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Title of Session: Methodological and comparative challenges in XXI century sociology

Subsession I

Name of Session Convener(s): Maria Zaslavskaya, Gohar Tadevosyan

University/Organization incl. City: Yerevan State University, Yerevan

Chairs: Maria Zaslavskaya, Gohar Tadevosyan

University/Organization incl. City: Yerevan State University, Yerevan

I) Title of Selected Paper: Consideration of synergetic effects as a guideline in modern data analysis (post-non-classic stage of method development in sociology research)

Name/s of Author/s: Yuliana Tolstova

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Abstract: Modern data analysis contains methods, which could be refferred to as search methods for generalised interactions. Interaction - combination of attribute values, which define the subject's behaviour of researchers interest. This type of interaction should be reffered to as AID (automatic interaction detector). Algorithm development for search of such interactions - development of notions about statistical interactions (let's name them classical), introduced to the data analysis together with dispersion analysis. Classical notions met nonlinear sought-for consistancies (multiplications of varibles were included in the model)

Although it seems, that connecting interrection with synergetic effect in full only makes sence NOT when indications-predictors (each should be viewed as a comprehensive whole) jointly stipulate some event, but only when AID interraction takes place, when the matter is about event determination by some combination of specific predictor values. (the latter break up into separate alternatives, become real from nominal).

Concept generalisation for interraction was introduced by the author (1) and implied the rejection of event describtion by one indication and also in consideration not only the conunction of predictor values, but any other logical function derived from them. Many search methods of generalised interactions are known. They could be attributed to artificial intelegence, to intellectual data analysis.Part of these methods are not

known to sociologists, the other part is little-known, third part is an integral part of an SPSS and therefore well known to sociologists.

We value these methods as a manifestation of new "methodological" paradigm. Data analysis used to be based on the paradigm that the researched objects were designated by the points in the indication's space. New paradigm sugests that each object is designated by the number of discreet values, which are most of the time (not allways) values of some indications (in a matter speaking, different for various objects)

Realisation of this paradigm will allow to unite all mentioned methods into the common system, which will provide an effective search for synergetic effects, non-linearities in sociological phenomenon, which fully consistant wth the need of modern sociology. Such search is considered a dominant feature of post-non-classic science.

II) Title of Selected Paper: Approaching social reality: potentials and limits of analyzing social representations

Name/s of Author/s: Kerstin Wüstner

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Abstract: Social transformations bring along new forms in which social phenomena are represented. Or the other way round: social transformations can be deduced from the emergence of new social representations (Moscovici 1973). An important social force of modern societies is work. So-called "new forms of work" – e.g. such as outsourcing, business-reengineering or downsizing – result from social transformation and vice versa. In order to understand, for example, how social processes develop and how they could influence people, it is important to find out how such social phenomena like economic strategies are socially represented. Hence, the aim of our initial study was to analyse how new forms of work are socially represented among those who are involved in either the planning and/or accomplishment of such strategies.

If an analysis uses an empirical approach, the question raises which method could be appropriate. One methodological way to do so is to carry out qualitative interviews (Flick 1998). This is also the approach we used; we carried out qualitative interviews with 38 business representatives.

The aim of this paper is not so much to report from the content in detail, but to reflect on the analysis. Are qualitative interviews able to give insights in social representations or do they only represent individual social representations? Some examples will demonstrate cases in which we concluded that our interviewees communicated social representations. Yet, it can be shown as well that interpretation will always be to some extent subjective, even if the interpretation is carried out by a research team or if other data are consulted.

III) Title of Selected Paper: Situating Participatory Research in the Context of Development: Perspectives and Methodological challenges

Name/s of Author/s: Gohar Tadevosyan

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Abstract: Research strategies that emphasize participation have emerged from several perspectives. The development theories and practices that evolved in the 70's and 80's required new research approach, which is able to provide an understanding of social complexity in rapidly changing environment and validate different perceptions of reality.

Within the social sciences the participatory research (PR) paradigm is relatively new, owing its development to Action Research work done in the 1940s. Participatory methodologies have arisen from qualitative research approaches which aim to reflect, explore and disseminate the views, concerns, feelings and experiences of research participants from their own perspectives.

There are a number of debates which surround participatory research and the understanding of what does or does not constitute participatory research is complex. Robert Chambers refers to PR as a new paradigm, *"a coherent and mutually supportive pattern of concepts, values, methods and action amenable to wide application"*.

In characterising participatory research, Cornwell and Jewkes argue that *"the key difference between participatory and conventional methodologies lies in the location of power in the research process"*.

The PR process is viewed as a potential source of change and empowerment for the research participants as well as a process for influencing policy-making and practice by reflecting the views and opinions of service users. Reason and Heron believe that participatory research *invites people to participate in the co-creation of knowledge about themselves.*

However, following a boom period throughout the 1990s, the theoretical, conceptual and methodological foundations of participatory approaches have been criticized in the last years.

Here I will focus on the role of participatory researches in the development processes, the benefits and future perspectives of PR development. In the meantime, I would like to discuss the methodological constraints and limitations of PR and the ways of improvement.

IV) Title of Selected Paper: A new model of sociological knowledge reliability estimation

Name/s of Author/s: Maria I. Zaslavskaya

University/Organization incl. City: Yerevan State University, Yerevan

Abstract: In this paper a new model of a discourse - analysis of sociological texts based on the fuzzy logic is described (about fuzzy logic see, for example, J.Yen, R.Landary "Fuzzy Logic. Intelligence, Control, and Information", Prentice Hall, NJ, 1999). This approach unites strategies based on quantitative and qualitative methods, in framework of this approach the discourse - analysis is transformed using the methods of fuzzy logic, and some quantitative estimates are made concerning the reliability of conclusions which are described in the texts containing sociological knowledge. So the proposed model gives a possibility for obtaining more precise and more detailed characterizations of the reliability of sociological knowledge than the traditional methods of similar estimates.

The approach to the analysis, interpretations and comparability of sociological data by means of a combination of elements of fuzzy logic with methods of a discourse-analysis allows characterizing more completely the complexity of social knowledge.

Such a model gives a new approach to the analysis, interpretation and comparative investigation of sociological knowledge obtained from different sources in different contexts.

V) Title of Selected Paper: Formal Concept Analysis and its Application to research of curriculum structure

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Abstract: This paper focuses on application of Formal Concept Analysis (FCA) method to the research of linkage between student's academic progress in different courses. We would like to discuss two issues. The first one (methodological) examines the FCA method: its main definitions, features and benefits for sociology. Another issue concerns the FCA method adaptation to the real research practice on example of educational sociology.
Usually FCA is referred to as one of Knowledge Discovery in Databases methods. It gives broad possibilities of data structure exploring and visualisation. It works with m*n matrices (called formal context) where m is sets of objects and n is set of their attributes. The pair of object and attribute is called formal concept in formal context. And one of the most useful features of this method is that the relations between objects and attributes can be depicted on a line diagram called concept lattice of formal context.
2. In our research we applied FCA to educational field; we tried to study more about curriculum at sociology faculty of SU-HSE. The database consists of a list of grades that students got for exams during studying at bachelor's program (*formal context*). One of our goals was to explore the curriculum structure. To achieve this we should find out whether it's true that students fall into different classes depending on their achievements in mathematical or liberal arts courses or not, and through that to study linkages between different courses.

VI) Title of Selected Paper: Using of Latent Class Analysis for measurement of passionarity

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Abstract: The concept of passionarity , which was first used by L.N. Gumilev, can particularly be applied in sociology in order to explain such phenomenon as social tense. We propose to refrain from ethnographic context and Gumilev's ethnogenesis theory in its usage.
Unfortunately there are certain difficulties present when measuring the passionarity of a specific individual. First of all, there is no strict definition of this concept as we can find different versions of these definitions in Gumilev's works. Secondly, there were no methods of passionarity measurement yet devised. Which makes the application of this concept in Sociology alltogether impossible.

In order to measure the passionarity we propose to use the Latent class analysis. Latent class analysis allows to characterise the nominal latent variable by using the contingency table of two or more categorical or nominal observed variables. In brief, the procedure of Latent class analysis can be described as follows: a certain number of statements are given to the respondent, which he may agree or disagree with. On the basis of obtained answers latent class analysis is performed, which in turn, provides probabilities for each respondent to become a part of each latent class (the number of classes is specified by the researcher). In addiotion to the above, the Latent class analysis is also a scale criteria which is able to provide an answer to the importatant question: if the proposed variables indicate the existance of a latent variable.

In order to measure passionarity statements for the Latent class analysis were worked out on the basis of preliminary qualitative research. As L.N.Gumilev assigns three levels of passionarity to an individual - the highest, the intermediate and the lowest: therefore 3 latent classes were assigned to the procedure - of the highest, the intermediate and the lowest passionarity.

As a result of performing the Latent Class Analysis, each respondent will have a certain probability to become a part of each of the mensioned latent classes.