Psychology

Evaluative Judgement and Assimilation Effects

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ABSTRACT. The regularities of assimilative and contrastive evaluations of different objects and events have been extensively studied by Georgian psychologists. The relevant research has demonstrated the importance of basic standard values in the functioning of the sets based on sensory-motor and perceptual activity. According to current research, the evaluation of quantitative and probability information in the conditions of uncertainty does not follow the pattern of normative judgement. It should be noted that probability and quantitative evaluations simultaneously have never been studied from the perspective of set psychology. The presented experimental research aims to study the impact of situational set on quantitative and probability evaluations. According to our theoretical assumptions, quantitative and probability evaluations should be determined by situational set directed at a corresponding task. Situational set was experimentally manipulated through the introduction of certain objective standard values. The given research yielded the following results. As expected, both quantitative and probability evaluations turned out to be significantly different from the actual data. Introduction of objective standard values, in particular, number of countries population and concrete examples of mortality reasons had bigger quantitative evaluations than probability estimations. At the same time, in quantitative and probability evaluations the degree of confidence and knowledge related to the objects under evaluation showed high level of correlation. Also, relationship between those factors turned out to be higher in the case of quantitative evaluation. Thus, most research participants evaluate the number of population by the size of the country's territory. In this case, the territorial factor serves as a subjective standard for the evaluation process. © *2014 Bull. Georg. Natl. Acad. Sci.*

Kay words: *quantitative estimation, probability estimation, situational set, evaluative standard, judgemental context.*

The study of evaluative judgement's functional peculiarity, both traditional and present, remains to be highly actual problem. Evaluative judgement means people's dispositional connection with objects and events. Such judgements are physical stimuli of quantitative estimations, e.g., "large-small, heavy-light" (classical experiments of set formation and action) and social stimuli of qualitative estimations, e.g., "good-bad, acceptable-unacceptable" (experimental situation of attitude formation and change). Today, influence of objective and subjective evaluative standards on quantitative and probability course of judgement is an object of multi-sided empirical research [1-5]. Quantitative judgements touch the distance among the objects, their weight, gross national products, etc., while the success of business venture the outcome of surgical operation, the winner of football game etc., are connected with probability

judgements. The difference between quantitative and probability judgements is the following: the peculiarity of probability judgement is a person's confidence (subjective probability) in its accuracy, which has a special meaning in a reasoning [6-9]. In connection with this Dimitri Uznadze noted: "Logic is interested in an objective truth – psychology in its subjective experience, therefore, the problem of judgement psychology is a confidence problem" [10: 495]. Researchers pay main attention to peculiarities of quantitative and probability information processed by a person in everyday life situations. Such research characterizes strategies of informational processing and their efficiency will be established. At the same time, specific cognitive errors are revealed and then the methods of their correction will be worked out.

The given experimental research aims to study the impact of situational (actual) set on quantitative and probability estimations. According to our theoretical assumptions quantitative and probability estimations should be determined by the situational set directed at a corresponding task. Such situational set was experimentally manipulated through the introduction of a certain objective evaluative standards. The regularities of assimilative and contrastive estimations of different objects and events have been extensively studied in experimental psychology of the set. In particular, the relevant research has demonstrated the importance of standard values (like, "basic standard" in the sensory-motor sphere) in functioning of the sets underlying perceptual estimations [11]. It should be emphasized that probability and quantitative estimations at the same time have never been studied from the perspective of the activated situational set and the evaluative standards by Georgian psychologists.

In our study different evaluative standards, e.g., number of the country population and specific indices of human mortality were introduced as independent variables. The subject's evaluation of a number of the country population (relatively static object) and the reasons of human mortality, like accidents,

different diseases (risk related events) were identified as the dependent variables.

The evaluation of population: a) less than 50 million residents (Azerbaijan, Greece, Holland, Australia, Romania, Canada, Poland, Ukraine); b) more than 70 million residents (Turkey, Germany, Viet-Nam, Mexico, Nigeria, Japan, Russia, Brazil); the evaluation reasons of death: a) unhappy accidents (disorders of life, work traumata, death in fire, food poisoning, airliner accident, drowning); b) malignant diseases (rectoab-dominal cancer, leukemia, prostatic cancer, carcinoma of the skin, breast cancer, struma malagna).

The measurement of the variables. In the case of population estimation, the subjects are asked to indicate the current population of the 16 test countries. In the evaluation of death instruction, the subjects are asked to estimate according to 1 to 9 scale probability of death from a variety reasons. The research used the pre- and post-test measurement design and applied the dependent sample comparison method to data statistical analysis. 157 subjects (students, 72 women and 85 men) took part in the experiment.

In this study assimilation effect means positive change of subject's estimation toward the evaluative standard, and its negative modification from evaluative standard is the contrast effect. Let us discuss the obtained data. First, we touch results about quantitative estimations. On the second stage of experiment the presented evaluative standard (today's population of Indonesia, 250 million, 180) made significant influence on those subjects' estimations, which were discussed according to the large scale (more than 70 million residents). In this case, the difference value among mean indices was significant (d=175, p<0.02). This result indicates that the quantity of evaluative countries' residents significantly exceeded while the other indices compared with initial data were evidently overestimated. Such a result determined by the assimilative action (conduct of initial estimations to the increased direction) of evaluative standard. It should be noted that the significant influence was not revealed on those subjects,

who were forced to judge according to a small scale (less than 50 million residents), on the whole. Also, it is important to note the data, which touch initial estimations, in particular, the population of Australia and Canada. In that case, significant over estimations are revealed, which are equal to 17.8 and 18.4 (p<0.02), respectively. It is natural that between the country's territory and population positive correlation is considerable. Between these two variables, following the context of evaluative judgement, territory has "more weight". In fact, in the next reasoning the role of the subjective standard is the following statement: "a country has a large territory, hence the population must be numerous."

According to the revealed data, presented evaluative standard (index of possible mortality caused by accidents (P=8.5); significantly change subjects' estimations into positive direction (assimilation effect). The difference of initial and secondary mean estimations is significant (d=3.5, P<0.05), while the significant influence of the presented standard values of mortality caused by malignant diseases did not take place. Such result could be conditioned by mean value of confidence (subjective probability) in the subject's probability estimations was quite low (M=3.4). It should be noted that human perception of risk, compared with real risk, is usually exaggerated. In our data it was evidently revealed in air accidents. Thus, mortal causes on railway crossings highly exceed air accidents. The obtained data show that risk evaluation of air accidents evidently is overestimated. This fact is connected with the inevitable fear of death. Therefore, such probability judgement's content is determined by the fear of death inevitability.

The obtained data and experimental conditions show that both forms of evaluative judgement, especially on the first stage of study, occur in the evidently uncertain situation. It indicates the low degree of subjects' confidence in their own evaluations, which, in its turn, shows that their action is indeed far away from strict logical judgement. In spite of this, similar to heuristic judgement, such evaluations often lead to positive result. Some researchers note that to establish conditions for decrease of uncertainty, the following must be taken into consideration. Successful informative impact implies learning of essential factors, which touch quantitative and probability events. With this purpose, such approach should be used which gives the possibility to select optimally necessary factorial data. It means that main factors which attract the most important qualitative (metric) and probability (degree of some confidence level) information are revealed by avoiding impact of less representative data. Nevertheless, functioning in the form of "bounded rationality," these cognitive processes are quite efficient adaptive factors to the topical demands of environment. It must be noted, that according to set psychology, assimilation effect is a certain adaptive mechanism: a person by means of assimilative evaluation does not only adopt environmental heterogenous properties absorbs (determination of erroneous estimations), but also adopts homogenous attributes of environment (determination of correct estimations) [12,13]. It is clear, that the revealed assimilation effects (change of initial estimations with the direction of the objective standard index), at the end will provide more precise comprehetion of reality for people.

ფსიქოლოგია

შეფასებითი მსჯელობა და ასიმილაციის ეფექტები

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მოცემული გამოკვლევის მიზანს რაოდენობრივ და ალბათურ მსჯელობებთან დაკავშირებული ასიმილაციის ეფექტების შესწავლა წარმოადგენს. მიღებული მონაცემების თანახმად, რაოდენობრივი და ალბათური შეფასებების შინაარსობრივი თავისებურება ამოცანაზე მიმართულმა სიტუაციურმა განწყობამ განაპირობა, რომლის ექსპერიმენტული მანიპულაცია სათანადო ობიექტური შეფასებითი სტანდარტებისა და საკუთრივ მსჯელობის სპეციფიკური კონტექსტის გათვალისწინებით განხორციელდა.

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