives" (Aavik & Allik, 2002, p. 224). The initial list was reduced to a final list of terms judged by at least 90% of the judges to represent the core Estonian value vocabulary. When using the EVI in a sample of Estonian respondents, "six factors emerged and were labelled as benevolence, self-enhancement, broadmindedness, hedonism, conservatism, and self-realization. However, all these themes are interrelated and load on a singular secondary dimension" (p. 221).

Besides the EVI, the respondents also filled out the SVS. For the SVS items, seven factors were extracted and varimax rotated. "The constructs measured by SVS and the value categories in Estonian were only partially interchangeable; moderate correlations [of the factors or sub-scales] imply an imperfect correspondence: each theme was related to many categories on the other questionnaire. However, a significant general structure refers to the same two-dimensional level of higher-order values described by Schwartz in 1992" (Aavik & Allik, 2002, p. 221).

Hence, different questionnaires, with items constructed by different methods and using different types of data analysis (MDS and factor analysis) led to findings that allow no clear conclusion with respect to a common underlying structure of values. This leads to the question whether the value circle arises if such data are analyzed with the same statistical models. Moreover, it would be interesting to see if different questionnaire construction methods complement each other, and how bottom-up (such as unfolding) and top-down analyses (such as factor analysis) can be merged.

In the following, we take a closer look at these questions, using the TUV as the incumbent theory. Indeed, based on the discussion above and on the simulation study shown in Fig. 1, we take the TUV unfolding model as the most fundamental and most psychology-driven model. It is the only model that explains how an *individual* arrives at a value judgment, while factor analysis of inter-correlations is but a statistical *data reduction* technique that cannot—or, in any case, that has not