9 Levels for Value systems
Development of a scale for level-measurement

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Summary

Research questions:	How can the value levels of the 9 Levels for Value systems used in application-oriented personnel and organisational development be measured reliably?
Methods:	The value levels of the 9 Levels for Value systems are incorporated into indicators in a classical operationalization process. Using a scaling procedure derived from Likert, a scale is developed based on a survey. This then undergoes a detailed analysis in terms of objectivity, reliability and validity.
Results:	Practical systems for consulting and development oriented measurement of the values of the 9 Levels for Value systems.
Structure of the article:	1. Essay; 2. Literature Review; 3. Research questions & methods; 4. Detailed empirical results; 5. Conclusions 6. About the authors

1. ESSAY

The 9 Levels for Value systems is an approach used for developing individuals, groups and organizations - based on the value system. The 9 Levels for Value systems model outlines the development of value systems in individuals, groups and organizations. It can be used to derive a better understanding and in particular to determine any change requirements. How does a person fit into a company, how does a department or team incorporate the values that guide their actions into their current duties. What are the challenges posed by the environment/market and how promising are the current value systems? Can current and future challenges be met by means of the current value consciousness and behaviour?

The present 9 Levels Model is a values meta model, a development model for personal development and the evolution of organizations and cultures.

Values are constitutive elements of culture. They define meaning and importance within a social system (a group, society, etc.). Many models start from people's behaviour, or from fixed typologies. The 9 Levels Model goes deeper since it includes values. A

value that is mediated by culture serves as a "guideline" to help people to understand or know the world and as a result, it becomes a basis for planning behaviour. The fundamental and behavioural values are analysed and captured. These guide the thinking and behaviour of individuals, departments and organizations. These shape corporate cultures, drive human beings, indicate directions, constitute the foundation for evaluations, define what is right and what is wrong, and contribute, depending on the degree of fulfilment, to happiness and feelings of success.

2. LITERATURE REVIEW

The 9 Levels Model is based on the findings of Clare W. Graves (1966). The starting point for his research was a comparison of the different approaches of Maslow, Freud, Jung, Rogers, Watson and others. A key task of his research was to explore the stages of human development. Analysing the reports written by test subjects about adult human beings, he determined that, although these descriptions were very varied, they revealed recurring elements and systems, however. This led him to examine the different levels of development of human existence.

Christopher Cowan and Don Beck published Graves' model for the first time under the name of Spiral Dynamics (Beck, Cowan, 1996). Graves published his model in a 1966 Harvard Business Review article entitled "Deterioration of work standards". In this article he described his model as "Levels of Human Behaviour". Later Graves designated his model/theory as: "Emergent, cyclical double-helix model of adult biopsychosocial systems development"(Graves 2005). It is a model which describes the diversity of human development in an extremely complex way using multiple perspectives. The Graves theory is an open model of value theory. It describes, from different perspectives, how people, systems and organizations view the world - based on their biopsychosocial system. In its approach, the theory combines elements of four different scientific disciplines: biology/neurobiology, psychology/the theory of personality types, sociology/anthropology and systems theory.

The first German-language book about the basic model of the Graves Value System was published by Bär/Krumm/Wiehle in 2007: "Unternehmen verstehen, gestalten, verändern – das Graves-Value-System in der Praxis [Understanding, shaping and changing companies: the Graves-Value-System in Practice]". This laid the foundations for this fundamental theory in German-speaking countries. In the meantime, several books have appeared, describing different ways in which the system could be used, all of which refer to the basic Graves model (Wilber, 2011; McIntosh, 2009; Schlieper Damrich, 2011; Küstenmacher et. al., 2011). The Graves-Value-System represents a value model, which illustrates how individuals or entire systems (departments, enterprises, organisations) think and act. It represents an application-oriented tool used for better understanding of organisations and teams and the interactions within them.

The aim of developing this model into 9 levels is to combine the theoretical scientific model with a valid scientific analytical tool, making it applicable to consulting and coaching practice. The purpose is to combine the basic theory with current research findings and the current realities of the business world.

Within this context, the 9 levels are a simplification of Graves' theory. They help to provide a better understanding of people, groups and organizations and their actions and reactions. The 9 Levels and value systems theory present dynamics as the basis for the development of individuals, groups and organizations. Value systems, sometimes also designated psychological DNA, help to express attitudes, beliefs, inner sensitivities and organizational principles. These can be measured using the 9 levels - and thus also changed.

Three observational aspects characterise the system:

- **Personal value system** - for personal development and coaching.

    The personal value system analyses the individuals and their value systems, focussing on one area of life. Depending upon their role and tasks, different value systems apply to one person and thus their assessments and the behaviours will vary.

This depends on the kind of challenges presented by the environment.

- **Group value system** - for team development and team coaching.

  As a tool, team development lies within the classic area of group value systems. How is a department or a project group positioned within the value system, which challenges in the environment does it need to or want to take up. What should and needs to be important to them in the process? Not every group is a team. Teams do not always make sense. How have the market and the tasks changed? What changes might be necessary and how can this be described, labelled and changed in order to achieve sustainable value work?

- **Organisation value system** - for the organisational development and optimisation of corporate culture.

  Corporate culture or organisational culture is based on values and value systems, which the staff share and which most executives shape or exemplify. In the case of the organisation value system, this allows for corporate culture phenomena which are often quite difficult to grasp and measure. Only in this way, lasting changes can be extrapolated, if necessary.

The 9 Levels for Value systems can, therefore, in addition to being applied to the individual, also be applied to further analysis levels of groups as well as organisations and the corresponding interactions or fits. It also makes it possible to observe either the current actual condition or the specified condition that is desired by a person, group or organisation.

The world is not static and value systems are subject to development. Depending on what influences there are on people from the outside or even from inside, the more they will strive for change, or shift the value systems. Therefore it is important to use a dynamic model so as to better understand and enable the change.

Changes in the environment require people and systems to adapt. In interrelations, people and systems change naturally, also the world and the environment. For this reason, Graves differentiated the interrelationship between the WORLD (life conditions) and REACTIONS (mind capacities). World and reactions are interdependent. The world changes people and people change the world. He calls these interrelationships coping mechanisms (Graves, 2005, p. 30).

The coping mechanisms between the two areas of world and reaction are reciprocal. Each new level includes the values of the preceding levels. The coping mechanisms express the change from one to the next level. These changes are mostly not free of conflict, because they break with existing and established values or develop these further. This does not mean that the existing values were outstanding or well suited to the life circumstances. Rather, it means that the usual and manifested values were changed or exchanged. This change mechanism is a source of anxiety and goes hand in hand with maintenance of the acquis (material possessions, power, etc.) (Graves, 2005, p. 103, 160-161). In summary, Figure 1 provides a brief outline of the 9 Levels for Value systems.

Figure 1:
Overview of the 9 levels of the 9 Levels for Value systems
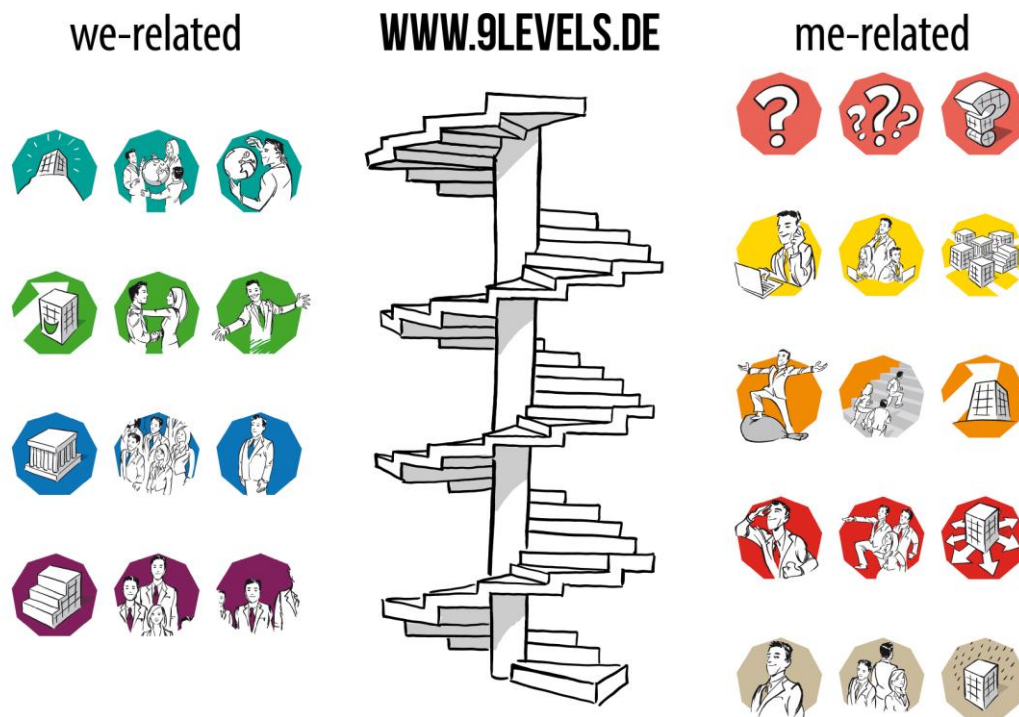
Seven of the nine levels (source: www.9levels.de) are currently relevant for practical use. They are presented in some detail as follows.

Beige level

People in Level 1 are at the most fundamental stage of life and consciousness. They live in small groups or associations, which offer a certain degree of protection and help to secure their basic needs, such as food, water, warmth and reproduction. Beige is instinct-driven and acts intuitively. He is subject to primal fear, the loss of essential human powers. In the economic arena, this level is fighting for economic survival. The beige level is not a component of tools that are used and is not operationalized.

Purple level

People in Level 2 see themselves as members of a community, a clan, a tribe with the Patriarch or Chief as its leader. The clan offers protection, security and belonging. Everything runs according to a set of rules, which is fixed – it is usually not written down but

neither is it questioned. Sacrifice and obedience are required. Purple implies magical mystical awareness. Traditions and customs are maintained - superstition also has its place. In the economic environment, patriarchal family businesses are often found here which lack clearly defined functional structures.

Characteristic values are:

- archaic-magical longings
- respecting taboos
- obedience
- tradition
- magic-mythical awareness
- connection
- rituals
- customs

- homeland
- affiliation

Red level

People in Level 3 regard themselves as conquerors and rulers of new territories. They are characterised by their quest for power, independence and prestige. Resources are used for their own benefit and, in cases of doubt, regardless of the adverse consequences. Red can quickly take the initiative - and often act forcefully and innovatively. He doesn't recognise rules and laws nor does he want them. The strong prevail. Organisations that capture new markets or tough network marketing organisations are referred to here. Everything is targeted to their own advantage - regardless of the consequences.

Characteristic values are:

- personal success
- power
- aggression
- force
- assertiveness
- winning at any cost
- prestige (respect, admiration, fear)
- dominance
- avoiding "shame"
- self-admiration

Blue level

People in Level 4 look for rules and laws and see themselves as part of a system of rules. This indicates a clear set of rules and responsibilities, according to which one can live and act. Fairness is a key virtue and is required. Loyalty is rewarded. Blue is distinguished by a strong sense of duty and discipline. Identity is obtained via the collective. Hierarchies are stressed, job descriptions are important and rules and structures are present.

Characteristic values are:

- law and order

- guilt and innocence
- loyalty
- order
- complying with rules
- security
- observes hierarchies
- control
- patience
- clarity

Orange level

People in Level 5 always have their own success in view, with the goal of preserving and increasing their prosperity. They are very energetic and determined. Although they see the whole picture, their success is not necessarily achieved at the expense of others. It is characterised by advancement with clear goal orientation and constant, rapid improvements in performance. They are restless. Cooperation is characterised by process orientation and setting targets.

Characteristic values are:

- status; status symbols
- profit orientation
- competition
- growth (monetary and economic)
- career orientation
- prestige (status symbols)
- productivity
- results-oriented
- performance
- prosperity

Green level

People in Level 6 see success as the result of the correct team configuration. Their thinking is focussed on achieving objectives, but this is combined with

team work, collective action and consensus-building. The goal is long-term collective success. Meetings, people and relationships are more important than things to this person. They are in constant dialogue with their environment. Compared with blue and orange, green thinks less in absolute terms, but assesses various options. There are several books, not just one book. Participation and inclusion are important concepts in terms of co-operation.

Characteristic values are:

- equality
- participation
- integration (of people)
- commonality
- community
- consensus
- harmony
- fairness
- tolerance
- adaptation
- dialogue

Yellow level

Levels 1 to 6 make up the levels of the first rank. These initial six levels react to the lacks and needs in an individual's environment. The levels are repeated in the second tier, but at a higher level and with a focus on common sense and sensory needs.

People in the 7th or yellow Level, are the first to recognize the advantages of the preceding levels and to use and combine them. The result is the second tier. The previous levels viewed the world and their understanding the world as being correct only from their perspective. Multi-perspectivity was not available to them. With yellow, the focus is on increasing knowledge, flexibility, competence and independence. Material possessions, power and status are secondary. They think in a multi-perspective and systemic manner and have a large capacity for abstractive thinking. Networks and changing

collaborations are the order of the day. Rank and status are not important; instead they focus on expertise and knowledge. Yellow is the beige of the second tier.

Characteristic values are:

- inspiration
- personal responsibility
- lifelong learning
- personal development
- integration (of knowledge)
- freedom
- active growth (spiritual / knowledge)
- appreciation of uniqueness
- individuality
- autonomy

Turquoise level

People in Level 8 have sustainability and holism as trend-setting maxims for their actions. Turquoise thinks globally, holistically, ecologically, and intuitively. They focus on the well-being of the world and this determines their life and work. This altruistic attitude means they can be both observers, and creators. Turquoise is the purple of the second rank.

Characteristic values are:

- collective intuition
- bringing about the well-being of mankind
- improving the living conditions of all forms of life
- spiritual awareness
- network intelligence
- sustainability
- global reconciliation
- systemic action
- holon (the whole as a part of another whole)
- responsibility for the future of life

Coral level

People in Level 9 are the red of the second rank. They are self-centred and live with the knowledge that there are no limits other than those generated by human activity and existence. Thoroughly fulfilled with love and respect for all living things, they will use their charisma to motivate people, break new ground and transcend boundaries. Like the first level, the ninth level is also not a direct subject of the system developed and is therefore not operationalized.

3. RESEARCH QUESTIONS & METHODS

The key issue is to develop a reliable scale for measuring the value levels of the 9 Levels for Value systems. In accordance with the basic orientation of the 9 Levels for Value systems, the scale development focuses on the affective, emotional components of the value system. Inspired by the procedures of the Likert scale (on the development of a Likert scale, see Nieschlag, Dichtl, Hörschgen, 2002) the creation of a scale follows these steps:

- Formulating statements for relevant attitude dimensions

- Evaluation of the statements by the target group and calculation of a level-specific attitude value

- Selection of the items on basis of their discriminatory capacity

- Measure the belonging level by means of the selected items

- Test the quality of the scale

The individual steps are presented in detail in the fourth section that follows. The selection of the most differentiated criteria within the context of the scale development is based on 488 subjects from a Convenience Sample. Figure 2 to 5 show the composition of the output samples based on the valid percentage values.
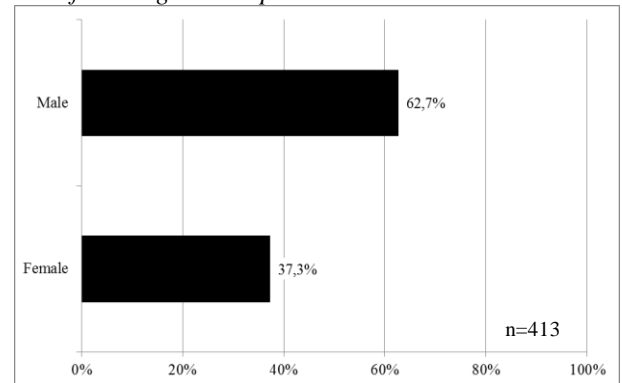
Figure 2:
Sex of the original sample

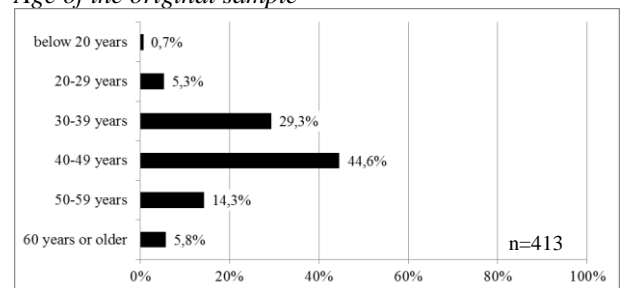Figure 3:
Age of the original sample
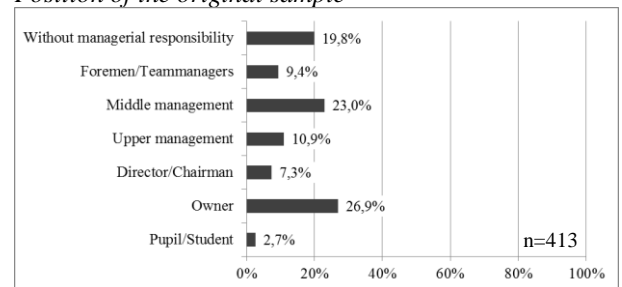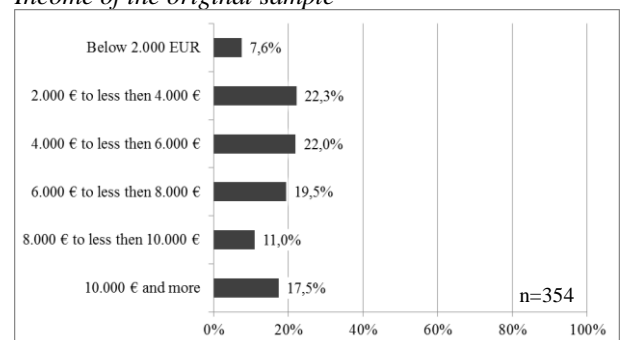

Figure 4:
Position of the original sample

Figure 5:
Income of the original sample

4. DETAILED EMPIRICAL RESULTS

In the context of the empirical results, each individual stage of the scale development and its empirical results are discussed in detail, also in terms of its compliance with the usual research control criteria.

Formulating statements about relevant attitude dimensions

Each level is described in detail in 17 to 21 criteria. For the purple level these include, for example, obedience, taboos, respecting tradition. For each criterion, between 1 and 3 statements are formulated, with the following characteristics:

1. Each statement corresponds to one of the criterion-reflecting verbal expressions of opinion for the respective attitude object. As such, the self is initially taken as the basis for developing the scale. Transfer to the group or organization is carried out in further stages. In most cases, each statement allows for the expression of a positive or a negative attitude, illustrated verbally by the limits of the scale: "does not apply at all" to "applies very strongly". A neutral range is formed by the mid-point of the five-step scale used.

2. Each item has a monotone response characteristic. This means that, the more positive the attitude of the person interviewed in relation to the relevant dimension of the attitude object, the higher the probability that an affirmative statement will be obtained. Conversely, this also applies to negative attitudes or negative responses (for details of a monotonous response characteristic see Nieschlag, Dichtl, Hörschgen, 2002; on the differentiated meaning of this criterion, see Jäpel, 1985).

3. The numerical values assigned to the attitudes expressed correspond to a focussed psychological attitude continuum (Nieschlag, Dichtl, Hörschgen, 2002; DeVellis, 2012).

Evaluation of the statements by the target group and calculation of a level-specific attitude value

The respective attitude value should be calculated as an average[1] of the single statement values. For the 9 Levels for Value systems scale, this pattern is used to establish an attitude value per level for each person for all statements associated with a level.

Selection of the items on the basis of their discriminatory capacity

The focal point of scale construction is to select statements which can be included in the final level scales (Nieschlag, Dichtl, Hörschgen 2002; Jäpel 1985). The final level scales must be able, on the one hand, to be interpreted as characteristics of the individual attitude continuum; on the other hand, they must be able to discriminate well between the level affiliations. This means that a respondent, who agrees with a positive statement from one level, is also more strongly attributable to this level than someone who rejects the statement.

The affiliation of a person to a level is not known in advance, however. This means that the discriminatory capacity cannot initially be ascertained without the aforementioned level assignment. Therefore, a larger number of criteria and statements, as described above, are presented to the respondents in a first step.

The main criterion for including a statement in the final level scale is its discriminatory capacity. If a respondent who is assigned to a level as a result of the statements he selects assigns a higher value to a statement than respondents who do not belong to this level, then the statement concerned is suitable for differentiating the belonging to a level and is thus included in the final scale.

The starting point of the iterative procedure is initially all statements which identify belonging to a level based on the 9 Levels for Value systems. For each respondent, the average is calculated over all the

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[1] On the original Likert scale, the attitude value is calculated as the sum of the attitude values. Because in the 9 Levels for Value systems attitude values are to be calculated for each level and the levels in the construction phase exhibit a different number of statements - to ensure comparability -, the average rather than the sum is used to calculate the level scale value.

statements in each level. At the initial stage, a person is assigned to the level for which they demonstrate the highest average value. If they show same average value for several levels, that person is initially disregarded for further analysis.

The basis for selecting the items with the highest discriminatory capacity is the difference in the average values between those associated and those not associated with one level and the variance between these two groups. In terms of the average values, 10 statements for each level will be selected, which show the greatest difference between those associated with a level and those not associated with a level. The variance is used as a supplementary criterion to determine how homogeneously those subjects associated with a particular level respond to a statement as compared to those subjects not associated with a particular level. For the final scale, the most suitable criteria are those which show a high average difference and a high level of homogeneity within the respective groups of level-associated or non-level-associated subjects, thus where the level of variance is low.

After the first iteration, the association with one level is made again on the basis of the current 10 strongest differentiation criteria. The discrimination analysis described above is carried out again. This procedure is repeated as often as required, until the final 10 most selective items are identified, i.e. alternative assignments do not result in any increase in the differences described. The resulting definitive scale for the purple level, following the described procedure, clearly exemplifies the level criteria in terms of the respective differential values found in section 5.

Measuring the association level by means of the items selected

In the definitive scale, measurement of the level of affiliation is carried out using the 10 items selected for each level according to the described procedure. Because there are a uniform number of statements for each level, it is no longer necessary to take the average as a measure of the level of affiliation, but one can return to the original method for finding the total.

At certain points, the 5-pole scale used to develop the scale demonstrates an unsatisfactory differentiation of respondents. To promote differentiation, a scale from 0 "does not apply at all" to 10 "applies very strongly" is used in the definitive tool. Up to the lower scale intervals of the desired higher discriminatory capacity, all the essential properties of the Likert scale are retained, in particular the possibility for the equal expression of positive and negative attitudes and the possibility of neutral expression.

As each level offers 10 statements for measurement, between 0 and 100 points can therefore be accumulated for each level. In practical applications of the scale, this gives the advantage that the points can also be interpreted as a percentage of the affiliation to a level. According to the 9 Levels for Value systems theory, the percentages do not add up to 100%, but it is quite possible that a person may show high levels of deviation on several levels and thus present values of over 50%.

Another use for the scale is to calculate the "me-related" versus ''we-related'' orientation of the reference subject, according to the 9 Levels for Value systems. Me-centred levels are "red'', "orange", "yellow" and we-centred levels are "purple", "blue", "green", and "turquoise". For each respondent, the % to which a person is me- or we-centred should be determined.

The calculation is performed as follows:

- Calculate the aggregate score separately in each case for the me-levels and the we-levels.

- Add the sum of the two averages ("me average + we average")

- Calculation of the percentages: Me-average derived from total points (sum of the two averages) and we-points (average) derived from total points (the sum of the two averages).

$$\frac{\text{„me-average"}}{\text{„me-average"} + \text{„we-average"}}$$

$$\frac{\text{„we-related"}}{\text{„me-average"} + \text{„we-average"}}$$

Test the quality of the scale

It is very important to test the quality of the scale. The following sections deal with the normal quality criteria used to develop a scale: objectivity, reliability and validity.

Objectivity

Objectivity implies implementing, evaluating, and interpreting objectivity (Schumann, 2011).

Objectivity of implementation is present if the measurement results are independent of the individuals who are conducting them. The 9 levels survey for Value systems is carried out online using the scale developed. There are thus no elements that could affect the objectivity of the implementation.

Evaluation objectivity also requires the separation of the evaluation from the person who is carrying it out, i.e. different people should receive identical (numeric) results. The 9 Levels for Value systems scale only uses closed questions and provides a unique formula for calculating the level-specific scale values. There are thus no factors limiting the objectivity of the evaluation.

Interpretation objectivity requires that different researchers should not arrive at differing conclusions about the content based on a particular numeric result. With the level-specific scale value, the extent of the level of affiliation is clearly determined without any need for subjective interpretation on the part of the researcher. The basic scales, as well as the associated level assignment, meet the requirements of interpretative objectivity. It should be noted that the interpretation of the relationship between the different levels and the conclusions drawn from this go beyond the task of scaling and level assignment discussed here. The interpretations described build on the numeric results of the scaling and consciously involve the subjective experiences of the person who carries it out.

To sum up, the three main claims of objectivity for the discussed 9 Levels for Value systems scale can thus be considered to be met.

Reliability

A scaling procedure is considered reliable if it provides accurate measurements (on measuring the reliability of scaling procedures, see Nieschlag, Dichtl, Hörschgen, 2002; Schumann, 2011; Berekoven, Eckert, Ellenrieder, 2009; DeVellis, 2012). Accurate in this case is understood as precision in terms of the reproducibility of the values measured with repeated measurement of same characteristic among the same trait bearers. A high degree of matching of these measured values is an important indicator of the quality of a scaling procedure. Since the criterion of stability, based on measuring the same test group at different times (re-test reliability) cannot easily be applied in practice, both in general and also in the case of the present 9 Levels for Value systems scale, the other comments focus on the degree of internal consistency.

A scale is regarded as consistent if two parallel measurements give the same values. A common method for obtaining two sets of measurements is to allocate the items to two parts on a scale and calculate separate scale values for both sub-samples. A common value for the internal consistency of a scale is Cronbach's α. It is also assumed that, in the context of a scaling procedure, the items identified exhibit a high level of correlation with one another, as they are all measuring the same construct. In terms of developing a scale for the 9 Levels for Value systems scale, each level is measured individually. This means that Cronbach's α should be calculated individually for each level, i.e. for all statements and respondents of each level. Every possible combination of individual items within each level is considered, these are split into 2 halves i.e. the correlation of all items or the average correlation of all items within a level is used as the basis. Cronbach's α is thus defined for each level as follows:

$$\alpha = \frac{k\bar{r}}{1 + (k-1)\bar{r}}$$

with

k = number of items per level

$\bar{r}$ = average correlation of all items within a level

Cronbach's α can be given values between 0 and 1 (DeVellis, 2012). Values over 0.7 are considered as satisfactory, over 0.8 as good and above 0.9 as excellent. The values for each level are listed in chapter 5.

Validity

The quality criterion of the validity analyses, to the extent that a scaling procedure actually measures, what it is intended to measure (for the validity of the Likert scale see Schumann, 2011; Nieschlag, Dichtl, Hörschgen, 2002). A scale is valid insofar as the values measured match real characteristic values. Since, also in the present case, scalings usually relate to hypothetical constructs that cannot be observed directly, validity is usually analysed indirectly using indicators and different validity concepts. These are content, criterion and construct validity.

Content validity is not a type of validity that can be empirically tested, but instead describes validity in terms of appearance (face validity). In terms of the 9 Levels for Value systems scale, it relates to how well the individual items within a level represent the level affiliation in all its aspects. Expert ratings are a commonly used instrument for measuring this. If several experts independently agree that the level scales in question are valid in this respect, content validity is awarded to the level scales and thus to the overall measurement.

In the present case, this presupposes detailed knowledge of the individual level characteristics of the 9 Levels for Value systems approach.

Since it is a new approach - although one that is derived from the Graves-Value-System (for the characteristics of the individual levels in the Graves-Value-System, see Bär et al., 2010; Beck, Cowan, 1996) its evaluation by several independent experts who were not involved in the development of the 9 Levels for Values system has not yet been possible. One alternative would be to validate the level scales using retrograde construct specification. A level is defined by the characteristics of the scale. Thus the purple level would be characterised simply by defining upper levels of the purple scale values. In this case, the value limits would be defined absolutely and in relation to characteristics of the other level scales.

Although this could be a valid test, it is inadequate in terms of further developing the scaling procedure, as it is static and therefore can only represent temporary arguments. For this reason, it was not pursued further.

In the context of criterion validity, it has been examined to what extent a scale, insofar as it measures what it is supposed to measure, correlates to the relevant external criteria (Schumann, 2011). External criteria are criteria which directly or indirectly represent or reflect the characteristics which the relevant scale is measuring. In this case, the correlation validity is relevant, as one of two evaluation criteria along with forecast validity. This measures the external criteria at the same time as validating the values of the scale. In the case of the 9 Levels for Value systems scale, the individual level scales with their statements measure affiliation to a particular level. The respondents and people assigned to the level are presented with the result of this allocation. These will then in each case be referred to as the characteristics of the relevant levels. This is not limited to the scale statements, but includes all properties of the levels. The subjects are afterwards asked to assess the extent to which the level allocation reflects their personality traits measured using the scale. This is done on a scale of 0 = "does not agree" to 10 = "agrees completely". In the context of the initial survey, this was done qualitatively for 5 subjects, without any evidence of a violation of the criterion validity. A complete examination of criteria validity is thus only possible following further empirical application of the measuring tools.

Construct validity is present when hypotheses can be confirmed using a measured value of the scale, in our case level assignment, which can be confirmed using the measured scale values (Bortz, Döring, 2003; Schumann, 2011). To do this, a network hypothesis about the relationship of the characteristic being measured is formulated using different characteristics. If the connections formulated in the hypotheses exist and the characteristics are assessed as being valid, the relationship of the empirical relative should be reflected in the corresponding relationship of the numeric relative. In the case of linear connections, this reflection is, for example, measurable via correlations. If the appropriate connections arise, then this is taken as an indication of the construct validity. In the 9

Levels for Value systems theory, particular levels are regarded as belonging more closely together, i.e. a strong value of one level goes hand in hand with a strong value of specific other levels and with a lesser expression of further levels in turn. Because the developed scale is measuring independently of

affiliation to each individual level, theory-compliant or theory-contradicting high or low correlations between the levels can be analysed as indicators of the construct validity.

Table 1:

provides an overview of the corresponding correlation coefficient after Pearson, as well as their significance.
Table. Correlation of the level-specific scale values

		Purple average score	Red average score	Blue average score	Orange average score	Green average score	Yellow average score	Tourquise average score
Purple average score	Correlation according to Pearson	1	,125*	,523**	,236**	,285**	-,082	,190**
	significance (bilateral)		,011	,000	,000	,000	,097	,000
	N	413	413	413	413	413	413	413
Red average score	Correlation according to Pearson	,125*	1	,150**	,557**	-,117*	,131**	-,184**
	significance (bilateral)	,011		,002	,000	,017	,008	,000
	N	413	413	413	413	413	413	413
Blue average score	Correlation according to Pearson	,523**	,150**	1	,337**	,342**	-,024	,108*
	significance (bilateral)	,000	,002		,000	,000	,621	,028
	N	413	413	413	413	413	413	413
Orange average score	Correlation according to Pearson	,236**	,557**	,337**	1	,046	,244**	-,158**
	significance (bilateral)	,000	,000	,000		,349	,000	,001
	N	413	413	413	413	413	413	413
Green average score	Correlation according to Pearson	,285**	-,117*	,342**	,046	1	,317**	,526**
	significance (bilateral)	,000	,017	,000	,349		,000	,000
	N	413	413	413	413	413	413	413
Yellow average score	Correlation according to Pearson	-,082	,131**	-,024	,244**	,317**	1	,362**
	significance (bilateral)	,097	,008	,621	,000	,000		,000
	N	413	413	413	413	413	413	413
Tourquise average score	Correlation according to Pearson	,190**	-,184**	,108*	-,158**	,526**	,362**	1
	significance (bilateral)	,000	,000	,028	,001	,000	,000	
	N	413	413	413	413	413	413	413

* the correlation is on the level of 0,05 (bilateral) significant.
** the correlation is on the level of 0,01 (bilateral) significant.

The correlations shown closely match the 9 Levels for Value systems theory. It is largely theory compliant. For example people who show a high level of affinity to blue also have a high affinity to purple, because both show a high we-reference and are characterized by connection and loyalty. Obedience and maintaining hierarchies are also formative value systems (Graves; 2002; Graves, 2005; Bär et al., 2010). High correlation coefficients between the red and orange levels also conform to the theory; both are very energy-driven in their Me-orientation. Personal success and power/energy are central values in these levels (Graves, 2002; Graves, 2005; Bär et al., 2010). The levels of green and turquoise are both consensus-oriented, pluralistic and collective in their thinking. Both are we-oriented, and high significant correlations are reflected accordingly (Graves, 2002; Graves, 2005; Bär, et al. 2010). According to the 9 Levels for Value systems approach, an increased correlation between blue and green is explained by the fact that both are levels, in which people are happy to co-operate, are we-oriented and stand by each other. In the case of green, this is even more intense, however

(Graves, 2002; Graves, 2005; Bär, et al. 2010). Finally, the increased correlation between yellow and green is also explained by the openness to dialogue of both levels. Both levels experience knowledge gain in exchanges between parties and individuals (Graves, 2002; Graves, 2005; Bär, et.al., 2010).

In the context of further development of the 9 Levels for Value systems theory, the integration of other already collected criteria such as age, position in the company and income is a possibility. These can then be used as additional external criteria for the validity analysis.

In sum, all the indicators point to the adequate validity of the 9 Levels for Value systems scale. The data base and possibilities for validity analysis are extended within the context of application of the scales. In this context, analysis of the approval ratings is to be used as an indicator of the criteria validity, in particular.

5. CONCLUSIONS

A key element of this chapter is developing the questionnaire for the measuring tool. It is explained first, before going on to discuss its ongoing development.

Questionnaires and item quality

The first version of the questionnaire for the purple level, including the introduction, level-specific reliability and item-specific discrimination capability, is presented below.

Introduction

According to the six application levels, the introductory question for the reference level combinations is set up as "Individual (Personal)", "Group" and "Organization" as well as "is" and "should".

- **Individual is**

Please think about yourself in a totally personal context. For the following statements, please indicate to what extent these currently apply to you personally, i.e., the extent to which a statement reflects your own attitude.

To do this you can assign values of 0 = "not at all true'' to 10 = "completely true''.

- **Individual should**

Please think again about yourself in a totally personal context and about how you would like to be. For the following statements, please indicate to what extent they apply to your personal ideal - like how you would want to be.

To do this you can assign values of 0 = "not at all true'' to 10 = "completely true''.

The question blocks should be formulated in the same way for the Group is/should and also the Organization is/should.

Core items

The selected statements of the scale developed are listed below as examples of the purple level. The first column of Table 2 contains criteria relating to the purple level. In the second column, statements are selected according to their operationalization in terms

of the represented procedure. The so-called differential value is indicated as a central characteristic. This describes the difference between the average point value for a statement of everyone assigned to a level (e.g. all those who are "purple") and everyone not assigned to this level (all those who are "not purple"). The higher the value, the more closely a statement can distinguish between members and non-members of a particular level.[2]

The measurement was carried out, deviating from the final tool, on a scale of 1 = "not true at all" to 5 = "absolutely true".

Below the statements, Cronbach's alpha is indicated as a measure of reliability and internal consistency.

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[2] The number before the statement serves solely for its clear allocation in the evaluation tool.

Table 2:
Statement level purple

Criterion:	Statement	Differential value
archaic magical longings	17. My company offers me belonging and protection, for that reason, I will follow its instructions almost blindly.	1.67
respecting taboos	8. One should not break taboos.	1.48
obedience	9. Obedience is a virtue.	1.39
tradition	1. Tradition is an obligation.	1.33
Magic-mythical awareness	12. There is a higher power.	1.29
connection	15. Nothing beats long ties.	1.27
rituals	7. One should maintain tested rituals.	1.26
customs	3. Customs are something that is very meaningful.	1.26
homeland	6. I am rooted in my own country.	1.23
belonging	19. There are bonds that tie forever.	1.01

Cronbach's Alpha: 0.73

For the further levels the following, which are considered as good values for Cronbach's Alpha are measured:

- red   0.75
- blue   0.73
- orange   0.80
- green   0.73
- yellow   0.69
- turquoise 0.83

Personal questions

The further questions were not originally used for assigning to levels. They serve to further analyse the 9 Levels for Value systems in a scientific and action-oriented way. In this context, sex, age, duration or length of service with the company, personal income, and position in the company are asked about. The latter is differentiated as follows:

- Without managerial responsibilities
- Supervisor/team leader
- Middle management
- Upper management
- Managing Director/Chief Executive Officer
- Owner/proprietor

Continuous scale optimization

On the one hand, attitudes and statements that reflect them further develop over time. On the other hand, the 9 Levels for Value systems scale shows optimisable

selectivity for the "green" and "yellow" levels. In the context of the application of the 9 Levels for Value systems scale, two further questions will therefore need to be incorporated for each level. These are examined accordingly to determine whether they have a better discriminatory capability than the previous criteria and if so, can replace them. This ensures that the 9 Levels for Value systems scale shows the ongoing semantic and content changes of the Zeitgeist as well as the improvement in its quality.

Finally, the set of tools developed can be regarded as a reliable and valid instrument for measuring and thus classifying people according to the 9 Levels for Value systems. One disadvantage, however, is that it is still static. Thus it is still unable to check the dynamic aspect of the 9 Levels for Value systems, that is, the question of the extent to which a person actually passes through the individual stages of the system in the intended order. This requires a corresponding longitudinal analysis with a panel study. With increasing distribution, and in particular with its repeated use in the same organisations or by the same individuals, the necessary data base is augmented and this also makes it possible to verify the dynamic aspect of the 9 Levels for Value systems.

6. ABOUT THE AUTHORS

Prof. Dr. Dobbelstein is Professor of Market Research at Baden-Württemberg Cooperative State University in Ravensburg since 2002 - between 2004 and 2008 he served as the vice president of the university. Since 2012 he is also Honorary Research Professor at Durban University of Technology in South Africa. He is the academic head of the market research institute Customer Research 42. Prior to that he was a member of the managing board at the wholesaler Friedrich J. Keppel responsible for marketing. Between 1997 and 2000 he worked as a consultant at the Institute for Retail Research at the University of Cologne.

Within his market research institute he works for national and international companies from different industries like retailing, consumer goods, capital goods, media and medicine. He is a member of the Academy of marketing science, various boards like the chamber of commerce and makes regular

contributions to the European Institute for Retail and Service Studies. He reviews several Emerald journals and is an external examiner for PhD candidates at Leeds Metropolitan University.

Rainer Krumm is the founder and owner of the 9 Levels Institute for value systems, is focused in value analysis of persons, groups and organizations. He is a Management trainer and Consultant and trained consulted several international companies the last 15 years. He did workshops in 23 different countries and supports change processes and change of company cultures. He published 5 books and several articles. One of his books, published with Martina Bär and Hartmut Wiehle was the first German book on the Graves theory. He is working with the Graves-Theory since 2003 and was educated by Christopher Cowan. His projects won three times the international German training award. He is member of the German Speakers Association (GSA) and the leading German coaching federation (DBVC). He studied business education, strategic leadership and management training at the Ludwig-Maximilians University in Munich.

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