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ON THE STRUCTURE OF MOTIVES: BEYOND THE 'BIG THREE'¹

WOLFGANG BILSKY

***Abstract:** Stressing common features of motives and values, an attempt is made to outline a general and parsimonious taxonomy for classifying motives by borrowing from Schwartz' (1992) value theory. This is achieved by applying two basic dimensions found in value research to the structural analysis of motives. The tenability of this approach is tested by analyzing multitrait-multimethod matrices of different motivational indicators by means of multidimensional scaling. Results support the hypothesized distinction and structure of stable motivational domains.*

Distinguishing features of values and motives

Almost two decades ago, Heckhausen (1989) stated that there has not been a satisfying solution for classifying motives in the past. Scanning more recent literature shows that his critique still holds today. A closer look at the labels used for distinguishing among motives reveals, however, a considerable overlap with labels used in value research (see Rokeach 1973; Schwartz 1992). Because of the striking similarities in naming variables it seems implausible to attribute this overlap to mere chance. Instead, these similarities suggest some systematic correspondence between the respective constructs which needs further empirical and conceptual clarification. In this paper, an attempt is made to outline a general and parsimonious taxonomy for classifying motives. This is accomplished by borrowing from the theory on the structure of values as developed and continuously refined by Schwartz (Schwartz 1992; Schwartz & Bilsky 1987, 1990; Schwartz & Sagiv 1995). The tenability of this proposal is investigated by (re-)analyzing several multitrait-multimethod (MTMM) matrices of motive and value indicators.

1 I am grateful to David Cairns, Kurt Sokolowski and Dirk Wentura for their comments on an earlier draft of this paper.

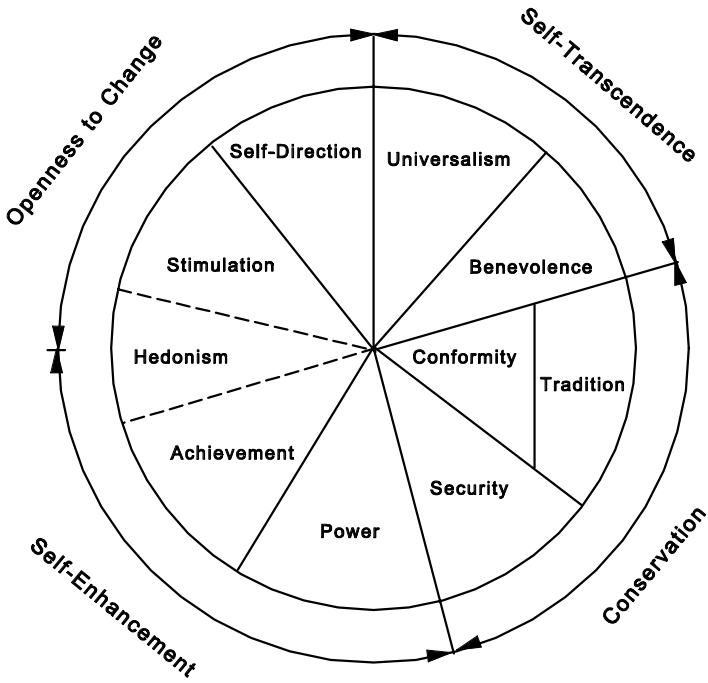
Values

In their early research on the universal content and structure of values, Schwartz and Bilsky (1987) defined values as concepts of trans-situational goals that express individualistic or collectivistic interests and are characterized by a particular motivational content. Within this definitional context, *motivational content* was considered a central and distinguishing feature. Grouping values into classes according to their motivational content results in value types, which differ from each other with respect to mutual compatibilities and incompatibilities. These (in-)compatibilities give rise to stable value structures which could be identified by Multidimensional Scaling (MDS) analysis of data from a variety of cross-cultural samples (Schwartz & Bilsky 1990).

In the following years, Schwartz (1992) revised and considerably extended this early approach. Amongst other things, he identified two essentially orthogonal dimensions which parsimoniously describe value structures. The first, '*openness to change versus conservation*', arranges values according to the extent to which they motivate individuals to follow their own interests in unpredictable and uncertain directions versus to preserve the status quo and the certainty it provides. The second, '*self-enhancement versus self-transcendence*', arrays them according to the extent to which they motivate individuals to look after their own interests versus the extent to which they motivate persons to transcend selfish interests and promote the welfare of others (Schwartz 1992: 42-43). Figure 1 illustrates the theoretical structure of relations among the motivational types of values.

Since then, Schwartz has tested and validated his theoretical approach in numerous countries, analyzing a diversity of samples and using different research instruments. On the whole, analyses revealed both stable patterns of value structure and cultural specifics (Schwartz & Sagiv 1995; Schwartz, Melech, Lehmann, Burgess, Harris & Owen 2001).

Figure 1 Schwartz' model of value structure (cf. Bilsky & Schwartz 1994: 168)



Motives

As with values, the definition of motives is based on their distinguishing features. According to Heckhausen (1989), there are as many motives as there are different classes of 'person-environment relations'. These relations can be further distinguished by characteristic goals aspired to. Following this line of reasoning, we see that motives and values serve similar functions to the extent that they direct human behavior. In this respect they both differ from personality traits which are typically seen as mere descriptions of observed patterns of behavior (Bilsky & Schwartz 1994).

Considering the aforementioned similarities of motives and values, it is not surprising to learn that the classification of motives found in the literature closely resembles the classification of values in the Schwartz model (Figure 1). Thus, we find categorizations into achievement and power motives, curiosity, self-actualization, altruism, and anxiety, for instance. The respective values supposed to match these motives would probably be: achievement, power, stimulation, self-direction, benevolence, and security.

However, other than value research, investigations into motives have mostly concentrated on one (e.g. achievement) or a few motives at best (e.g. the ‘big three’: achievement, power, and affiliation). As a result, there has not been much interest in taxonomic questions. Furthermore, textbooks and reviews offer only more or less comprehensive lists of motives, which do not go beyond *nominal distinctions*. Now, given that the suggested motive-value relationship holds, the *position of a motive relative to Schwartz’ two basic dimensions* would be revealing in two respects: (1) Its location within a fixed frame of reference facilitates a *parsimonious definition* in terms of basic characteristics. Hereby, some ambiguities of nominal definitions can be avoided which often result from using suggested or actual synonyms, unspecified frames of reference, if any, etc. (2) The relative position within a shared frame of reference suggests hypotheses on the *compatibilities* and *conflicts* with other motives which can easily be tested empirically.

Structural expectations

There has been considerable debate in the past about the fact that different indicators of the supposedly same type of motive often failed to result in substantial correlations. This debate is closely linked to the distinction of implicit and explicit measures in motivational research (McClelland, Koestner & Weinberger 1989). While this distinction is not the focus of the present paper, it should be stressed, that in general moderate or low correlations between different types of indicators (e.g. between a projective measure and a questionnaire) supposed to assess the same motive (e.g. achievement) do not necessarily contradict a common overall structure of motives. We should expect, indeed, that – within each type and across different types of indicators – the *correlational pattern* of measures for different motives is the same. More precisely, motives are hypothesized to relate to each other according to their compatibilities and incompatibilities in the same way as values. Consequently, the *two basic dimensions* of the Schwartz model (1992) should be suitable for describing motivational structure. The rationale of this assumption is that structure arises from the *simultaneous* inspection of *all correlations* between motivational indicators. It is the *overall pattern* of contingencies and not the single bivariate correlation which is important for the identification of structural relationships.

The validity of this assumption can be tested by analyzing proximities (correlations) of motivational indicators in multidimensional space. These proximities depict interrelations between all indicators at a time as summarized in a multitrait-multimethod (MTMM) matrix (Borg 1998, 1999; Borg & Groenen 1997). As the taxonomy of motives proposed in this paper directly relates to the Schwartz (1992) value model, hypothesis testing is accomplished in the same way as in his cross-cultural value research, i.e., by nonmetric MDS (Borg & Groenen 2005). Thus, the present findings can be directly compared to Schwartz' value studies.

Following Schwartz' (1992) reasoning and provided that a broad range of motives has been assessed, *four wedgelike regions* are hypothesized to emerge in an MDS of motivational indicators, one for each pole of the two basic dimensions as shown in Figure 1. In other words, motives that are similar with respect to these dimensions are expected to form one coherent spatial region. In contrast, motives that differ with respect to both dimensions should spread apart on the same projection of similarities (for further information on testing regional hypotheses through MDS, see Borg & Shye 1995; Levy 1985).

Jackson's (1974) Personality Research Form (PRF) is one of the few inventories which go beyond the 'big three', covering a wide range of motivational constructs. Therefore, data collected with this instrument are especially suited for testing our assumptions. In the following we present the reanalysis of data provided by Stumpf et al. (1985) in their manual of the German Personality Research Form. These authors discussed the convergent and discriminant validity of the German PRF in considerable detail. In this context, they reported two MTMM-matrices, each of them containing intercorrelations of 14 PRF-scores, self- and peer-ratings, respectively.

The German Personality Research Form: Inherent basic dimensions

A priori to applying MDS to these MTMM-matrices, the 14 PRF-motives (achievement, affiliation, etc.) and the 10 value types of the Schwartz model were matched according to their verbal descriptors. This task was accomplished independently by Shalom H. Schwartz² and by the author. The joint results of our attempt are summarized in Table 1. As can be seen, no clear counterparts of 'social recognition' and 'sucorance' could be identified within values. However, more important than matching motives and value types is the assignment of motives to the *basic (value) dimensions* (third column) which are intended to serve as a taxonomic frame of reference. This assignment specifies the *regional hypotheses* to be tested by means of MDS.

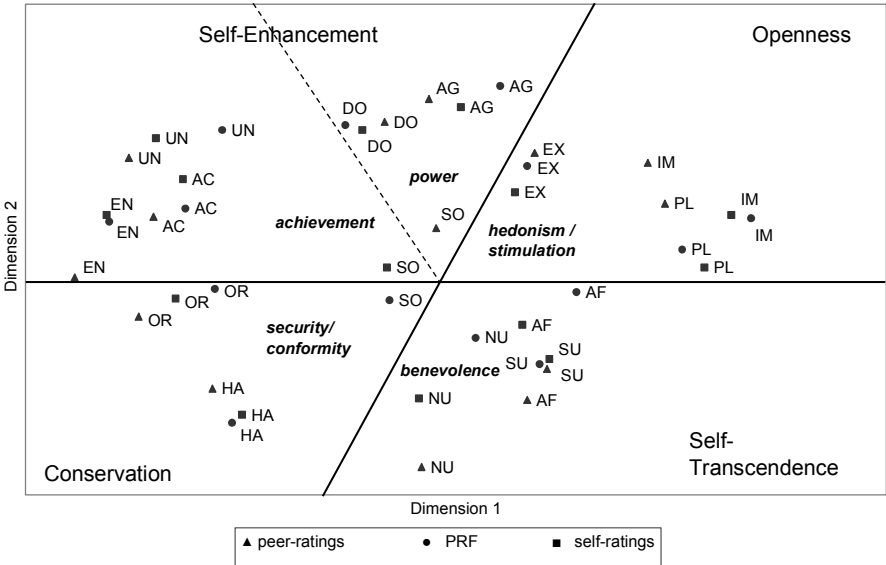
2 Personal communication, January 16, 1998.

Table 1 A priori matching of motives (PRF), value types, and basic value dimensions according to the verbal descriptors of the respective constructs

motive	value type	value dimension
achievement: AC	achievement, power	self-enhancement
affiliation: AF	benevolence	self-transcendence
aggression: AG	power; benevolence(-), conformity (-)	self-enhancement
dominance: DO	power	self-enhancement
endurance: EN	achievement	self-enhancement
exhibition: EX	stimulation; tradition (-)	openness to change
harmavoidance: HA	security, tradition; stimulation (-)	conservation
impulsivity: IM	stimulation; conformity, tradition (-)	openness to change
nurturance: NU	benevolence; power (-)	self-transcendence
order: OR	security; stimulation (-)	conservation
play: PL	hedonism, stimulation	openness to change
social recognition: SO	(?) conformity, achievement	(?) conservation, self-enhancement
succorance: SU	(?) security	(?) conservation
understanding: UN	self-direction; tradition (-)	openness to change

The first multitrait-multimethod matrix of PRF-scores, self- and peer-ratings is based on a sample of $N = 215$ (Stumpf et al. 1985: 55). Analyses were run by means of the *SYSTAT* program package (version 11.0). A two-dimensional nonmetric MDS of the 3×14 indicators yielded a coefficient of alienation $K = .21$ (Borg & Groenen 2005). Figure 2 shows the two-dimensional projection of all 42 variables and their wedgelike separation according to the regional hypotheses.

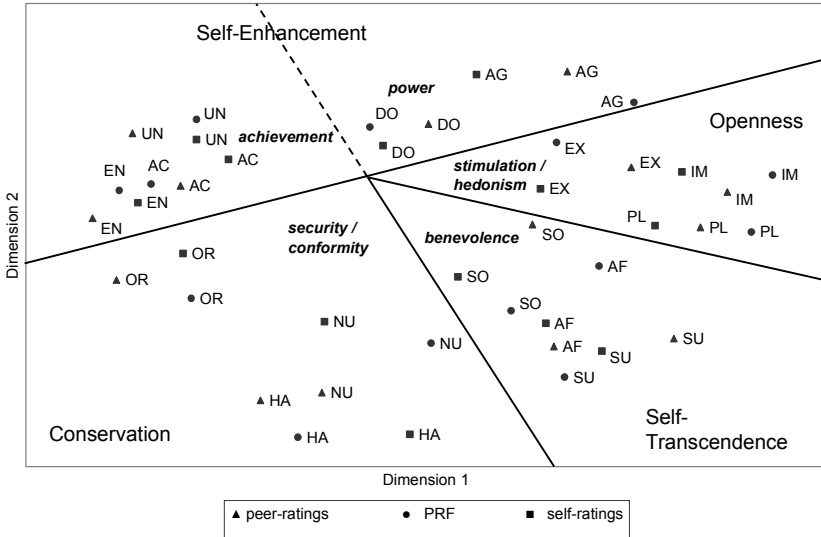
Figure 2 Two-dimensional nonmetric MDS of 14 motives (PRF; cf. Stumpf et al. 1985: 55)



As can be seen, five complex motivational regions emerged. Their positions fit quite well the configuration predicted from the basic dimensions. Thus, achievement and power (i.e., self-enhancement) are opposed to benevolence (self-transcendence). Furthermore, hedonism/stimulation (openness to change) is located opposite to security/conformity (conservation), as expected. Only ‘understanding’, which was expected to be an indicator of ‘openness to change’, resulted as a misfit.

The second MTMM-matrix ($N = 169$) from the Stumpf et al. study (1985: 59) was analyzed correspondingly. The two-dimensional MDS ($K = .21$) of this dataset revealed essentially the same partitioning of motives as the first analysis. The resulting structure is presented in Figure 3. Here again, ‘understanding’ is located in the achievement sector, suggesting that its structural association has to be reconsidered if this placement should be replicated in further analyses.

Figure 3 Two-dimensional nonmetric MDS of 14 motives (PRF; cf. Stumpf et al. 1985: 59)



The two motives which remained unclassified in our a priori classification of PRF-variables behaved differently in the present analyses. While we conjectured a vague association between ‘succorance’ and security (conservation), this motive was clearly associated with benevolence (self-transcendence) in both samples. ‘Social recognition’ emerged in the middle of the MDS plots, showing no stable association with either dimension. This may be due to the fact that social recognition implies both aspects of achievement (status) and benevolence (social relation). In spite of these unforeseen findings, the results from both studies support the hypothesis that structural interrelations between motives can be represented by the same two basic dimensions consistently found in cross-cultural value research (see Schwartz & Sagiv 1995). One final aspect of these results should be emphasized in this context: Contrary to the often deplored ‘unrelatedness’ of motivational indicators, all variables supposed to represent the same motive (e.g. dominance) are located in close proximity in this plot, thus confirming our assumption of a common structure of methodologically different indicators.

A joint analysis of values and motives

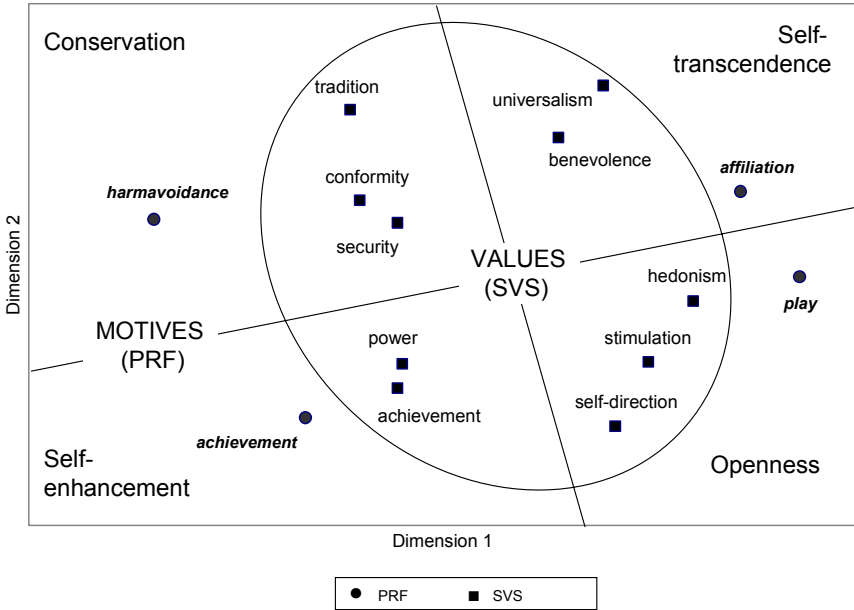
While the above analyses look promising as to the applicability of the Schwartz model to motives, evidence is indirect. The usefulness of this approach would appear still more convincing if a *joint analysis* of values and motives resulted in the predicted two-dimensional structure. Therefore, a new study was conducted in which indicators of values and motives were collected from the same sample.

In this study, 331 subjects from Münster completed a questionnaire consisting of two modules. One of them was a shortened version of the Schwartz Value Survey (SVS). The 44 items of this version had proved to be cross-culturally stable indicators of the respective value types in a multitude of studies (Schwartz & Sagiv 1995). The other module consisted of four scales from the German PRF (Stumpf et al. 1985): *harmavoidance*, *play*, *affiliation*, and *achievement*. These scales were selected because they seemed to optimally fit the four poles of the basic value dimensions in the Schwartz model (Table 1). In order to avoid sequential effects of presentation, half of the subjects answered the SVS-items first, the other half the PRF-items. Multidimensional Scaling was applied to scale scores of both instruments.

In a first step, value scores were analyzed separately. The purpose of this analysis was to check whether value types spread in the way predicted by the model (Figure 1). As expected, a two-dimensional MDS (coefficient of alienation $K = .12$) resulted in a perfect reproduction of the expected structure (Bilsky 1998).

In a second step, indicators of values and motives were submitted to a joint MDS. The two-dimensional solution ($K = .21$) shows the predicted structure of values and motives (Figure 4). As hypothesised, all motives emerge in the correct sectors of the plot: affiliation in self-transcendence, achievement in self-enhancement, play in openness to change, and harmavoidance in conservation. In addition, indicators could be split according to the *measurement* applied: All SVS-scores are close to the centre and separated from the PRF-variables by a circular line.

Figure 4 Two-dimensional nonmetric MDS of ten SVS-value indicators and four PRF motives



However, one peculiarity of this last plot needs mentioning: Other than in the separate analysis of value scores, self-direction and hedonism changed their places in this joint projection of values and motives. Since all bivariate correlations are taken into account simultaneously in an MDS, the structure of values has obviously been affected by the introduction of the four motives. However, this is only a minor deviation which does not threaten our central assumption of one common two-dimensional structure of values and motives.

Conclusion

The above analysis of multitrait-multimethod matrices of motives and the joint analysis of motives and values suggest that there exists *considerable overlap* between these psychological constructs. All in all, our results support the supposition that the *two basic dimensions* of Schwartz' (1992) value model, 'openness to change versus conservation' and 'self-enhancement versus self-transcendence', may serve as a parsimonious taxonomy for classifying motives. Additional analyses including both implicit and explicit measures (Bilsky 1998) validate this assumption.

The structural relations between motives outlined in this text may have been concealed in the past due to focusing on bivariate correlations instead of correlational patterns. Furthermore, considering only one or a few motives per study inevitably prevents the researcher from identifying more comprehensive motivational structures.

Apart from methodological considerations, concentration on only a few motives may be problematic from a conceptual point of view as well. It is not by chance, that achievement, power, and affiliation are called the 'big three' in motivational research. These motives have attracted much attention and, consequently, have bound considerable research resources in the past. Yet, they represent only one motivational dimension – 'self-enhancement vs. self-transcendence'. An overemphasis of this dimension necessarily results in biased research at the expense of other constructs like curiosity, play, harmavoidance or order. All of them are representatives of the second basic motivational dimension 'openness to change vs. conservation'.

Finally, the structural findings presented here may serve more pragmatic interests like predicting the *relation* of motives *with other variables* (covariates). Such predictions, for instance, should be facilitated by the fact that the circular ordering of motives does not only reflect categorical distinctions but results from their mutual compatibilities and incompatibilities. Schwartz could demonstrate that the size of correlations with external variables follows a *sinusoid pattern* as values move around the circular structure (Schwartz & Huisman 1995). Given the structural similarities of values and motives, this should hold for motives, too. Consequently, correlations between an external (third) variable and adjacent motives are supposed to be more similar than correlations between an external variable and motives farther apart in terms of the underlying basic dimensions.

To sum up, the focus of this paper was on *motivational structure*, using Schwartz' (1992) value theory as a frame of reference. The identification of shared structures of values and motives seems helpful with respect to both, a *better integration of past findings* from motivational, social, and personality psychology, and an *efficient planning of future research*. Of course, stressing the similarities between values and motives is not to deny that there are also good reasons for investigating conceptual differences of both constructs.

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