VALUES AND MOTIVES

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Values and Motives

Wolfgang Bilsky

As late as 1989, Heckhausen argued that there had not been a satisfying solution for classifying motives in the past. As to my knowledge, this critique applies even today. To a certain degree, the lack of taxonomic clarity in motivational research may be attributable to the many criteria which should be met by a sound and reliable taxonomy (cf. Heckhausen, 1989). However, this seems to be only part of the truth. The increasing specialisation within psychology during the past decades and the growing amount of literature within every branch may be another reason. This development prevents researchers from taking note of scientific progress in domains which often only slightly deviate from their own focal interests. Thus, while Heckhausen (1989) has been referring to some early efforts of systematically categorising fundamental value orientations in anthropology, this line of reasoning has been without consequences for motivational research until today. Finally, the continuing debate on differences between explicit (or self-attributed) and implicit motives (e.g., McClelland, 1985; McClelland, Koestner & Weinberger, 1989; Weinberger, & McClelland, 1990) may have been an additional obstacle on the way to one comprising taxonomy of (human) motives.

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 during the past decade (Schwartz & Bilsky, 1987, 1990; Schwartz, 1992; Schwartz & Sagiv, 1995), and from facet theory specified by Louis Guttman (cf. Borg & Shye, 1995). Starting from the definition of values used by Schwartz and Bilsky (1987) in their studies on the cross-cultural stability of value structures, the focal position of the motivational facet in this definition is emphasized. Next, the refined theory of Schwartz (1992) on the structure of values is sketched out. This revised conceptual approach lends itself to the specification of hypotheses on the structure of motives which are presented on a third step. Finally, these hypotheses are tested by applying them to the (re-) analysis of several multitrait-multimethod (MTMM) matrices of motive and value indicators.

1. Defining values: Towards a general theory of the structure of values

Starting from previous research on human values, Schwartz and Bilsky (1987) integrated central components commonly used in defining values into one comprehensive mapping sentence. Mapping sentences are applied in facet theory to define the phenomenon under study in a formal and unequivocal way. This is achieved by explicitly distinguishing conceptually relevant aspects of the phenomenon and by specifying their mutual
interrelation (Levy, 1985; Borg & Shye, 1995). This formal definition is then used as a structural hypothesis that guides empirical analyses of data. Unlike many other approaches that rely on (confirmatory) factor analysis, the facet approach falls back on nonmetric multidimensional scaling procedures when investigating data structures (cf. Borg & Groenen, 1997). Figure 1 gives the faceted definition used by Schwartz and Bilsky (1987). As can be seen, motivational aspects are of central importance to this definition.

A value is an individual’s concept of a transsituational goal that expresses motivational aspects concerned with a motivational domain (individualistic, collectivist, both) and =⇒ evaluated on a range of importance from (very important) to (unimportant) as a guiding principle in his/her life.

Figure 1: Mapping sentence on the structure of human values (cf. Schwartz & Bilsky, 1987, p. 553)

Cross-cultural analyses of value data from seven countries mainly confirmed the structural predictions made by this mapping sentence (Schwartz & Bilsky, 1987, 1990).

As outlined elsewhere, Schwartz and Bilsky (1987, p. 560) assumed from the beginning that the motivational domain needs completion by some additional elements. However, all of these initial analyses were based on data gathered with the Rokeach Value Survey (Rokeach, 1973). This instrument does not cover any motivational aspects beyond those specified in the above mapping sentence. Therefore, the necessity of taking additional motivational elements into consideration could not be tested empirically.

2. Refinement of a general theory of the structure of values

In the period following, Schwartz (1992) revised and amplified his values theory in the light of the aforementioned empirical findings and further conceptual analyses. His refined model of value structures focuses on motivational aspects only, leaving the initial differentiation of goals and interests out of consideration. Instead another aspect of the values structure was stressed - the fact that compatibilities and incompatibilities between value domains can be summarised by two essentially orthogonal dimensions. These dimensions were called ‘openness to change vs. conservation’ and ‘self-enhancement vs. self-transcendence’ as depicted in figure 2.
Since then, the Schwartz approach has been tested in some 40 countries, using data from about 90 different samples. On the whole, analyses revealed both stable patterns of value structures and cultural specifics (cf. Schwartz & Sagiv, 1995). In addition to these results, systematic relations could be identified between value structures and conventional personality variables in a German study (Bilsky & Schwartz, 1994). This latter study also revealed some conceptual relations between the Schwartz approach on the one hand and Spranger's value orientations and Eysenck's political dimensions 'radicalism vs. conservativism' and 'tough- vs. tendermindedness' on the other hand.

3. Hypothesizing a general structure of motives

3.1 Motive labels and the presumed motive-value relationship

In motivational research, the lack of substantial correlations between different indicators claiming to cover the same motivational domain has caused considerable irritation in the past. Thus, correlations between fantasy-based indicators of motivation (derived from projective techniques) and self-report measures have consistently been close to zero. Consequently, there has been a long debate on whether or not it is necessary to distinguish different kinds of motives, i.e., implicit from explicit motives, depending on the type of assessment instrument used. McClelland and his colleagues, for instance, contend that projective measures primarily cover affective aspects of the respective motivational domain while self-reports apply to the assessment of cognitive aspects only. In order not to confound both types they propose to refer to the first one as need indicators and to the second as value indicators (e.g., McClelland, 1985; Weinberger & McClelland, 1990).
Independently of this debate, the advocates of both fantasy-based and self-report measures used similar labels for the motivational phenomena under study. These labels overlap to a great extent with the elements of the motivational facet that served as a theoretical frame of reference in our cross-cultural studies on the stability of value structures (Schwartz & Bilsky, 1987; Schwartz, 1992). It seems quite reasonable, therefore, to assume that the same kind of structures found in value research should appear when analysing indicators of different motives. This assumption applies independently of the type of indicators used, i.e., affective or cognitive. The rationale of this hypothesis is that structure arises from the simultaneous inspection of all (dis-)similarities (e.g., correlations) between indicators of different motivational domains. Thus, it is the overall pattern of contingencies and not the single bivariate correlation which is of analytic interest here. Since McClelland postulates that the number of motives of the need type is much smaller than that of the value type (e.g., Weinberger & McClelland, 1990), however, testing structural hypotheses should refer to the two basic dimensions identified by Schwartz (1992) and not to special categories of motivational content. While the overall pattern of motivational structure is expected to arise independently of the type of measurement, however, it should be possible to separate implicit from explicit measures in structural analyses, too.

3.2 A mapping sentence of motives

To put these assumptions in terms of facet theory, three distinct facets are hypothesized to define a multidimensional space of motive structure: According to the Schwartz model of value structures (1992), the content of every motive can be specified by means of two facets that represent the two basic dimensions distinguished by Schwartz. These facets are labelled 'openness to change' and 'focus of concern'; they range from approaching to avoiding and from self-enhancing to self-transcendent, respectively. The position of every single motive in the resulting two-dimensional structure is then defined by the Cartesian product of the elements of the two facets, i.e., by the joint position on the two underlying dimensions.

It should be noted that using two facets for specifying motivational content of indicators is equivalent to using one single facet in which the motivational domains, i.e. the elements of the facet, are listed explicitly, and spatial compatibilities and incompatibilities between these elements are specified by additional hypotheses; the latter approach was chosen in our early research on value structures (cf., Schwartz & Bilsky, 1987). In either case, expectations about the expected structure are the same as will be explained in the following.

With regard to assessment, it is assumed that the degree to which a subject is conscious of the respective aim of measurement varies on a bipolar (continuous) dimension or facet. The poles of this facet are labelled 'implicit' and 'explicit' as in motivational research, thus indicating both the type of measurement (projective vs. self-report) and the extent to which measurement is accessible to rational control.

These facets can now be integrated into one single mapping sentence that defines the multidimensional structure within which every motive can be located (figure 3). This mapping sentence serves as a structural hypothesis with respect to the interrelation of different motives.
A motive is an individual's orientation towards a goal that is determined by his/her tendency.

<table>
<thead>
<tr>
<th>consciousness</th>
<th>openness to change</th>
<th>focus of concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>(implicit)</td>
<td>(approaching)</td>
<td>(self-enhancing)</td>
</tr>
<tr>
<td>(explicit)</td>
<td>(avoiding)</td>
<td>(self-transcendent)</td>
</tr>
</tbody>
</table>

to behave and evaluated as with respect to goal attainment.

Figure 3: Mapping sentence on the structure of motives.

3.3 Structural hypotheses and partitioning of space

The validity of our structural hypotheses can be tested by analysing proximities of motivational indicators in multidimensional space. These proximities depict interrelations between all indicators at a time as summarized in a matrix of similarities (e.g., correlations). An adequate approach for conducting this type of data analysis is so-called ‘Similarity Structure Analysis’ (SSA; cf. Borg & Lingoes, 1987).

Referring to our own research on value structures, indicators of different motives are supposed to split up into wedgelike regions on a two-dimensional projection according to their similarities. Here, similarity means correspondence with respect to the two basic dimensions of motivational content as depicted in figure 2 of the value structures. In other words, motives that are similar with respect to both ‘openness to change’ and ‘focus of concern’ are expected to appear in close spatial proximity and should show up in the same spatial region therefore. In contrast, motives that differ with respect to both dimensions should spread apart on the same projection of similarities. It should be noted that wedgelike regions normally result from one ‘polar facet’ (cf., Levy, 1985); in the above mapping sentence this facet has been substituted by the Cartesian product of the elements of two one-dimensional ordered facets representing the two basic dimensions of the revised Schwartz model, i.e., motivational content.

As regards assessment, there are two possibilities for partitioning motivational indicators according to a third - methods - facet; this facet was labelled ‘consciousness’ in the mapping sentence: Provided that a two-dimensional representation of similarities is sufficient for partitioning data both with respect to content and methods, this ‘consciousness’ facet should play a ‘modulating’ role. This means that assessment techniques ranging from implicit (projective techniques) to explicit (self-ratings) should form ordered partitions that resemble
a set of concentric bands, superimposed on the polar (wedgelike) partitioning of motivational content. The resulting configuration of overlapping wedgelike and concentric partitions with a common center (like a dart board) is known as a ‘radex’ in literature (cf. Borg & Shye, 1995, p. 131).

In a three-dimensional projection of facets, however, consciousness should play an ‘axial’ role so that the overall partitioning of space takes the form of a ‘cylindrex’ as shown in figure 4 (for detailed information about partitioning in multidimensional space, see Levy, 1985; Borg & Shye, 1995).

![Figure 4: Cylindrex with the wedgelike (polar) partitioning of motivational content and the ordered (axial) partitioning of assessment instruments, showing up on two different two-dimensional projections.](image)

4. **Structural analyses of multitrait-multimethod matrices**

Altogether, seven data sets have been (re-) analysed in order to test the hypothesized structure of motives (cf. Bilsky, 1997a,b). Three of these analyses are reported here, each of them addressing a different aspect of structural analysis.

4.1 **The German Personality Research Form (PRF): inherent basic dimensions**

When discussing questions relating to the convergent and discriminant validity of the German Personality Research Form (PRF), Stumpf, Angleitner, Wieck, Jackson and Beloch-Till (1985), among other things, referred to two MTMM-Matrices, each containing intercorrelations of 14 PRF-scores, self- and peer-ratings, respectively. Since the PRF covers a wide range of motivational constructs, these matrices were reanalysed by means of
nonmetric Similarity Structure Analysis (SSA; Bilsky, 1997a) in order to see whether the basic value dimensions postulated by Schwartz (1992) apply to the structural description of motivational data, too. The SSA of one of these matrices (N=169; Stumpf et al., 1985, p. 59) is sketched out below.

A priori to SSA, however, the 14 PRF motives (e.g., achievement, affiliation, etc.) and the 10 value domains of the Schwartz model were matched according to their verbal descriptors. Matching was accomplished independently by S.H. Schwartz and the author. The joint results of this attempt are summarized in table 1 (as can be seen, no clear counterparts of ‘social recognition’ and ‘succorance’ could be identified within values). Special attention should be paid to the resulting assignment of motives to basic (value) dimensions (according to figure 2, above); this assignment specifies the regional hypotheses to be tested by SSA. No hypotheses were formulated with respect to the partitioning of the methods used (i.e., PRF, self- and peer-ratings) because all of them are close to the explicit-pole of the measurement (consciousness) facet.

<table>
<thead>
<tr>
<th>Motive</th>
<th>Value Domain</th>
<th>Value Dimension (Pole)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement (Leistungsstreben): AC</td>
<td>Achievement, Power</td>
<td>Self-Enhancement</td>
</tr>
<tr>
<td>Affiliation (Geselligkeit): AF</td>
<td>Benevolence</td>
<td>Self-Transcendence</td>
</tr>
<tr>
<td>Aggression (Aggressivität): AG</td>
<td>Power; Benevolence(-), Conformity (-)</td>
<td>Self-Enhancement</td>
</tr>
<tr>
<td>Dominance (Dominanzstreben): DO</td>
<td>Power</td>
<td>Self-Enhancement</td>
</tr>
<tr>
<td>Endurance (Ausdauer): EN</td>
<td>Achievement</td>
<td>Self-Enhancement</td>
</tr>
<tr>
<td>Exhibition (Bedürfnis nach</td>
<td>Stimulation; Tradition (-)</td>
<td>Openness to Change</td>
</tr>
<tr>
<td>Beachtung): EX</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harmavoidance (Risikomeidung): HA</td>
<td>Security, Tradition; Stimulation (-)</td>
<td>Conservation</td>
</tr>
<tr>
<td>Impulsivity (Impulsivität): IM</td>
<td>Stimulation; Conformity, Tradition (-)</td>
<td>Openness to Change</td>
</tr>
<tr>
<td>Nurturance (Hilfsbereitschaft): NU</td>
<td>Benevolence; Power (-)</td>
<td>Self-Transcendence</td>
</tr>
<tr>
<td>Order (Ordnungsstreben): OR</td>
<td>Security; Stimulation (-)</td>
<td>Conservation</td>
</tr>
<tr>
<td>Play (Spielerische Grundhaltung): PL</td>
<td>Hedonism, Stimulation</td>
<td>Openness to Change</td>
</tr>
<tr>
<td>Social Recognition (Soziales</td>
<td>(?) Conformity, Achievement</td>
<td>(?) Conservation, Self-</td>
</tr>
<tr>
<td>Anerkennungsbedürfnis): SO</td>
<td></td>
<td>Enhancement</td>
</tr>
<tr>
<td>Succorance (Anlehnungsbedürfnis): SU</td>
<td>(?) Security, Conformity, Tradition</td>
<td>(?) Conservation</td>
</tr>
<tr>
<td>Understanding (Allgemeine Interessiertheit): UN</td>
<td>Self-Direction; Tradition (-)</td>
<td>Openness to Change</td>
</tr>
</tbody>
</table>

Table 1: A priori matching of motives, values and basic value dimensions according to the verbal descriptors of the respective constructs

A two-dimensional ordinal SSA of the 3 x 14 indicators of motives (computed by means of SYSTAT for Windows 5.0) yielded a coefficient of alienation $K = .21$ (cf. Borg & Shye, 1995, p. 129). Figure 5 shows the two-dimensional projection of all 42 variables and their wedgelike separation according to the regional hypotheses.
As can be seen, five (complex) motivational regions emerged. Their positions fit quite well into the configuration predicted from the basic dimensions. Thus, achievement and power (i.e., self-enhancement) are opposed to benevolence (self-transcendence), and hedonism/stimulation (openness to change) show up opposite to security/conformity (conservation), as expected. Only ‘understanding’ (which was expected to be an indicator of ‘openness to change’) results as a misfit; consequently, its meaning needs reconsideration if this ‘misplacement’ showed up in further analyses again.

One additional aspect of these results should be emphasized: Contrary to the often deplored ‘unrelatedness’ of motivational indicators, all variables which are supposed to represent the same motive (e.g., dominance) are in fact located in close proximity in this plot. This is true because SSA represents the pattern of all intercorrelations between variables at the same time.

### 4.2 Implicit and explicit motives

As mentioned in the introduction, there has been a long debate on whether it is necessary or not to distinguish explicit from implicit motives. This question is closely linked to the type of measurement (i.e., paper-and-pencil, self-ratings, etc., as opposed to projective techniques) applied in motivational research. The next analysis is devoted to this problem.

Langens (1996) collected data of the three motives achievement, power and affiliation, from a sample of 72 students of Boston University. Each motive was measured by three assessment techniques: Murray’s Thematic Apperception Test (TAT), Emmon’s Personal
Strivings Questionnaire, and McClelland’s Personal Values Questionnaire (PVQ). The intercorrelations of these 3 (motives) x 3 (instruments) indicators were documented in a multitrait-multimethod matrix (Langens, 1996, p. 65).

This MTMM matrix was reanalyzed by submitting the intercorrelations to ordinal SSA. The coefficient of alienation of a two-dimensional solution was $K = .12$. This solution allowed the simultaneous partitioning of motives and instruments by a radex as depicted in figure 6.

![Diagram](image)

Figure 6: Two-dimensional ordinal SSA of Langens’ (1996) MTMM matrix; radex-structure, partitioning data according to motives and instruments

As can be seen, the three motives are perfectly separated in a wedgelike manner. Furthermore, the assessment instruments are ordered in such a way that explicit measures (i.e., PVQ) are located towards the center of the plot while implicit measures (TAT) are close to the periphery, with Personal Strivings in between. However, this radex structure contains one misplacement: Power (PO) as measured by the Personal Strivings Questionnaire should not be located in the inner circle but in the band around it, together with the other indicators of the Personal Strivings Questionnaire. This misplacement can only be avoided by analysing the data in two consecutive steps. In this case, the three instruments could be perfectly separated too, by choosing a modular split (i.e., by concentric circles) with the PVQ-indicators in the center, all strivings in the band around, and the TAT-scores outside. With respect to parsimony, however, the radex seems to be the adequate solution for splitting content and method facets in this study. This choice was validated by additional analyses of MTMM matrices from Emmons and McAdams (1991) and King (1995) which yielded radex structures, too (cf. Bilsky, 1997b).
4.3 A joint analysis of values and motives

While the analyses presented thus far look quite promising as to the applicability of the Schwartz model to the structural analysis of motives, evidence is only indirect. The usefulness of this approach would appear even more convincing if it proved helpful in partitioning values and motives in a joint analysis, too. Therefore, a new study was designed in which indicators of values and motives were collected from the same sample.

In spring 1997, 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 domain in a multitude of studies (cf. Schwartz & Sagiv, 1995). The other module consisted of the following 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. In order to avoid effects of sequence, one half of the subjects answered the SVS-items first, the other half the PRF-items. Contrary to the usual procedure of data analysis in cross-cultural studies on values, Similarity Structure Analyses were run with scale scores of values instead of individual items; these scores were averaged aggregates of all items belonging to the respective value domain.

In a first step, value scores were analysed alone by means of ordinal SSA. The purpose of this analysis was to check whether the values do indeed spread in the way predicted by the model. As shown in figure 7, the expected structure of values could be reproduced perfectly by the data (coefficient of alienation $K = .12$).

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**Figure 7:** Two-dimensional SSA of ten value indicators calculated from 44 SVS-items that proved to be culturally stable indicators of the respective value domains (cf. Schwartz & Sagiv, 1995)
In a second step, indicators of values and motives were submitted to a joint SSA. The two-dimensional solution ($K = .21$) in figure 8 reveals the predicted radex of values and motives. As expected, 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 to this perfect match of motives and values, indicators could be split unambiguously according to the measurement applied. Thus, all SVS-scores are close to the center and separated from the PRF-variables by a circular line. Obviously, the methods facet plays a modulating role.

![Figure 8: Two-dimensional SSA of ten SVS-value indicators and four PRF motives](image)

Apart from these clearcut outcomes, one peculiarity of this last plot needs mentioning, however: Other than in figure 7, 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 SSA, the structure of values has obviously been affected by the introduction of the four motives. This means that the correspondence of motives and the basic value dimensions is good but not perfect. However, this is only a minor deviation which does not threaten our central assumption of one common structure of values and motives.

5. Some final remarks

Both, the reanalyses of MTMM matrices of motives and the joint analysis of motives and values have shown that there exists considerable overlap between these two types of
psychological constructs. This fact has probably been concealed in past research by a number of unfavourable factors: (1) an inadequate focus on simple bivariate correlations instead of correlational patterns, (2) a neglect of taxonomic reasoning in motivational research, and (3) a categorical instead of a dimensional differentiation of explicit and implicit measures of motivation. In fact, there is a fourth, methodological factor which may have contributed to this development: Conventional factor analysis, as applied to a considerable extent in past research, normally aims at the identification of simple structure. When dealing with complex items, however, this approach may run into serious problems and result in methodological artefacts. Similarity Structure Analysis and related procedures, on the other hand, are well suited for handling multifaceted types of research problems.

As regards the organization of motives in multidimensional space, so far a two-dimensional radex turned out to be a sufficiently differentiated model for describing our data. However, this does not disvalidate a three-dimensional model. The radex structure found may, in fact, be but a two-dimensional projection of a ‘special form’ of a cylindrex, namely a ‘cone’ (looked on from above); this type of representation was, for example, also found in Levy and Guttman’s research on adjustive behavior and well-being (cf. Levy & Guttman, 1989). Independently of whether a radex or a conical structure is the most adequate model for representing motives in multidimensional space - both raise a question as to the role of the modular facet in partitioning motives: Until today, our data suggest that explicit indicators emerge in the center of the modular structure while implicit tend to the periphery of the plots, thus ordering assessment instruments on a continuum from paper-and-pencil or self-report measures to ‘projective’ techniques (cf. Bilsky, 1997b). While this finding is informative with respect to the methods applied, it tells us only part of the truth. In fact, different methods reflect only another problem of content - the role which awareness and consciousness play in psychological assessment. This aspect needs further attention in future research on a more refined taxonomy of motives.

6. References


