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Systematic review

Theoretical Approaches Towards the Study of Uncertainty Effects in the Process of Personality Development Meaning Regulation

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Abstract

Introduction. The article hopes to provide a theoretical analysis of research papers dedicated to the way various uncertainty effects influence personality development. The uncertainty phenomenon has to be considered due to the research field enhancement while elaborating adequate patterns of personality development meaning regulation.

Theoretical Basis. Uncertainty effects are revealed epistemically and ontologically in the objective sphere, and existentially and phenomenologically in the subjective sphere.

Results. Epistemically uncertainty effects are a changeable level of cognitive reflection; continuity of certainty and uncertainty; ambiguous, incomplete and insufficient information; lack of human knowledge about human abilities; disregard for casualties and anomalies; blurred and multiple current psychological paradigms. Ontologically uncertainty effects are relativity of existence; development points with equal probability; a chance of synergistic effect; different human abilities of achieving goals within their existence; aspiration to gain new personal experience; different susceptibility to development pathway deviations. Existentially uncertainty effects are the absence of well-defined external clues in search of life purpose; personality development crises; discrepancy in tolerance levels towards uncertainty; discrepancy in credibility levels towards the world; nonidentity of individuals' personal experiences; different ideas of action purposes; discrepancy in contradiction levels of interaction between an individual and the society; an unbalanced combination of rational and emotional perception; impossibility of permanent psychological comfort. Phenomenologically uncertainty effects are success and failure expectation risks; different motivation levels; "learned helplessness"; learning interferences due to implicit knowledge; lack of time for reflection over decisions; a subconscious phase of decision making; conscious and subconscious meaning attribution.

Discussion. An individual has to act under the influence of many uncertainty effects. Taking this into consideration allows a more full-fledged theoretical and empiric study of personality development processes.

Keywords

meaning, meaning sphere, meaning-building, personality development, certainty, uncertainty, epistemic approach, ontological approach, existential approach, phenomenological approach

Highlights

- ▶ Uncertainty is a new methodological principle used to study individuals as complex self-developing systems.
- ▶ Uncertainty effects are objectively revealed epistemically and ontologically; they are subjectively revealed existentially and phenomenologically.
- ▶ Personality development is subject to many uncertainty effects, demonstrating different tolerance levels.

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Introduction

Psychology is currently experiencing enhancement in the range of factors considered within studies of specific features typical of personality development meaning regulation. This outgrowth of the study field leads to more complex and variable personological patterns that are losing their unambiguity. The latter, within the framework of analysis and synthesis of scientific knowledge, means probabilistic nature of the cognitive process instead of strictly determined view of personality development as a whole and the genesis of meaning sphere in particular. An interest in studying uncertainty effects is connected to the necessity of taking into account various intrinsic subjective development factors – needs, motives, interests, and purposes of an individual's actions. They may not coincide with extrinsic objective conditions of activity situations of various nature.

Various dictionary entries give one of the following ideas of uncertainty as a psychological state of an individual, not really sure about something; in the information theory it is defined as a degree of freedom which has no limitations when it comes to multiple choices. Meanwhile in terms of economics a strategy is referred to as an action plan under uncertainty conditions. *The objective* of this article is to provide a theoretical review of contemporary works on how uncertainty influences personality development epistemically, ontologically, existentially, and phenomenologically, which allows to systematize available knowledge for fuller simulation of the concerned individual's meaning regulation. This helps to more fully reveal both objective and subjective interference with personality development, as well as search new opportunities to achieve the acme state.

Theoretical Basis

In the cognitive process, alongside empirical basis accumulation, growth in the number of events and phenomena that can't be described and predicted by the current scientific paradigm is unavoidable. As T. Kun points out, such uncertainty buildup in cognition means

a further scientific progress impossible, which inevitably causes revision and change of scientific views. Newly set-up principles, in case they're accepted by the scientific community, provoke change in the scientific paradigm (Kun, 2014). According to Kornilova (2018), uncertainty is considered a new methodological principle and key element of the science, that serves as a reference for psychological theories of thought, mind, and an individual's self-regulation.

Objective uncertainty is seen as givenness independent of human activities and growing together with the complexity of the world perceived (Smirnov, 2016). Subjective uncertainty is seen as psychosociocultural phenomenon, demonstrating how blurred the individual identity of modern man is, his loss of morals and the value of interpersonal relations (Sokolova, 2015). Undoubtedly, the boundaries between the objective and subjective spheres as well as their intrinsic gradation are relative and flexible to a certain extent. Thus let us consider uncertainty effects which extensively influence an individual's acmeological status as an integrated index of development:

1) in the objective sphere:

a) *epistemically* uncertainty influences cognitive ways of postnonclassical rationality (Diev, 2018) and is seen as ambiguity and lack of information (Panfilova, 2012);

b) *ontologically* uncertainty reveals the nature of existence of an individual and society, that, regardless of cognitive activities, reflects sophistication of their environment (Smirnov, 2016) as well as shows ways to overcome deterministic principles in order to disclose the nature of existence mystery as a key psychological category (Zinchenko, 2016);

2) in the subjective sphere:

c) *existentially* uncertainty shows lack or absence of purposes that could fill and guide individuals' lives. V. Frankl calls this state of frustration in the form of loss of life purposes an existential vacuum leading to specific mental deviations, i.e. noogenic neuroses (Frankl, 2017). This kind of existential interpretation of uncertainty impact on a modern individual's life shows the genesis of personal purposes and their hierarchy. This goes deeper as compared to the axiological approach dealing with the correlation of personal and social values as they are;

d) *phenomenologically* uncertainty highlights the way various psychic processes correlate within the inward world. This multidimensionality shows the way to transcending beyond obvious phenomena when purposes unite its existence and consciousness into a true value of a personality's life (Husserl, 2019).

Results

Based on the abovementioned points let us analyze the uncertainty effects influencing personality development discussed in the contemporary research.

Firstly, let us consider the *epistemic approach* in the study of uncertainty effects. The main epistemic scheme includes the subject possessing consciousness and willpower and the object of cognition. Then the main circle of epistemic range of problems includes the interpretation issues of objects of cognition, the cognitive process structure, problem of cognitive methods and choice of truth standards.

Considering the specific ways cognition is developed, V. S. Stepin suggests three types of scientific rationality: classical, nonclassical and postnonclassical, which differ by how deep

reflection is towards the conducted scientific research. Every type of scientific rationality that occurs doesn't eliminate the previous one but restricts its application area and discovers new spheres of scientific research (Stepin, 2018). For example, the researcher points out that uncertainty and probability of the nonclassical type are still used and taken into account while building up the postnonclassical scientific worldview. In that case let us consider the permanent and ever increasing level of human reflection in the cognitive activity as the *uncertainty effect*.

V. P. Zinchenko emphasizes that the main aim of newly created theories and explanatory principles was to overcome uncertainty of a human life. Based on that, the deterministic principle was considered on top of the cognitive tools of mankind, which helped reduce chaos and uncertainty towards order (Zinchenko, 2016). According to the researcher, it is the inseparable connection and change of certainty and uncertainty that serve the scientific and cultural development, which can be regarded as an *uncertainty effect*.

Panfilova (2012) points out that the period when science was dominated by the doctrine of determinism saw uncertainty used to indicate and describe lack of knowledge. Meanwhile most definitions of uncertainty have a negative prefix: unexpected, unknown, unpredictable. In this particular case *the uncertainty effect* is seen as ambiguous, incomplete and insufficient information.

The uncertainty of paradigm conceptions development in psychology is revealed by the fact that neither of the crises that occurred in psychology was finished fully according to Kun's scenario (Chesnokova, 2017). Instead a bunch of new psychological branches appeared, that didn't fully replace the paradigm that was previously dominating but only a little pushed it aside, and all of them still coexist in the scientific field of knowledge. In this case the *uncertainty effect* can be viewed as ambiguity and multiplicity of current psychological paradigms.

Poddyakov (2017) studies the development experience of objects that are involved in nontransitive (in similar properties) relations of superiority. When it is necessary to make a choice there are cycles in such binary relations as, for example, in the rock-paper-scissors game. This means that there is uncertainty in the choice of development scenarios for such systems. Then a problem arises: how does an individual learn about and engage natural complex systems surrounding them in their activity as well as create new ones? (Poddyakov, 2017). This is why it is possible to consider nonobviousness of decision-making within a complex system with nontransitive properties of alternative ways of development (in a nontransitive environment) as an *uncertainty effect*.

According to G. Grinder and R. Bandler, the creators of neurolinguistic programming (2017), the problem of human activity, providing positive changes in a life, is caused by ignorance of an individual's abilities. The acuteness of this problem can only be levelled through reinterpretation of current and, most importantly, potential possibilities which has been proved in the works on logotherapy (treatment of noogenic neuroses through search of life purpose) by Frankl (2017). Shchedrovitskii (2018) marks incomplete knowledge of policy makers' and executives' abilities as lack of information in organisational-activity games. In that case we should mark lack of individuals' knowledge of their abilities (current and potential) as an *uncertainty effect*.

N. Taleb looks at the nature of unexpected and abnormal events, called "black swans". The researcher points out the inability of mankind to successfully predict the future;

meanwhile confidence in one's sufficient knowledge is ahead of this process which gives rise to the phenomenon of "overconfidence" (Taleb, 2007). Hence the primary importance of what one doesn't know over what they know. In that case the *uncertainty effect* should be viewed as neglect of casualties and abnormalities happening in life, which can result in its unpredictable scenario.

Secondly, let us consider the *ontological approach* in the study of uncertainty effects. The existential aspect of human life is subject to uncertainty of the surrounding environment as non-completely regulated states and life-sustaining processes.

A. N. Chanyshv in his work "Treatise of Non-Being" points out the primary nature and absoluteness of non-being as well as secondariness and a relative nature of human existence in the universe. Development is seen as a build-up and intensification of being, and the more intense it is, the more subject to perishing like a fall into the ocean of the underlying non-being (Chanyshv, 2007). Therewith perception of non-being allays the fear of non-being. In this connection *the uncertainty effect* is seen as relativity of being and impossibility for an individual to permanently feel at their maximum.

I. Prigogine and G. Nicolis showed a new type of self-regulating systems called dissipative, which exchange a substance, energy, and information with the external environment. The idea of self-regulation is that a spontaneous transition from disorder (various degrees of chaos) to a better organized state, although it occurs alongside irreversible loss of energy (dissipation), but constructively contributes to this less chaotic state (Prigogine & Nicolis, 1989). Researchers prove that transitions of open unbalanced systems through choice points (bifurcations) are occasional and non-linear processes, possessing a degree of uncertainty and impossibility of giving them a strict deterministic description. Based on this, *the uncertainty effect* is revealed in a number of bifurcation points, demonstrating equal probability of development in several evolutionary branches of self-organizing systems.

The author of the synergistic effect idea G. Khaken enhances the concept of self-organizing systems development in terms of their transition to whole new states. Their acquisition of new opportunities is provided at bifurcation points under the condition of consolidated actions performed by all the system components (Khaken, 2015). It shows that a self-organizing system possess specific characteristics of order, reflecting its tendency to acquire a certain state – an attractor serving as a pole of relative stability. In this case *the uncertainty effect* consists in the fact that a self-organizing system, provided that all its constituent parts are operating coherently, produces a whole new (synergistic) opportunity that is beyond a simple sum of effects produced by the system parts.

Considering quality ways of human self-development V. F. Petrenko points out the importance of taking into account long-term purposes of an individual's behaviour. Due to various motivation and meaning versatile relationships and actions can be initiated. An understanding approach is needed that would give a new perspective of an individual's socialization through the range of personal opportunities thanks to their mysterious ability of free will (Petrenko, 2017). Given that, *the uncertainty effect* should be viewed as various human abilities in achieving the purposes of their being which can have a qualitatively different level like the range of potential opportunities of personality development.

Studying the mechanisms of human interaction with man-induced and natural environment, V. P. Alekseev puts forward a hypothesis of "dispersive selection". He supports all emerging

variations of human evolution, which presupposes multiple choice, showing uncertainty that triggers that choice (Alekseev, 2008). In this aspect A. G. Asmolov sticking to the historical and evolutionary approach states that a new state of self-developing systems emerges from uncertainty, not certainty. Implicitly uncertainty also lies in preadaptive behavior (Asmolov, 2016). Consequently *the uncertainty effect* can be viewed as a tendency of a self-developing system to transit to new states to enrich personal experience of being under changing conditions of the changing external environment.

Developing the approaches, alternative to the ideas of linear causativity in human actions, N. A. Bernstein underpinned the psychophysiological theory of a reflexive ring. Based on that, a negative feedback signals about deviations of what is actually happening from the desirable serving as a reaction to failure. Information about failures is essential for evolution since it provides data on errors and what should not be done (Bernstein, 2017). Discrepancy in the operation of elements may occur in self-developing systems, hence one doesn't always see a deviation from the chosen development purpose of personal potential due to the loss of sensitivity towards the feedback signals (Leontyev, 2016). In that case the uncertainty effect can be viewed as various sensitivity towards feedback signals indicating deviations from the development pathway.

Karpov (2016) suggests a metasystemic approach to study the problem of consciousness. Its idea resides in the necessity of consideration and methodological use of the statement that consciousness belongs to a special class of systems. Localization of the metasystem is considered an essential difference of this kind of non-classical system. The consciousness system doesn't only interact with the outlying objective reality via psychics as a metasystem, but also reflects that metasystem in its content. Then external localization of the metasystem is not the only possible option; internal localization of the consciousness system also takes place which becomes evident when the example of psychics is used. This "double being" due to the reflective attribute of psychics means that there is a subjective – internal – reality in one's consciousness (Karpov, 2016). Thus, consciousness as a system with an in-built metasystemic psychic level reveals itself by forming "being for itself" or, more specifically, "psychics for itself", which is seen as the only possible subjective form of psychic existence. The fact that a psychic metasystem is built in the consciousness system means that the former actually stops its subjective existence and gets transformed into the subconscious. The subjective subconscious cannot be perceived by an individual by definition, although psychics objectively forms this kind of functionally necessary mechanism of constituting consciousness (Karpov, 2016). An individual considers the subconscious to possess the opposite quality definition, consequently uncertainty is involved in the way consciousness operates by means of this subconscious generating mechanism. Then considering *the uncertainty effect* it should be noted that while the consciousness system is functioning, psychics is being built in, that generates its own being as the subjective subconscious, which is not felt by an individual, hence bringing uncertainty to the consciousness operation.

Thirdly, let us consider the *existential approach* to the studies of uncertainty effects. The most debatable area can be roughly outlined as the problems of finding a life purpose, which is unique to an individual and possesses a spiritual nature.

The founder of logotherapy V. Frankl points out that a personality's existential sphere is subject to noogenic neuroses due to the lack of meaning and inability to reveal it. A specific

feature of an individual's purpose of life is that one cannot obtain it from the outside, it is impossible to borrow it from anyone, or acquire it any other way from external sources (Frankl, 2017). Studying purposes of life in the uncertainty of the modern world, the developer of psychology of meaning D. A. Leontyev and his followers state that it is essential for a living individual to realize the purpose of life as living itself (Leontyev & Mospan, 2017). Then the *uncertainty effect* is seen as lack of clear guidelines in the external sphere of activity, that takes place in search of a personal life purpose, and a need for a personality's inner mental work find the purpose of life as their high calling.

It is common knowledge that personality development is accompanied by its inevitable transformations and crises. El'konin (2017), while elaborating his leading activity theory, notes that child's and teenager's socialization entails periodical alternation of the leading type of their activity manifested as crises, which is due to different rates of development within the two relational systems: "child – adult" and child – object". E. Ericson also examines personality becoming from the standpoint of crises progression; in his epigenetic theory this author is considering step-by-step development of psychological abilities. Stages change in crises, which reflects successfulness or unsuccessfulness in the development of the required personality properties in the form of a normal or abnormal new structure (Ericson, 2018). Then, as *the uncertainty effect*, one may state that uncertainty is introduced in human life by one's own development's crises which reflect the necessity in a timely quality restructuring of relations within the inner and outer world with the aim of full socialization.

One of the key categories producing existential influence on experiencing current developments, is tolerance to uncertainty, which was first proposed by E. Frenkel-Brunswik. While analyzing the existing approaches, I. N. Leonov notes that this scientific construct is in basic terms a many-valued ability to perceive and overcome uncertainty as ambivalence in the development of various life situations. "Tolerance – intolerance to uncertainty" characterizes the peculiarities of the perceptive and cognitive processes of the interacting person (Leonov, 2018). That is why existence of tolerance to uncertainty serves as a prerequisite to adaptational readiness within the "personality – environment" system (Grigoryeva, 2018). Due to a large variety of those positions taken by people towards the changes occurring in their lives, one may identify, as the *uncertainty effect*, various levels of tolerance to uncertainty among the people who contact in common situational interactions, which may lead to incoherence, different outcome expectations, abandon of the psychological comfort zone.

While examining the psychological experience, Vasilyuk (2016) notes that resolution of conflicts and crises determined by the changeable outer world, is promoted by the obligatory availability of a person's complex inner world. Further psychic evolution promotes formation of a definite degree of confidence in the world, which feeling appears through the experience of creative actions. Abundant confidence in the outer world permits to overcome those crises reflecting the internal need in the implementation of vital intensions (Vasilyuk, 2016). Based on this, one may view the *uncertainty effect* as various degrees of confidence in the world, which reflects the level of development of the personal inner world and permits, although to different successfulness degrees, to overcome crises situations.

Works by I. V. Abakumova and her followers show that the system of meanings of all kinds of activities in the human life is the substrate where crystallized are those vital meanings that determine the personality development general locus. This process is catalyzed

by the personality experience as an individual unique way of comprehension of the events (Abakumova & Kruteleva, 2014). Meanwhile the *uncertainty effect* may be viewed as nonidentity of personality experience in different people influencing the maintenance of their vital-meaning strategies.

K. V. Karpinskii, while studying vital-meaning crises, points out availability of a non-ideal life strategy as one of the reasons of their appearance and aggravation. Determinative for its ideal construction is the ability to consistently combine and integrate the accessible activities, each of a poly-motivated character (Karpinskii, 2017). Then the *uncertainty effect* will be reflected in different degrees of inconsistency in combining the accessible activities in the human life, which leads to a non-ideal life strategy.

V. S. Diev, while studying real decision making practices in presence of risk, notes the importance of considering irrational human behavior in such situations. This is determined by a unique set of personality meanings and values dictating his individual reactions, and this often does not coincide with the ideal variant (Diev, 2018). To overcome the arising uncertainty, as stated by this researcher, decision making should become a conscious choice based on rationality. In this case the *uncertainty effect* is the absence or incomplete knowledge of the meanings of situational activities.

Abul'khanova (2017) in her studies of the lifetime use shows the possibility of consideration of the peculiarities in the time arrangement with the aim of overcoming the arising contradictions with the living conditions in a definite society. Hence the *uncertainty effect* may be viewed as a different level of contradictions in the relations between man and society arising due to the choice of various ways of personality lifespan actualization.

The Post-Modern discussion of truth as an ideal socio-humanitarian knowledge inevitably results in a set of issues on the relation to objective facts at which people may be based on a rational or emotional perception. The state at which man makes his choice whether to consider this or that message true or false, was named "post-truth". Transition to the post-truth state allows fake news in the virtual reality (Fuller, 2018). This, when it comes to search for truth, means a dichotomy of confidence between reason and public opinion and definitely promotes a situation in which man may make a choice not by his reason only, but trusting his meanings and making a choice "by his heart". Then the *uncertainty effect* becomes an unbalanced combination of rational and emotional perception in shaping attitudes to the events and in the choice in a state of post-truth.

Sokolova (2015) attaches to uncertainty as a socio-cultural phenomenon, properties of diffused individual identity, devalued interpersonal relationships and unbelief in the latter, moral relativism. This researcher points out three criteria in describing vexatious experience in subjective uncertainty: the specifics of the projected alert content, the way of psychological defense, the state of experienced self-identity. Then the *uncertainty effect* is the impossibility of a permanent state of complete psychological comfort and, in view of this, a different alert level.

Fourthly, let us now consider the *phenomenological approach* to the study of uncertainty effects. Under the uncertainty effect man has to adapt his inner world and enrich his own experience in order to develop adequate perception of and behavior under the rapidly changing conditions of the world around.

J. Atkinson in his labor theory of motivating achievements employs the idea of the claim level influence. Motivation of activities and their quality stem from man's strive to success

and failure avoidance (Atkinson & McClelland, 2018). In choice situations when the result is previously unclear, we face a conflict between strive to success and unwillingness of failure. In an "expectations game" of the kind those who strive to success cope better with the tasks at hand and willingly set forth new goals (Atkinson & McClelland, 2018). Then the *uncertainty effect* in choice situations is the expectations risk, i.e. a simultaneous possibility of both success and failure, which influences the level of motivation in achieving the activity result.

B. Weiner in his study of achievement motivation mechanisms revealed that the future expectations of their results are defined by man's quality ideas, i.e. what he thinks of the reasons of either success or failure. This researcher showed that in case of high-level motivation man links success to abilities and adequate effort, while failure is referred to insufficient effort. At the same time, in case of low motivation man ascribes success to the task difficulty (its easiness) or luck, and in case of failure he sees the reason in the abilities deficiency (Weiner, 2018). Then the *uncertainty effect* may be the level of motivation of the person or discordance in the motivation level within the group.

M. Seligman showed that the experience of long failure, negative life events may turn into a safe prognostic indicator of man's reduced expectations of his future successfulness which the researcher named "a state of trained helplessness". This is characterized by the appearance of three new types of deficit: inability to act in terms of initiating adequate responses; inability to learn; emotional disorders like depression (Seligman, 2018). Hence the *uncertainty effect* should be viewed as absence or presence of "trained helplessness" resulting from various experiences of getting into uncontrolled situations or negative life events.

The research supervised by A. Yu. Agafonov aimed at the study of digestion of semantic invariants in the solution of letter anagrams, shows the difference in the negative choice time during the attempts of their solution. This is a consequence of implicit acquisition as a receipt of an unconscious prompt (Agafonov, Kryukova, & Deeva, 2018). Then, in situations of the uncertainty of choice, irrelevant implicit (unconscious, meaning-contained) knowledge may slow up rapidness and successfulness in problem solution. That is why the *uncertainty effect* should be viewed as disturbances in learning stipulated by presence of unconscious implicit knowledge.

The time shortage impact is noted in the papers by K. A. Abul'khanova where the author, based on the studies of human labor on a conveyor and the analysis of the incident graph, states that one may easily see their dependence on the human inability to cope with the incident in case of time shortage (human factor effect; see Abul'khanova, 2017). Then the *uncertainty effect* may be viewed as shortage of time required for consideration and decision making.

A. M. Ivanitskii, in the course of his long psycho-physiological studies of cerebration, notes that this process includes a subconscious decision making phase. This choice is not strictly determined by mental activity, hence it cannot make the basis of the freedom of will since it touches on the subjective *I* and is rested upon the inner speech mechanisms (Ivanitskii, 2017). Then the *uncertainty effect* should be viewed as the unconscious decision making phase in the mental experience acts.

As stated by V. M. Allakhverdov, meaning attribution occurs as a result of action of both conscious and unconscious mind mechanisms. The meaning attributed by mind is a positive

and, at the same time, negative choice with a tendency to aftereffect (Allakhverdov, 2016). Further information is processed by mind with consideration to the previously preserved meanings as cognitive choice mechanisms. That is why *the uncertainty effect* should be viewed as follows: meaning attribution occurs under the influence of both conscious and unconscious mind mechanisms which may shape a number of meanings of the information perceived.

Discussion

From the standpoint of meaning regulation and polyvariety of personality development, uncertainty effects have been revealed gnosiologically and ontologically in the objective sphere, as well as existentially and phenomenologically in the subjective sphere. A systematization of the kind shown in this review might seem somewhat relative, yet it reflects in general the versatility of action of the uncertainty factors. Their semantic charge on the life regulation processes is of various natures and directions. This gnoseologically manifests itself as hampered systemic comprehension of the perceived objects, insufficient structuredness of comprehension processes, difficulties in the choice of adequate cognition methods and great variability of truth criteria; ontologically it is various stages in the disarray of the outer world states and processes with the impossibility of their complete comprehension; existentially it is instability or lack of life meanings, which in the absence of inner spiritual work nullifies the meaning of life and leads to the bloom of noogenic neurotic and depressive disorders; phenomenologically it is inadequacy of perception of one's inner world and experience, which leads to the impossibility to perform proportioned reactions in the form of measured attitudes and evaluations in interactions under rapidly changing circumstances of the outer world. The above aspects of uncertainty manifestation influence the personality acmeological status as an integral picture of its self-development. Therefore man is to act under the influence of many factors of uncertainty, showing various levels of tolerance to uncertainty. Thus man *a priori* has to interact under a permanent impact of a large number of uncertainty effects. Consideration of uncertainty effects permits to model more qualitatively the processes of meaning regulation, personality development strategies, as well as to work out adequate empirical approaches to their study.

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