

Chapter #8

MEANING – ITS NATURE AND ASSESSMENT: THE GENERAL APPROACH AND THE SPECIFIC CASE OF BODY IMAGE

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ABSTRACT

The purpose is to introduce the theory, applications and assessment of a new conception of meaning and to illustrate one of its empirical applications by means of the multi-dimensional questionnaire of the body image. The first part is devoted to meaning. Meaning is often regarded as an elusive and subjective construct. The meaning theory of Kreitler and Kreitler provides a new way of defining the nature of meaning and exploring how it affects our cognitive and emotional functioning, our personality tendencies, and our worldview and construction of reality. This approach complements and expands previous approaches to meaning in psychology and other disciplines. It is based on characterizing contents in terms of the provided information and the manner of expression. It is based on a very large body of empirical studies. The major concepts of the meaning theory are meaning system, referent, meaning value, meaning unit and meaning variables. The assessment technique enables assessing meaning of different kinds (e.g., verbal and nonverbal), and identifying meaning assignment tendencies of individuals of different ages. Applications of the meaning system include clarifying constructs, exploring the underlying dynamics and constituents of personality traits and cognitive acts, comparing worldviews of different groups and producing changes in states of consciousness. The second part is devoted to describing a particular application of the meaning system to the dimensional assessment of the body image. The questionnaire, its characteristics and applications are described.

Keywords: meaning, assessment, cognition, body image, the multidimensional body questionnaire.

1. INTRODUCTION: THE NATURE OF MEANING

This chapter deals with describing the theory, assessment and functions of meaning in general and its application to the construct of the body image. The general approach exemplifies the implicit form of the manifestation of meaning whereas the application to the construct of body image exemplifies the explicit form of meaning manifestation.

Meaning is a construct with a very long history, which has added to its complexity, multiplicity of definitions and its ambiguity. Psychology turned its attention to meaning initially only reluctantly, mainly because of its apparent mental character and attendant difficulties of assessment. The meaning system (Kreitler & Kreitler, 1990) is an approach to defining and assessing meaning, which has been reached on the basis of empirical studies with a great number of subjects in different cultures.

Meaning is a basic construct with manifestations in many domains, including personality, cognition, emotions, education and communication. In all these domains performance depends on identifying stimuli and on the kind of meaning assigned to them. Thus, if two stimuli are identified as similar on the basis of meaningful features spotted in both, then it is likely that the response to both may be similar.

The impact of meaning may become manifest in two different ways. One is the implicit way, whereby the meaning assignment tendencies of an individual impact that individual's potential of comprehending or experiencing some material or situation. If for example an individual enters a lecture hall and the first thing he or she notice is the structuring of the seating and the material of the seats, one may assume that structure and material are aspects of meaning that are salient in that individual's thinking and perception, even if he or she are not consciously aware of it. The implicit way affects a broad range of functions and themes in a variety of domains, and is not bound to a particular theme or referent.

The other way in which meaning becomes manifest is the explicit one. It is manifested in the form of the meaning of a certain referent and its impact is particularly or sometimes even exclusively limited to that referent. Thus, examples of referents whose meanings have been studied are constructs such as democracy, the self, mother, a particular nation, World War I, marriage, energy, and the body. The impact of meanings of referents of this kind is particularly apparent in regard to situations or contexts in which these referents are relevant or salient. Moreover, the individual may be conscious to some extent of the impact of these meanings.

Notably, the two ways of the manifestations and impact of meaning are related. First, identifying the meaning assignment tendencies of an individual is based on analyzing the individual's responses to a standard set of referents that constitute the Test of Meaning (see 1.4). Second, it is likely that the individual's meaning of some referent is influenced at least to some degree by that individual's meaning assignment tendencies in general (see 1.5).

1.1. Defining meaning

The definition of meaning in the framework of the meaning system is based on a rich and variegated empirical material whose collection has been guided by the following four assumptions: (a) *Meaning is communicable*. The rationale is that most of the meanings we know have been learned from others, although it is evident that some meanings may be hereditary or constructed by individuals on their own. (b) *Meaning includes a part that is interpersonally shared and another part which is more personal and subjective*. The interpersonally-shared part is widely shared whereas the personal part is more private. (c) *Meaning may be expressed both through verbal and non-verbal means*, that is, both in spoken or written words as well as through means, such as movements, sounds, drawings and images. (d) *Meaning is a complex multi-dimensional or multi-layered construct*. This is to be expected in view of the evidence that meaning develops slowly, absorbing components from different sources, not necessarily integrating them into a coherent whole or deleting inconsistent or repetitive elements (Kreitler, 2013).

The four mentioned assumptions have enabled shaping the methods applied for collecting data in regard to meaning that have led to a new conception of meaning. The data consisted of responses of several thousands of subjects differing in gender, age (2 to over 90 years), education and cultural background who were requested to communicate the interpersonally-shared and personal meanings of a great variety of verbal and non-verbal stimuli, using any means of expression they considered adequate.

On the basis of the empirical data and theoretical considerations, meaning was defined as a referent-centered pattern of meaning values. In this definition, referent is the input, the carrier of meaning, for example, a word, an object, a situation, an event, or even a whole period, and meaning values are cognitive contents assigned to the referent for the purpose of expressing or communicating its meaning. For example, if the referent is

'Computer', responses such as 'serves for communication' or 'comes in different sizes' or 'is an indispensable tool' are three different meaning values. The referent and the meaning value together form a meaning unit (e.g., Computer – serves for communication) (Kreitler & Kreitler, 1990).

In order to fully describe a meaning unit it is necessary to identify its aspects from the points of view of contents, structural features and expressive mode. This is done in terms of the following sets of variables: (a) Meaning Dimensions, which characterize the contents of the meaning values as regards the specific information communicated about the referent, such as the referent's Sensory Qualities (e.g., Ocean – blue), Feelings and Emotions experienced (e.g., Mother –loves her baby) or evoked (e.g. Darkness – fear), Range of Inclusion (e.g., Body - the head, arms, and torso) (for a full list see Kreitler, 2014, pp.8-9); (b) Types of Relation, which characterize the directness of the relation between the referent and the meaning value, for example, attributive (e.g., Summer - warm), comparative (e.g., Spring - warmer than winter), exemplifying instance (e.g., Country - France.) or metaphoric (e.g., Freedom – like open spaces in one's soul); (c) Forms of Relation, which characterize the formal relation between the referent and the meaning value, in terms of its validity (positive or negative; e.g., Sweet – is not a color), quantification (absolute, partial; Apple - sometimes sour), and status (factual, desired or desirable; Law - should be obeyed, Money - I wish I had more); (d) Referent Shifts, which characterize the relation between the referent and the original or previous input, for example, the referent may be identical to the input or the previous referent, it may be its opposite, or a part of it, or even apparently unrelated to it (e.g., when the presented stimulus was "Europe." and the response was "I love Paris", the referent in the response was a part of the stimulus); (e) Forms of Expression, which characterize the forms of expression of the meaning units (e.g., verbal, denotation, graphic); (f) Meta-Meaning variables, which characterize the attitude toward the meaning communication that has been assumed by the respondent or is indicated for the recipients (e.g., it is incomplete, it is a quotation, it is a metaphor) (Kreitler, 2014).

Together the six sets of variables constitute the system of meaning. The list of variables is comprehensive in the sense that it includes many of the variables proposed by other investigators for the assessment or definition of meaning.

As a system, meaning is characterized by certain properties which play an important role in explaining the impact of meaning and its interaction with other systems in the organism.

(a) Meaning is an operational-active system, namely, operative and functional. (b) Meaning is a complex system, with a multiplicity of aspects and levels; (c) Meaning is an open system, namely, it interacts with other systems in the organism (e.g., behavior, emotions, cognition); (d) Meaning is a developing system, namely, it undergoes development and enrichment through its activation and learning. (e) Meaning is a regressive system, namely, its elements are defined in terms of its other elements; (f) Meaning is a self-embedded system, namely, each of its parts can act as an anchor point around which the rest of the system is organized. (g) Meaning is a selective system, namely, it becomes manifest structurally and functionally mostly partially under the impact of selective principles or constraints; (h) Meaning is a dynamic system, namely, it is time variant and undergoes structural- organizational changes which may have functional implications.

Of the eight properties of the meaning system, four - complex, regressive, self-embedded and selective - are static whereas the remaining four – operational-active, open, developing and dynamic – are dynamic. These two facets represent an important aspect of meaning. The static aspect dominates when we deal with contents in whatever

form that are treated as expressions or presentations of meanings, for example, narratives, paintings, rituals, myths, or records of behavior, in any medium whatsoever (Kreitler, 2014).

1.2. Assessing meaning

In assessing meaning the material is first reduced to meaning units, each of which consists of a referent and a meaning value. Then each unit is characterized in terms of the meaning variables defined in the meaning system, namely, it is coded on one meaning dimension, one type of relation, one form of relation, one referent shift and one form of expression. The coding may include also a specification of sensory sensations and meta meaning statements if these are available. For example, when the referent is "Computer" and the meaning value is "has a screen", the coding on meaning dimensions is Range of Inclusion, on Types of Relation – attributive, on Forms of Relation - positive, on Referent Shifts - identical to input, and on Forms of Expression - verbal. Summing the codings in each set of meaning variables across all meaning units in the given meaning statement yields a profile representing the frequencies with which each meaning variable has been applied in that meaning statement. Actually, one gets first initial summaries referring to each of the sets of meaning variables separately, e.g., a summary of frequencies for meaning dimensions and for referent shifts, all of which have identical totals. In addition, there is the overall summary which includes all the meaning variables from the different sets that have appeared in the coding across all the meaning units of the specific meaning statement (namely, all the meaning variables that have in that statement frequencies > zero). The overall summary of frequencies of meaning variables in the given statement of meaning may be called the meaning profile of that statement, which may be a story, a letter, an email, a map, a painting or any other art product.

For getting information about the characteristic tendencies of an individual to use certain meaning variables it is necessary to assess the meaning statements of the individual in response to specific pretested stimuli. The 11 standard stimuli (e.g., street, bicycle, life, to create) used for that purpose constitute the Meaning Test. There are three parallel sets of these stimuli for adults and three different sets for children (2-10 years of age). The standard instructions ask the subjects to communicate the interpersonally-shared and personal meanings of these stimuli to someone who does not know the meanings, using any means of expression they find adequate. Coding the meanings produced in this manner yields the subject's meaning profile which summarizes the frequency with which the subject used each of the meaning variables across all stimulus words in the test. Similar principles apply in regard to the meaning profiles of specific constructs or groups, defined in terms of demographic characteristics (e.g., age, gender, cultural background), attitudes and beliefs (e.g., different political ideologies, religion), health states, behaviors, or responses to questionnaires.

1.3. The impact and functions of meaning

As noted, each meaning variable represents both contents, specific for that meaning variable and a process that is involved in handling those particular contents. This thesis is demonstrated in many studies which showed, for example, that subjects who in the Meaning Test use frequently a meaning dimension like Locational Qualities more readily notice perceptual cues relevant for location, show better recall of items referring to location, reach faster solutions to problems like Mazes that involve locational aspects, and have more associations referring to places than with those who use it infrequently (Kreitler, 2014).

Similar relations of meaning to cognition were shown for example for planning, perception and co-consciousness (Kreitler, 1999).

Studies showed that the meaning system is involved also in the domain of personality. The paradigm consisted of administering to the same group of subjects the Meaning Test and a standard measure of some personality trait. The meaning variables that differentiated significantly between the high and low scorers on the personality measure were considered as constituting the meaning profile of that personality trait. Over 350 personality traits were correlated each with a specific set of meaning variables (Kreitler & Kreitler, 1990). For example, extraversion (as assessed by Eysenck's MPI and other measures) was correlated positively with the meaning dimension Sensory Qualities (e.g., form, sound, taste, smell) and negatively with internal sensations, which is confirmed by many studies indicating that extraverts focus on external stimuli but overlook internal physical experiences, as is manifested in their higher pain tolerance and only weak tendency for psychosomatic complaints (Kreitler & Kreitler, 1990, pp. 136-143). The findings support the conclusion that each personality trait corresponds to a unique pattern of meaning variables that is characterized by specific qualities in terms of number of variables, proportion of representation of the different sets of meaning variables, proportion of meaning variables related to the trait positively and negatively, etc. (Kreitler & Kreitler, 1990). Applying a similar research paradigm showed the involvement of the meaning system in other personality relevant domains, such as defense mechanisms, values and psychopathological tendencies assessed by the MMPI (Kreitler, 2014), as well as emotions, such as anxiety, fear or anger (Kreitler, 2003, 2011).

1.4. Meaning: general conclusions

The described effects of meaning in different domains support the conclusion that meaning is the active infrastructure of cognition, which in turn can be conceptualized as a meaning-processed and meaning-processing system. Both the contents and the processes with which cognition functions in operations, such as problem solving, creativity, planning, associations or memory are produced by and depend on the system of meaning. Moreover, since cognition is involved directly and indirectly in a variety of psychological domains, the crucial role that meaning plays in cognition is largely responsible for the broad range of effects of meaning in human life and behavior. The involvement of meaning in cognition and personality provides a tool for affecting manifestations in cognition and personality by manipulating experimentally and therapeutically the meaning profiles of the affected individuals.

The meaning system enables understanding the processes of different cognitive functions, personality traits, emotional tendencies and other individual predispositions. It also provides the means for assessing the meaning assignment tendencies of individuals or groups. Further, it has generated a method for the training of meaning assignment tendencies for the purpose of overcoming deficiencies in functioning or enrichment in operation (Kreitler, 2014).

On the more general level, the study of meaning exposes some psychologically intriguing paradoxes. On the one hand, meaning appears to be a major factor shaping the reality in which we live and act, so that in this sense we are the victims of meaning. Yet on the other hand, meaning is a tool that enables human beings to shape their reality. Thus, psychological reality is a product of meaning assignment and at the same time it is also that substrate which enables the production of further meanings and is the reservoir for the new emergent meanings. Hence, meaning is both constrictive and expanding, restrictive and liberating. Whichever aspect is dominant would depend on meaning.

2. BODY IMAGE – DEFINITION

The meaning of the body image is presented in order to exemplify an important application of the meaning system to the assessment of a specific construct that plays an important role in psychology. Body image is one of the most central constructs in the sphere of personality. It refers to an individual's perceptions, feelings, attitudes and thoughts about one's body (Grogan, 1999). The prominent features of body image are often considered to be body weight, estimated body size, and overall attractiveness of the body, all of which are assumed to be reflected in one's degree of satisfaction with the body (Muth & Cash, 1997). Further, it is commonly assumed that body image is an essentially cognitive-attitudinal construct, influenced by multiple factors, the major ones being gender (Tiggemann, 2004), social factors, such as peer influences and social stereotypes (Shannon et al., 2014), media and the culture (Groetz, Levine, & Murnen, 2002), behaviors, such as sport activities (Frederickson & Roberts, 1997), and psychopathologies, mainly body dysmorphic disorder (Buchanan, Rossell, & Castle, 2011) and eating disorders (Cash & Deagle, 1998).

2.1. Assessment of the body image

The development of theory and assessment tools of body image have hardly stopped from the early beginnings by Fisher and Cleveland in the early seventies (Fisher, 1986; Fisher & Cleveland, 1968). In the first phases the construct of body image was studied mainly in relation to eating disorders and obesity, but in recent years its role came to be recognized in further medical fields (Cash & Pruzinsky, 2002). The expansion of the field has brought in its wake a dramatic increase in the number of assessment tools which has come to include many dozens. A comprehensive review of these tools (Shroff, Calogero, & Thompson, 2009) shows that they include a great variety of assessment kinds, which refer to affective and cognitive aspects of the body image, some based on questionnaires, others on interviews or even behavioral observations. However, the range of contents to which these tools refer is highly limited. They mostly focus on overall satisfaction with one's external appearance, and if they refer to any particular aspects then it is mostly to size, and weight (see Grogan, 1999; Stewart & Williamson, 2004; Thompson, 2004 for reviews).

Notably, the common tools for body image assessment have been influenced to an excessive degree by the prominence of body weight and body size in the framework of the studies on obesity, nutritional concerns, overeating, dieting, and the beauty industry (Thompson, Heinberg, Altabi, & Tantieff-Dunn, 1999). It is likely that these circumstances have been responsible for limiting the range of assessed aspects of the body image focusing mainly on those that contribute to the degree of satisfaction with one's appearance (Thompson, 2004).

While the existing tools may well serve the goals of the mentioned domains of study, they are not sufficiently adequate for studying the effects of body image and on body image in the major other domains of interest, such as physical health and interpersonal relations.

2.2. The meaning-based assessment of the body image

One objective of the project was to construct an assessment tool of body image that would do justice to a broader range of aspects than the common tools. The meaning system (Kreitler & Kreitler, 1990) was chosen as the framework for identifying a relevant set of aspects of the body image construct because it presents the broadest range of contents found to be adequate for expressing the meanings of different concepts. Of the six different

sets of variables defined by the meaning system only one set – that of the meaning dimensions - was considered adequate and sufficient for constructing the meaning-based questionnaire of the body image, called "The Multi-Dimensional Body Questionnaire" (MBDQ) (Munitz-Shenkar, Kreitler, & Kreitler, 2012).

Meaning dimensions constitute a major component of the meaning system (see 1.2). They are 22 basic categories of contents used in expressing or communicating meanings, for example, feelings and emotions, material, causes and antecedents, etc. The term "dimensions" denotes that any one of them can get many values. For example, one of the meaning dimensions is actions that the referent does or can do. Thus, if the referent is body image, values that this dimension can get are "can run fast", "sleeps", "can carry things" or "dance". The theoretical background of the questionnaire guarantees its validity and its comprehensiveness. It includes all the aspects of body image dealt with in other assessment tools, which constitute three specific meaning dimensions (i.e., size and dimensions, weight, judgments and evaluation). The MBDQ includes at least 19 additional relevant aspects.

2.3. Method: The Multi-Dimensional Body Questionnaire

The MBDQ includes items, each of which refers to one of the meaning dimensions. The meaning dimension is represented in the title of the item, followed by examples (i.e., meaning values) designed to clarify the meaning dimension for the respondents. The subjects are asked to consider only the meaning dimension and not the specific provided examples. The response scale includes four options: very important, important, not important, not at all important. The respondent is requested to check in regard to each item how important it is for expressing the general and the personal meanings of the body (see Appendix). The minimum number of items is 22, equal to the number of the meaning dimensions. However, the number can be expanded if one considers the active and passive forms of some of the meaning dimensions (i.e., action, feelings and emotions, judgments and evaluations, cognitive qualities, sensory qualities and possessions) and if one includes a detailed representation of the various sensations (i.e., color, shape, taste).

The scoring of the MBDQ is based on scoring first each item separately as follows: highly important=4, important=3, not important=2, not at all important=1. There are two summative scores: 1. The sum of responses in all items; 2. The number of responses 4 or 3. These two summative scores represent the overall richness (summative score 1) and degree of multidimensionality (summative score 2) of the body image. In addition, one may use the following optional scores, based on summing the specific relevant items referring to the sensory external, actional-dynamic (some of which are active and some passive), experiential-cognitive and contextual-evaluative aspects. The additional scores may be used for special purposes, and new additional scores may be formed by the investigator at will.

The reliability of the MBDQ according to several studies is in the range of alpha Cronbach .75-97. Evidence of validity is based on studies, such as comparisons of anorectic and healthy girls; individuals with chronic pain and healthy individuals (Kreitler & Chemerinski, 1990; Kreitler & Niv, 2007).

2.4. Results

In several studies the scores of the MBDQ were compared between groups with specific characteristics and normal controls matched in age, gender and education. The results showed that the summative scores were generally higher in women than in men; that the highest scores were obtained in individuals who have practiced yoga; high scores characterize individuals of both genders who have engaged in some kind of sport activity

for at least two years; low scores occur in individuals with chronic pain, anorexia or cancer patients undergoing chemotherapy (Kreitler & Chemerinsky, 1990; Kreitler, Weissler, Kreitler, & Barak, 2013).

On the basis of former studies, the following interpretations of the scores may be offered. High summative scores reflect a rich and multidimensional body image, which is broad and stable, namely tends to be less vulnerable to changes (for good or worse) by different variables, events and manipulations. Concerning the special additional scores: The score of sensations reflects the degree to which the person tends to grasp and consider one's body in sensory terms and by means of information that is sensation-based. For example, an individual with a high score of body sensations will react faster in regard to one's body image in case there are changes that may be grasped by the senses (e.g., in size or weight). It may be expected that any bodily change involving a sensory aspect of the body image will be attended by a more intense reaction on the part of the individual, for example when there is some impairment in a sensory aspect. Further, high scorers will be likely to change their body image faster when they get information about their body in terms of the externally accessible qualities, such as structure, body parts, or size. The score on active-dynamic qualities represents the degree to which the person grasps one's own body in terms of information that comes through active acts and processes. Hence, it is likely that a person scoring high on body active qualities will react more in cases when information about one's activities is blocked or lowered, even if temporarily. The score of passive qualities reflects the degree to which the person grasps one's body in terms of things done to him or her. Thus, it is recommended to provide to high scorers information about their body in terms of passive acts (e.g., massage, caressing). The score of internal qualities represents the degree to which the person grasps one's body in terms of internal qualities. High scorers will be likely to change their body image faster when they get information about their body in terms of the internally accessible qualities, such as feelings, thoughts, images, and beliefs. The score of contextual qualities represents the degree to which the person grasps one's body in terms of contextual qualities. High scorers will be likely to change their body image faster when they get information about their body in terms of contextually-grounded qualities, such as causes, results, other people concerned with oneself, etc. Finally, it is possible to relate to specific items and to interpret them singly if there is theoretical or clinical interest in the represented contents, for example, in the contents of the items referring to the mouth, to the skin or to the eyes.

2.5. Discussion and conclusions

The MDBQ is a questionnaire that differs from most of the common body image questionnaires in that it does not assess the individuals' overall satisfaction with one's body image or its external appearance but refers to a great variety of aspects relevant for the assessment of the body image. The information the MDBQ provides about the body image is precise, broad, variegated and psychologically coherent. The aspects assessed by the MDBQ are grounded in a well-established theoretical framework that has been empirically tested in a great variety of domains. This theoretical background endows the BDBQ with validity, ensures its comprehensiveness, binds it to the extensive domain of meaning, and renders it adequate for use in a great variety of domains and populations. Notably, the MDBQ does not refer to specific contents concerning the body image but to generalized categories of contents that represent theoretical constructs rather than particular ones, parameters rather than values. Thus, the respondent is asked about the importance of, say, weight in regard to the body image rather than about a particular weight or BMI. It is as if the respondent got the theoretical tools for constructing the body image which best

expresses one's general and personal conception of the body image. Hence, the MDBQ is an adequate tool for imparting and transforming information about the body image for educational and therapeutic purposes.

Finally, the MDBQ illustrates the procedure of constructing similarly-based questionnaires concerning other constructs, as has been done, up to date, about referents, such as energy, democracy, love, anger, partnership, colors, tastes, to give just a few examples. Questionnaires of these types may be called meaning-dimensional questionnaires and they enjoy the advantages of validity and ready-made psychometrical features.

The major limitations of our study are that it is based on limited samples that include mainly individuals with impaired mental or physical health. The MDBQ needs to be administered in large samples of healthy individuals of all ages.

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APPENDIX

Table 1. Examples of items of The Multi-Dimensional Body Questionnaire (MDBQ) by Kreitler.

ABOUT MY BODY

Concerning each kind of description, please check to what extent it is important for expressing what the body is in general and what it is for you personally. Please give your answer by checking the adequate place in the table.

The description	Highly important	Important	Not important	Not at all important
Size, width, dimensions of the body e.g., the body is big, small, tall				
To whom the body belongs, who is the owner of the body e.g., the body belongs to the person, to the parents, to God, to the state				
The state of the body e.g., the body is strong, healthy, full, open, closed				
What the body can perceive with the eyes e.g., with the eyes the body can perceive forms, colors, light				
The function or purpose of the body e.g., the body exists so that we can live, in order to produce children				
Actions the body does or can do e.g., the body can breathe, run, sleep				

Footnote. The Test of Meaning and the Multidimensional Body Questionnaire may be obtained from the author upon request. Please write to <krit@netvision.net.il>

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Short biographical sketch: Shulamith Kreitler was born in Tel-Aviv, has studied psychology, philosophy and psychopathology in Israel, Switzerland and the USA. She got her PhD in Bern Switzerland. She has worked as a professor of psychology in different universities, including Harvard, Princeton and Yale in the USA, as well as in Buenos Aires, Argentina and Vienna, Austria. She has been a professor of psychology at Tel-Aviv University since 1986, has established the Unit for Psychooncology at the Ichilov Hospital in Tel Aviv and since 2007 is the head of the psychooncology research center at Sheba Medical Center, Tel Hashomer. She is a certified clinical and health psychologist. Her research is in personality and cognition, with an emphasis on psychological factors involved in the occurrence of oncological diseases and coping with them. She has developed the theory of cognitive orientation which provides the concepts and methodology for predicting and changing behaviors, and the theory of meaning which enables assessing the cognitive infrastructure of cognitive acts and personality traits. Kreitler has written over 200 scientific articles and published 15 books, e.g., Handbook of Chronic Pain (2007), Pediatric Psycho-Oncology: Psychosocial Aspects and Clinical Interventions (2004, 2012), Cognition and motivation (2013), Meaning – its nature and functions (2013), Confronting dying and death (2012).