

The motivational dimensions of life events'

THE MOTIVATIONAL DIMENSIONS OF LIFE EVENTS' PERCEPTION: Towards an Individual Motivational Mapping on Self-Determination Theory basis

Vitaly Klymchuk

Ph.D., senior lecturer, Institute of social and political psychology

Abstract

The "Individual Motivation Mapping" is the mixed-method, that combine advantages of the qualitative and quantitative methods, and allow to reveal the individual unique system of motivational coordinates, in which person assess life events; reconstruct inner picture of personal history in terms of basic needs satisfaction; provide a personal motivational trending for probabilistic prediction. Article contains analysis of the basis of this method - Self-Determination Theory by E. Deci & R. Ryan; depiction of model of social context` mediation by one`s perception of autonomy, competence and relatedness; describing of the model of life-events perception through SDT-dimensions. Finally, it contain detailed structure of "Individual Motivation Mapping", structure of preliminary analysis of Personal Motivational Indexes, structure of primary analysis of Individual Motivation Map and approaches to application of this method in different fields.

Keywords

basic needs; motivation; self-determination theory; individual motivation mapping

Introduction

Motivation of personality is an area with wide spectrum of theories, approaches and models. All of them based on empirical datum, collected on statistical samples in controlled experiments and wide-ranging researches, scrupulousness analysis of statistical quotients and cautious conclusions. These theories created in quantitative paradigm, and the main purposes of them are: 1) to develop a predictive model of human behavior` reasons; 2) to understand the most common outcomes of different motivation states, produced by social context, personal traits, values and activity or by reciprocal action of these factors, as mentioned in Heckhausen, 1991. At the same time, as follows from analysis of modern psychology, made by T. Tytarenko (Tytarenko, 2003), psychology as a science about human nature, behavior and mind cannot be ignore by the individuality of personal space of world perception, probability of uniqueness of human and possibility of existence of unique personal psychological lows, principles, mechanisms, that can be not common in statistical sense, but can really work in individual life space.

Results of qualitative researches in motivation field are significance add-on to quantitative mechanisms, and in the same time integration of these approaches in motivation studies could be valuable way to more complete and complex understanding core and outcomes of human motivation on personal and social level. The modern results of analysis of relation of qualitative and quantitative paradigms show necessity of their combination – multi-methods (Brannen, 1992), multi-strategy (Bryman, 2004), mixed methods or mixed methodology (Creswell, 2003; Tashakkori & Teddlie, 1998, 2003). Johnson & Onwuegbuzie, 2004, suggested, that mixed methods research bring to the higher quality of research conclusion because all of combining methods have strengths and weakness, and in mixed research they weakness of qualitative method compensate by strength of quantitative, and reverse is right. Chris, 2004, shown that divide between these paradigms hides many of the common features, and for researchers using the method from of one or another paradigm depend on partial purpose of the stage of study. Analyzes of mixed-method researches,

made by A. Bryman (Bryman, 2006), shows that using of mixed methods is the way to increasing potential of multiply unanticipated outcomes.

Structure of individual perception of life event could be a mirror of whole personality, and life-events narratives – not only depict patterns of personal structure, but also construct it (Gergen, 1994; Potter et al., 1993; Davies & Harre, 1990; Shotter, 1989). Thus, motivation as a substructure of personality, from one hand, and as a sublevel of social context (as external influences, powers and stimuli), from another hand, are systemic part of personal' life-event perception. This part is not syncretic, but has internal structure – a system of motivational dimensions of personal life-event perception.

Developing of method for mixed-methods research, which help to penetrate into this individual system of motivational dimensions, and understand how life-events are positioning there – are near-term outlook. In wide sense this goals partial reached in few similar domain – in personal construct theory by G. Kelly (Kelly, 1955; Francella & Bannister, 1977), semantic differential method by C. Osgood (Osgood et al., 1957), Russian version of psychosemantics by V. Petrenko (Petrenko & Mitina, 1997, 2010), causometry, method of exposure of individual life span subjective picture by Russian (A. Kronick) and Ukrainan (E. Golovakha) researchers (Kronik & Golovakha, 2011), “Procedure of Investigation of Personal Value Sphere” by Ukrainian researcher A. Muzyka (Muzyka, 2001).

The personal construct theory by G. Kelly contain an instrument for depiction individual system of personal constructs – general dimensions of perception of other peoples, situations, objects etc. The semantic differential method by C. Osgood grounded on three basic dimensions of perception of external world phenomenon – force, activity and valuation. In psychosemantics by V. Petrenko, based on G. Kelly and C. Osgood methods, and on using of multivariate statistics, main purpose is reconstruction of the system of categories, through which people perceive world and events; various forms of meanings are investigates at individual and social levels, including researches of motivation influences into individual categorical system. In causometry by using special structured interview and next mathematical and visualization procedures researcher depict the whole individual lifeline, units of which are life events and cause-and-effect relation between all of them (Kronik & Orlowek, 2013). “Procedure of Investigation of Personal Value Sphere” by essence is integration of cauzometry, REP-test of G. Kelly and psychosemantic, - in result researcher reveal personal unique value, which any other test cannot reveal. All of named approaches attributed to category of mixed-methods, because of potential possibility to integrate a qualitative and quantitative methodology, investigate individual mind throw quantitative prism and build statistical hypothesis on the qualitative basis. At the same time, named approaches are too wide, and touch all personal spheres, not only motivation.

As result, we suppose to create the mixed-method, which will be concentrating on system of motivational dimensions of personal life-event perception and based on psychosemantic approach. It allow to penetrate into individual motivational world and create individual grounded theory as good, as promote empirical and statistical evidence of relevance gathered data and support further validation reached data on experiments and large samples.

There are five items, that must lies in basis of such method: 1) perception of life-events contains system of motivational dimensions; 2) these dimensions constructed by person in life-span development (by influence of social context, his/her own agency et al.); 3) system of motivational dimensions are flexibly and ongoing-constructed; 4) for depiction of this system will be useful to use multivariate statistics (factor analysis, multidimensional scaling or cluster analysis) in qualitative settings; 5) it is necessary to ground on motivational theory with strong statistical validity and wide spectrum of implementation. The most correspondent to last item is self-determination theory (SDT, Deci & Ryan, 2000).

This article is structure around four questions. First, we analyze is the main theses of SDT. Second, analyze of social context' mediation by one's perception of autonomy, competence and relatedness.

Third, describing of model of life-events perception through SDT-dimensions. Fourth, we present the method of Individual Motivation Mapping, built on SDT basis.

Self-determination theory: concept and outcomes

Fundamentals of SDT: needs, motivation, internalization, causality orientation

Self-determination theory (SDT) is a wide using approach which help us to understand human behavior, inner world, social world and basic needs (Deci, 1971; Ryan, 1981; Ryan & Deci, 2001). The kernel of SDT' point of view on the human existence is considering the category "needs" as "... innate psychological nutriments that are essential for ongoing psychological growth, integrity, and well-being" (Deci & Ryan, 2000). There are three basic psychological needs, identified in SDT: need for competence (need of experience of effectiveness activity, feel of attainment of desired effects), need for relatedness (need to feel closeness and connection with significant others) and need for autonomy (need to perceive one's activity as endorsed and congruent with self) (Reis et al, 2000).

Capacities to satisfaction of these needs, influence of social context (such as parenting style, teacher's autonomy supportiveness et al.) and internalization processes, in different combination bring to dominate some forms of motivation – amotivation, controlled or autonomous motivation, and from other side, forming personal disposition – general causality orientation, which could be autonomy, controlled or impersonal (Grolnick & Ryan, 1989; Williams & Deci, 1996; Williams, Deci & Ryan, 1998; Black & Deci, 2000).

Motivation is consider as inner, basic lifelong psychological growth function (Deci & Ryan, 1980), and internalization – as aspect of integrity and social cohesion (Ryan, Connell & Deci, 1985). Distinguishing between amotivation and autonomous motivation is not dichotomous, but rather continual: motivation could be autonomous and controlled; autonomous motivation - could be intrinsic and integrated extrinsic; controlled motivation could be external (extrinsic), introjected and identified. External, introjected, identified and integrated regulations – are internalization processes, which allow to "take in..." social values, requests, mores, transform them into self-regulation, personal endorsed values, in different ways (Deci & Ryan, 2000).

Therefore, amotivation – is the state of lack of motivation, lack of intention to do something; without desiring or aspiration for some aims; it is a state out of motivation. Autonomy motivation is described as intention to action with desire, which fully belong to person's self, with the sense of choice opportunity. The clearest kind of such motivation is the intrinsic motivation. The intrinsic motivation is the kernel of the active engagement for activity, which continues without separable consequences, accompanied with feel of "flow" (Csikzentmihalyi, 1990) and promote personality growth. Controlled motivation – accompanied with sense of external/internal pressure by punishment, rewarding, someone controlling; with feeling like "... I have to do it..."; without interesting activity, which are externally regulated by internalization process.

External regulations – take place when person do not take "take in..." external aims, values, rewards etc., so appear extrinsic motivation and person's behavior are controlled by external outcomes. Introjected regulations – arising in the case of including external regulation into the person, without integration it with other part of self, without assimilation into global personal structure – motivation, aspiration, affects, cognition et al. Identified regulations conducted by recognizing, understanding and accepting of underlying value of activity. In this case the person is closely to autonomous motivation, but not fully – activity still is instrumental, rather than spontaneously and enjoyment. Integrated regulations suppose not just accepting the value of activity, but assimilation of such identification within person, so accepted values become coherent, harmonized and integrated with other components of self. Such integrated regulation is close to autonomy motivation, and external regulations – is close to controlled motivation.

General causality orientation – is the general personal predisposition to autonomous, controlled or impersonal causation in behavior regulation. Autonomy oriented person regulate their activity by their own interests and inherent values; percept social context as autonomy supportive. Control

oriented causality include orienting toward external control, direction from others about what and how person have to do, perception of social context as controlling. Impersonal orientation connected with absence of activity, amotivation state and external locus of causality (Deci & Ryan, 1985).

Main outcomes of autonomous motivation

For 40 years of existing of SDT, research has shown many positive outcomes of autonomous motivation and autonomy orientation. In Deci & Ryan, 1985; Hodgins, Koestner & Duncan, 1996; Koestner, Bernieri & Zuckerman, 1992; Gagné, 2003; Soenens, 2005 proved high positive connection of autonomy orientation with self-actualization processes, high self-esteem, personal growth, identity exploration process, prosocial behavior. Gagne & Deci, 2005, analyzed role of autonomous motivation in work and organization setting. They summarized, that in interesting, complex and important job autonomous motivation positive relates to performance, satisfaction and well-being; controlled motivation leads to short-term performance and poorer adjustment and well-being in ordinary and uninteresting job. In addition, autonomous motivation is good prediction for volunteering, prosocial behavior and organization citizenship.

Much more investigations in fields of education, parenting, health, psychotherapy, personal growth, self and self-esteem, well-being has shown that satisfaction of basic psychological needs leads to psychological well-being (Deci & Ryan, 2000; Reis et al., 2000); autonomy supportive parenting, teaching, leadership and treatment lead to autonomy motivation, positive changes in well-being and causality orientation of children, students, workers and patients (Gagne & Deci, 2005; Black & Deci, 2000; Williams et al., 1998; Williams et al., 1996; Grolnick & Ryan, 1989).

Mediation of social context by one's perception of autonomy, competence and relatedness

SDT proposed the model, in which person stays on the focus of the 1) influence of social environment (or social context) and 2) his/her own causality orientation as expression of an ability to satisfy basic needs inside that social context. It is a structural exposition. In functional exposition – person stays in the process of ongoing perception of social context (working conditions, teaching and parenting style, communication patterns et al.) from the position of capabilities of it to promote basic need satisfaction and his/her own feeling during of sojourn in such context. However, social context is too general category to be evaluate – so more acceptable is point of view, that person most often perceived not general context, but local life events (micro-events & macro-events) from which this context consist of (see transitional theory of life-span development, Sugarman, 2001; Bridges, 2004). For graphical depiction of this point of view, see fig. 1.

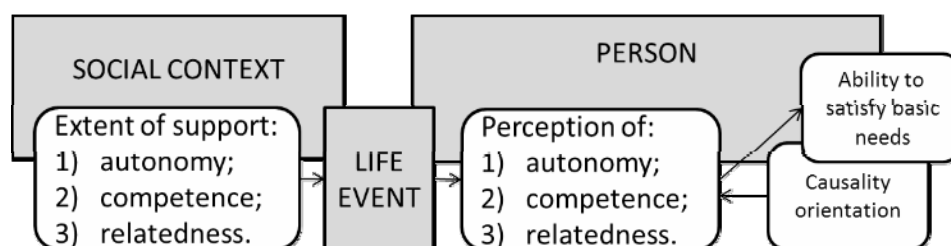


Figure 1. Model of social context perception through motivational dimension (functional exposition)

Conclusions of many researches close to model of social context perception through motivational dimension. An experiment by Reeve & Deci, 1996, resulted effect of mediation of autonomy perception in decreasing intrinsic motivation in controlled settings. In Ryan, Stiller & Lynch, 1994, shown that perceiving by students their teachers as caring (satisfy of need in relatedness) lead to

increase of intrinsic motivation. Williams, Freedman & Deci, 1998, carried out the research of glucose-control motivation in patients with diabetes, and found, that perceiving by patients of treatment-context as full of options, information about problem, respect to their feelings and minimal pressure tend to appearance of intrinsic regulatory mechanisms and increase the health-care behavior. Duriez et al., 2007 focused on the role of parental goal promotion (extrinsic, intrinsic or conservation goals) and rearing style (style of need support and regulation) in adolescent authoritarian submission / dominance, and found that lifelong changes in authoritarian submission / dominance predicted by parental goal promotion. In refined experiments by Wild et al., 1992, 1997 demonstrates the phenomenon of “social “infection” of motivational orientations”, in which main part acted by perception of significance other as intrinsically/extrinsically motivated.

People’s ongoing and daily life consists of life events, – and perceptions of the daily-live experience are important part of well-being (Ryan & Deci, 2001). In Reis et al., 2000, shown, that 1) satisfaction of basic psychological needs predict well-being; 2) daily fluctuations in satisfaction of the basic needs predict daily fluctuations in well-being; 3) daily measure of basic needs satisfaction provided by dairy-method, in which people entered their perception of three daily activities (for evaluation of autonomy and competence needs satisfactions) and interactions (for evaluation of relatedness need satisfaction). Resemble results found by Gagne et al., 2003, – change in well-being of gymnasts predicted by daily perception of of the basic needs satisfaction.

The model of social context perception through motivational dimension (see Figure 1.) based on the described empirical results, well placed into hierarchical model of intrinsic/extrinsic motivation by R.J. Valerand, and into his empirical grounded and theoretically meaningful corollaries (Valerand, 1997). In Corollary 3.2. proved: “The impact of social factors on motivation is mediated by perceptions of competence, autonomy, and motivation” and this impact can take place though perception of social events. Thereby next task is to show the system of people’s life-events perception dimensions and to develop procedure to reveal it empirically.

Perception of life-events through SDT-dimensions

According to described results of investigations and theorizing, conducted in fields of SDT, it is possible to illustrate perception of life-events as system of three coordinates, every axis of which represent perception of one of basic needs satisfaction. There are such dimensions (named as SDT-dimensions): perceived autonomy (A-dimension), perceived competence (C-dimension), and perceived relatedness (R-dimension). In these dimensions, every life event can find its position, and finally, all meaningful life-long situations and events can be located there – so will be depicted general picture (or map) of personal lifeline in system of motivational coordinates (Fig. 2.).

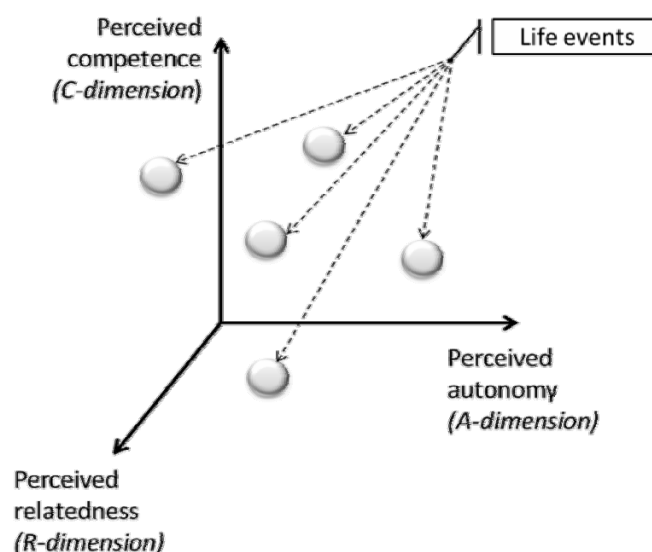


Figure 2. SDT-dimensions of life-events perception

Important parts of such model are: 1) individual size of A-, C-, R-dimensions could be different, depend on General Causality Orientation, experience of lifelong satisfaction of basic needs and ability to satisfy them on present and future; 2) dimensions could be bipolar: perceived autonomy – control, perceived competence – incompetence, perceived relatedness – disrelatedness; 3) there are implicit time-base in this model – every event happened in definite time; 4) model help us to find out trending of personal motivational changes, e.g. does person move to more autonomous coordinate or contrariwise, to more controlled?

Method

Aims of Individual Motivational Mapping

Direct aims of Individual Motivational Mapping are revealing of individual unique system of motivational coordinates, in which person assess life events; reconstruct inner picture of personal history in terms of basic needs satisfaction; provide a personal motivational trending for probabilistic prediction. Remote aims – is to develop instrument for motivation exploration, that allow to aggregate, all in one, advantages of quantitative and qualitative paradigms.

IMM is not a diagnostic method; it is an exploratory procedure for revealing of existing system of motivational perception by organizing of research process in semi-structural format and by organizing of resulted personal motivational experience in semi-formal structure

Procedure of Individual Motivation Mapping (IMM)

First step is to collect the information about significant events, which had happened in life of the participant of research. Collection go on as structured conversation, main theme is answer for the questions: “What important events did happen with you in the past? Please, could you name the most significant and meaningful events from your life? Did you remember them? Let’s talk a little bit about them?” At the end of the conversation with the person, researcher constructs a chronological list of important life events with note about time of event (or age of participant in that time).

Second step is to subjective assessment of degree of basic needs satisfaction in each event, mentioned in the list. Is proposed to participant evaluate events by three parameters (in 7-point scale): 1) degree of autonomy in that situation, 2) degree of own competence, and 3) degree of relatedness with significant others at that moment (see Table 1).

Table 1. Matrix for subjective assessment of degree of basic needs satisfaction

| Assessment of degree of basic needs satisfaction (7-point scale) | | | | | | |
|---|---|--|--------------------------------|---|---|---|
| <i>completely dissatisfaction</i> | | | <i>completely satisfaction</i> | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| degree of my own feeling of autonomy | | degree of my own feeling of competence | | | degree of my own feeling of being relatedness | |
| Event #1... | | | | | | |
| Event #2... | | | | | | |
| ... | | | | | | |
| Event #N... | | | | | | |

Third step is a preliminary analysis: 1) computation of Personal Motivational Indexes, visualization of matrix and indexes; 2) reconstruction of Individual Motivation Map based on multivariate analysis of received matrix (by events): factor analysis (for depiction of main events, which construct IMM), or cluster analysis (for classification of person’s life events on SDT basis). Fourth step is a primary analysis – qualitative description of Individual Motivation Map in SDT terms, analysis of motivational livelong changes, and personal motivational trending with use of system of quantitative Personal Motivational Indexes.

Structure of Preliminary Analysis of Personal Motivational Indexes

Motivation Potential of Life Event (MPLE-index)

Index “Motivation potential of life event” (MPLE) constructed as average of degrees of all basic needs satisfaction in particular life event. See formula (1) for calculation of MPLE-index.

$$MPLE_i = \frac{A_i + C_i + R_i}{3}; \quad (1)$$

where:

MPLE_i – motivation potential of life event number (i);

A_i – score for autonomy feeling in (i) event;

C_i – score for competence feeling in (i) event;

R_i – score for being relatedness feeling in (i) event.

MPLE-index allows estimate degree of individual perception of particular life event as more/less intrinsic motivated. Than higher are MPLE-index of event – then higher are motivational potential of situation in sense of providing of inner feeling of being intrinsic motivated. In common sense – many events with high MPLE-index provoke intrinsic motivation experience, which can grow and become a personal trait and conscious choice.

Situational Autonomy Index (SA-index)

“Situational Autonomy Index” (SA-index) calculate as average of scores for autonomy feelings in all life events in the list of important life events (see Table 1.) Formula for calculation of SA-index sees below (2).

$$SA = \frac{\sum_{i=1}^n A_i}{n}; \quad (2)$$

where:

SA – Situational Autonomy Index;

A_i – score for autonomy feeling in (i) event;

n – number of life events.

Situational Competence Index (SC-index)

“Situational Competence Index” (SC-index) calculate as average of scores for competence feelings in all life events in the list of important life events (see Table 1.) Formula for calculation of SA-index sees below (3).

$$SC = \frac{\sum_{i=1}^n C_i}{n}; \quad (3)$$

where:

SC – Situational Competence Index;

C_i – score for competence feeling in (i) event;

n – number of life events.

Situational Relatedness Index (SR-index)

“Situational Relatedness Index” (SR-index) calculate as average of scores for being relatedness feelings in all life events in the list of important life events (see Table 1.) Formula for calculation of SR-index sees below (4).

$$SR = \frac{\sum_{i=1}^n R_i}{n}; \quad (4)$$

where:
 SR – Situational Relatedness Index;
 Ri – score for being relatedness feeling in (i) event;
 n – number of life events.

All situational indexes (SA, SC, SR) emphasis personal importance of SDT-dimensions – and in the final – significance of lifelong satisfaction of basic needs (autonomy, competence, relatedness). Relation between SA, SC and SR indexes shows an individual profile of need satisfaction, and it could be a start point for prognosis of zone of nearest personal development.

Lifelong Motivation Potential (LMP-index)

“Lifelong Motivation Potential” (LMP-index) calculate as average of all MPLE-indexes or all situational indexes (SA, SC, SR). Formulas for calculation of LMP-index see below (5).

$$\left. \begin{aligned} LMP &= \frac{SA + SC + SR}{3} \\ LMP &= \frac{\sum_{i=1}^n MPLE_i}{n} \end{aligned} \right\} \quad (5)$$

where:
 LMP – Lifelong Motivation Potential;
 SA – Situational Autonomy Index;
 SC – Situational Competence Index;
 SR – Situational Relatedness Index;
 MPLE_i – motivation potential of life event number (i);
 n – number of life events.

LMP-index summarize all particular indexes into final measure, and show degree of general individual lifelong intrinsic motivation experience.

Types of visualization in Individual Motivation Mapping

For better understanding of individual perception of life events in motivational dimensions will be valuable to perform some types of visualizations according to obtained data. First, – to perform Row Matrix Visualization: create a line plot, with life events (X-axis), and row scores (Y-axis) for perceived autonomy, competence and relatedness in a ground of matrix for subjective assessment of degree of basic needs satisfaction (for example see Fig. 3).

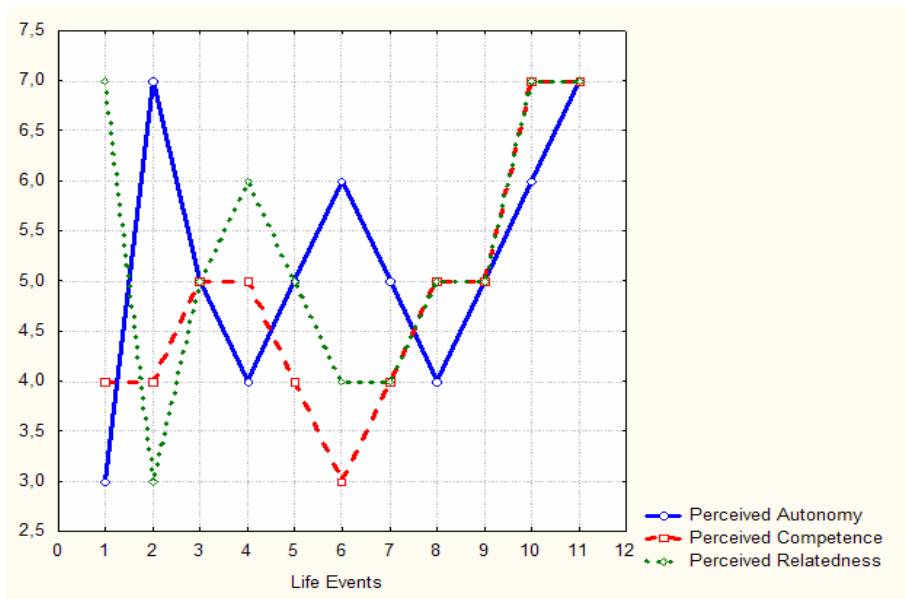


Figure 3. Row Matrix Visualization

After that, one can perform Indexes Visualization: create MPLE-indexes and Situational Indexes plots. MPLE-indexes plot (see Formula 1) consist of life events (X-axis), and values of all MPLE-indexes (Y-axis). For example – see Fig. 4.

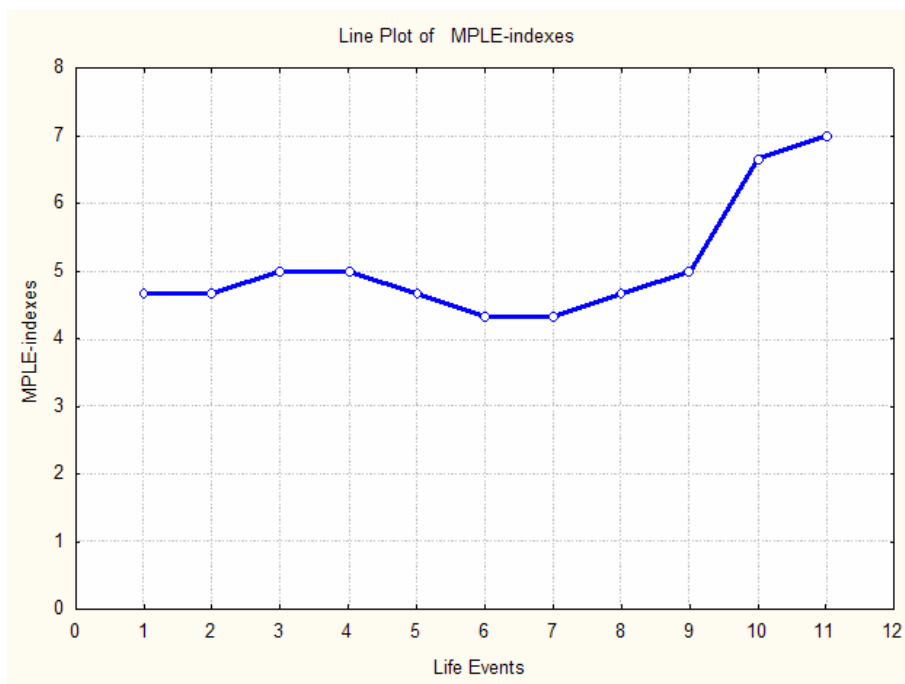


Figure 4. MPLE-indexes Visualization

For example of Situational Indexes plot – see Fig. 5. X-axis of this plot consist of SA, SC and SR-indexes (see formulas 2, 3, 4), and Y-axis – from value of this indexes.

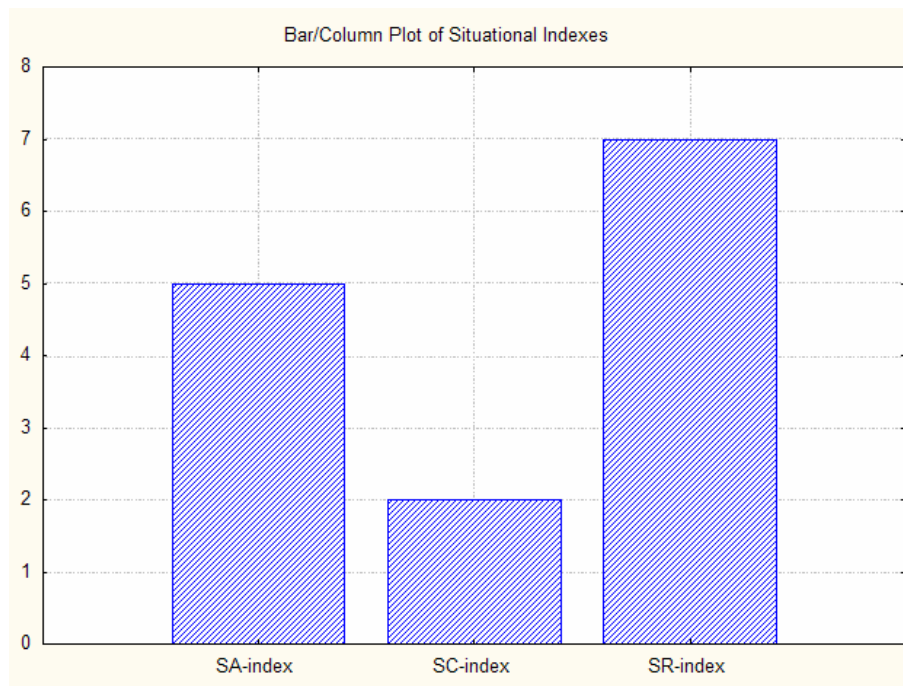
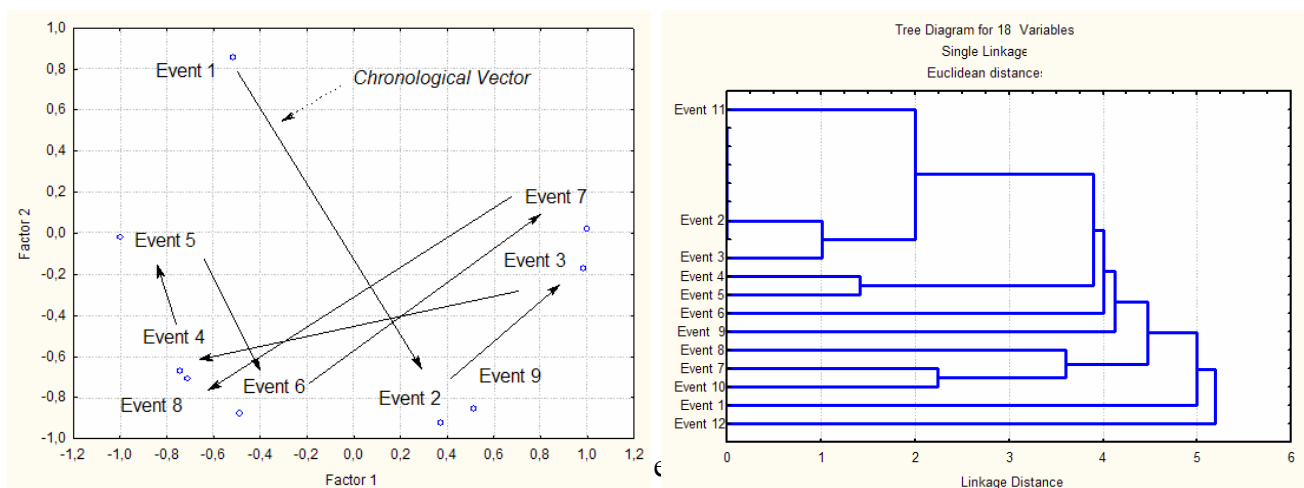


Figure 5. Situational Indexes Visualization

Reconstruction of Individual Motivation Map are the important and powerful feature of developed procedure. It's based on Multivariate Analysis of data (matrix for subjective assessment of degree of basic needs satisfaction) (Tabachnik & Fidell, 2002). After performing of Factor Analysis or Cluster Analysis one can get a Factor Loadings Plot or Tree Diagram, depend on pursue one's object (Factor Analysis, Factor Loadings Plot – for understanding of individual structure and inter-correlations between events perception on motivational basis, and Cluster Analysis, Tree Diagram for individual classification of life events).



classification of the events perception (right) on motivational basis

In addition to main picture it is possible to draw Chronological Vector – a line, that concatenate events into the circuitry, and the way of person in the space of motivational dimensions is seen (Fig. 6, left).

Structure of Primary Analysis of Individual Motivation Map

After calculation of Personal Motivational Indexes and reconstruction of Individual Motivational Map, researcher is ready to proceed primary analysis. It organized in such steps:

1. Review of Row Matrix and Row Matrix Visualization for depiction of differential development of personal motivation of participant of investigation. Analysis of three lines on Fig. 3 (Perceived Autonomy, Perceived Competence, Perceived Relatedness) get us individual trajectory of perceiving lifelong basic needs satisfaction. There are time lines of individual motivational experience, and dynamics of them, relation and proportion between them are meaningful part of understanding of motivation of a person one.
2. Analyze of MPLE-indexes and their visualization. MPLE-indexes plot (Fig. 4) is generalization of Row Matrix Visualization (Fig. 3), and represents averaged time line of individual motivational experience. Analysis of shapes of this line, regression procedure and next different types of functional analysis could be provided. Result of it is depiction of motivational livelong changes.
3. Analyze of Situational Indexes and their visualization. Situational Indexes plot (Fig. 5) represent relative individual subjective lifelong significance of basic needs satisfaction. Researcher obtains admittance to perception of all life situations in motivational coordinates and in the same time – can assess subjective extent of them; find a coordinate, that is necessary to develop, and another, that could be an inner resource for such developing.
4. Review and analyze of Individual Motivation Map. Factor Loadings Plot is a visual result of Factor Analysis, and allows representing of comprehensive whole of individual perception in space of few dimensions, that interpreted according to closeness to them particular events (for example see Fig. 6, left, and compare with Fig. 2). Tree Diagram is visual result of Cluster Analysis (for example see Fig. 6, right). The main questions for researcher are: Why did data organized in such concrete structure? What did the differences and communalities could be found between events? What are the main factors, in which events are organized? What is the ground for such concrete classification in CA?
5. Event analysis one can perform for deeper understanding of personal history of participant. Important points of it are the ways of needs satisfaction: by domination of some need, by escaping of situation without need satisfaction, by fighting for his/her needs, etc.
6. Personal motivational trending is an attempt to understand ways of personal motivational development in the future. It grounded on the lifelong changes of MPLE-indexes, dominating Situational Index, results of Factor/Cluster Analysis, and is probabilistic prediction.

Discussion

Features of Individual Motivation Mapping

Despite the IMM is strongly grounded on mathematical apparatus, in essence it is: a qualitative procedure at the stage of data gathering; a quantitative procedure at the stage of event assessment, indexes calculation and visualization; a mixed procedure at the stage of interpretation. Therefore, it is impossible to make inter-individual comparison by MPLE-indexes, SA/SC/SR-indexes or LMP-index. All of them have a sense only in intra-individual analysis and comparison.

Approaches to application of Individual Motivation Mapping

It is possible to use IMM in the different research frames. It is appropriate procedure for motivational case study: to investigate individual motivational sphere of specific persons (gifted child and adults, persons that suffer from mental/health disorders etc.) or person in specific life-situation (crises, life changes, needs deprivation etc.).

The Individual Motivation Mapping provides base for research with the aim of creation of grounded theory. By collection of data sets with IMM it is possible to generate general picture of motivational sphere and changes in it, depend on specific intra/inter-individual factors. Particularly, originate

possibilities for creation of unique individual grounded motivational theories, which are specific for concrete person and his/her individual history.

In psychotherapy/counseling/training fields, it is possible to use IMM with client's motivational request for revealing of quantitative markers and qualitative picture of present situation and changes after some time.

Investigations, provided with a group and large samples, are possible too. All data could be averaging by group; feasible is monitoring of group motivational dynamics during organizational/social changes.

One of unexpected application of IMM is an investigation of not inner, but external perception of life situation, common for pairs or more wide groups (newlyweds, siblings, households, teams etc.). It is feasible to create with the pairs a list of common life events, and to propose make assessment not only own perception of them, but estimate perception of partner. This estimation could be compared – for family diagnostics, psychotherapies or providing group changes etc.

Future directions

Individual Motivational Mapping appears as powerful instrument for mixed-research in motivational field. All its features have not been discovered yet and revealing of them are the mainstream of future researches. Some future tasks are: 1) continue of promotion of empirical and statistical evidence of relevance gathered data and support further validation reached data on experiments and large samples; 2) develop facilities of IMM become or strong quantitative procedure, or clear qualitative method, depend on researchers' demands; 3) develop visualization resources of IMM; 4) promotion of future research in described approaches – motivational case study, developing individual motivational grounded theory, counseling/training capabilities of IMM and use of it in pairs or group frame.

Summarize

Exists not only general motivational theories, but also occurrence of individual unique theories of motivation, based on the individual history, impact of different social factors and individual perception of them are the core idea of developed procedure of Individual Motivational Mapping. In the base of this core created procedure for revealing, quantification, visualization and interpretation of individual picture of basic needs satisfaction' (in SDT sense) perception, which combine advantages of qualitative and quantitative methods.

Theoretical ground of procedure is self-determination theory, one of most widely known modern approach with strong empirical basis. On the assumption of SDT, developed model of 3 dimension of life-events perception: perceived autonomy – control (A-dimension), perceived competence – incompetence (C-dimension), perceived relatedness – disrelatedness (R-dimension).

Procedure of Individual Motivational Mapping consists of four steps: 1) to collect the information about personal significant events; 2) subjective assessment of degree of basic needs satisfaction in every event; 3) preliminary analysis; 4) primary analysis. Researcher obtain result set of motivational indexes and visualizations: Motivation Potential of Life Event (MPLE-index), Situational Autonomy Index (SA-index), Situational Competence Index (SC-index), Situational Relatedness Index (SR-index), Lifelong Motivation Potential (LMP-index), Row Matrix Visualization, MPLE-indexes plot, Situational Indexes plot, Factor Loading Plot of structure of life events perception and Tree Diagram for classification of life events perception. On basis of this indexes and visualizations, one performs interpretation and description of individual motivation history and its perception; make personal motivational trending.

Foreseen wide spectrum of approaches of Individual Motivational Mapping – from scientific researches to counseling and psychotherapy.

References

Black, A. E., Deci, E. L. (2000). The effects of instructors' autonomy support and students' autonomous motivation on learning organic chemistry: a self-determination theory perspective. *Science Education*, 84, 740–756.

- Brannen, J. (1992) 'Combining Qualitative and Quantitative Approaches: An Overview', in J. Brannen (ed.) *Mixing Methods: Qualitative and Quantitative Research*, pp. 3–37. Aldershot: Avebury
- Bridges W. (2004). *Transitions: Making Sense of Life's Changes*. Da Capo Press, Cambridge.
- Bryman A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative Research*. SAGE Publications. London, Thousand Oaks, CA and New Delhi. vol. 6(1). 97–113.
- Bryman, A. (2004) *Social Research Methods* (2nd edition). Oxford: Oxford University Press.
- Creswell, J.W. (2003) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (2nd edition). Thousand Oaks, CA: Sage.
- Csikszentmihalyi, M. (1990). *Flow*. New York: Harper & Row.
- Davies B., Harre R. (1990). Positioning: the discursive production of selves. *J. for the theory of social behaviour*. Vol. 20, № 1, p.43-64.
- Deci E.L., Ryan R.M. (1980). The empirical exploration of intrinsic motivational processes. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 13, pp. 39-80). New York: Academic.
- Deci E.L., Ryan R.M. (2000) The "What" and "Why" of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, Vol. 11, No. 4, 227-268
- Deci, E.L. (1971). Effects of externally mediated rewards on intrinsic motivation. *Journal of Personality and Social Psychology*, 18, 105-115.
- Deci, E.L., Ryan, R. M. (1985). The general causality orientations scale: Self-determination in personality. *Journal of Research in Personality*, 19, 109-134
- Duriez B., Soenens B. & Vansteenkiste M. (2007) In Search of the Antecedents of Adolescent Authoritarianism: The Relative Contribution of Parental Goal Promotion and Parenting Style Dimensions. *European Journal of Personality*, 21: 507–527.
- Francella F., Bannister D. *A manual for repertory grid technique*. L.: Acad, press, 1977. — IX, 266 p.
- Gagne M., Deci E. (2005) Self-determination theory and work motivation. *Journal of Organizational Behavior*, 26, 331–362
- Gagné, M. (2003). The role of autonomy support and autonomy orientation in prosocial behavior engagement. *Motivation and Emotion*, 27, 199-223.
- Gagne, M., Ryan, R.M., & Bargmann, K. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology*, 15, 372–390.
- Gergen K.J. (1994). *Realities and relationships: soundings in social construction*. Cambridge (Mass).
- Grolnick, W. S., Ryan, R. M. (1989). Parent styles associated with children's self-regulation and competence in school. *Journal of Educational Psychology*, 81, 143–154.
- Heckhausen, H. (1991) *Motivation and action*. Berlin: Springer.
- Hodgins, H. S., Koestner, R., & Duncan, N. (1996). On the compatibility of autonomy and relatedness. *Personality and Social Psychology Bulletin*, 22, 227–237.
- Johnson, R. B., & Onwuegbuzie, A. J. (2004). Mixed methods research: A research paradigm whose time has come. *Educational Researcher*, 33(7), 14–26.
- Jones, C. (2004). Quantitative and qualitative research: conflicting paradigms or perfect partners? In: Banks, Sheena; Goodyear, Peter; Hodgson, Vivien; Jones, Chris; Lally, Vic; McConnell, David and Steeples, Christine eds. *Networked Learning 2004: a Research Based Conference on E-Learning in Higher Education and Lifelong Learning: Proceedings of the Fourth International Conference on Networked Learning*. Lancaster: Lancaster University, pp. 106–112.
- Kelly, G. A. (1955). *The psychology of personal constructs*. New York: Norton. Reprinted by Routledge (London), 1991.
- Koestner, R., Bernieri, F., & Zuckerman, M. (1992). Self-determination and consistency between attitudes, traits, and behaviors. *Personality and Social Psychology Bulletin*, 18, 52–59.

- Kronik A.A., Orlowek N. (2013) Causometry, lechlecha challenge and cognitive modifiability: How to build a bridge from psychological past to the future. The Jerusalem International Conference on Neuroplasticity and Cognitive Modifiability. Jerusalem, Israel: The Feuerstein Institute, 2013, p. 58.
- Kronik, A., Golovakha E. (2011) The Inner Sense of Age. In B. Pool & E. Stockwell (Eds.), *Infinite Instances: Studies and Images of Time*. Brooklyn, N.Y.: Mark Batty Publisher, 2011, pp. 126-130.
- Muzyka, O.L. (2001). Crises of creative personality: value-subjective approach to typology. Collection of scientific papers of G.S. Kostjuk's Institute of Psychology. P. 63-72. (In Ukrainian, original title: Музика О.Л. Криза творчої особистості: суб'єктивно-ціннісний підхід до типології /Збірник наукових праць Інституту психології ім. Г.С.Костюка АПН України, 2001. – С. 63-72.)
- Osgood, C. E., Suci, G. J., and Tannenbaum, P. H. (1957). *The Measurement of Meaning*. Urbana: University of Illinois Press.
- Petrenko V., Mitina O. (1997). The psycho-semantic approach to political psychology: Mapping Russian political thought. *States of Mind: American and post-Soviet perspectives on contemporary issues in psychology*. New York: Oxford University Press, pp. 19-48.
- Petrenko V.F., Mitina O.V. (2010). Psychosemantic Approach to Studying Gender Role Attitudes. *Psychology in Russia. State of the Art*, 3, 350-411 Psychology. Online abstract digest of psychological.
- Potter J., Edwards D., Wetherell M. (1993) A model of discourse in action. *Amer. behavioral scientist*. Vol. 36, №3. p.383-401.
- Reeve, J. & Deci. E.L. (1996). Elements within the competitive situation that affect intrinsic motivation. *Personality and Social Psychology Bulletin*, 22, 24-33.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality and Social Psychology Bulletin*, 26, 419-435.
- Ryan, R. M. (1982). Control and information in the intrapersonal sphere: An extension of cognitive evaluation theory. *Journal of Personality and Social Psychology*, 43, 450-461.
- Ryan, R. M., Deci, E. L. (2001). On Happiness and Human Potentials: A review of research on hedonic and eudaimonic well-being. In S. Fiske (Ed.), *Annual Review of Psychology* (Vol. 52; pp. 141-166). Palo Alto, CA: Annual Reviews, Inc.
- Ryan, R.M., Connel, J.P., & Deci, E.L. (1985). A motivational analysis of self-determination and self-regulation in education. In C. Ames & R.E. Ames (Eds.), *Research on motivation in education: The classroom milieu* (pp.13-51). New York: Academic.
- Ryan, R.M., Stiller, J., & Lynch, J.H. (1994). Representations of relationships to teachers, parents, and friends as predictors of academic motivation and self-esteem. *Journal of Early Adolescence*. 14, 226-249.
- Shotter J. (1989). Social accountability and the social construction of "You". *Texts of identity L*, ele. , 1989, p.133-151.
- Soenens, B., Berzonsky, M. D., Vansteenkiste, M., Beyers, W., & Goossens, L. (2005). Identity styles and causality orientations: In search of the motivational underpinnings of the identity exploration process. *European Journal of Personality*, 19, 427-442.
- Sugarman L. (2001). *Life-span Development: Frameworks, Accounts and Strategies: Theories, Concepts and Interventions* (New Essential Psychology). Routledge; 256 p.
- Tabachnik B.G., Fidell L.S. (2002). *Using Multivariate Statistics*. 4rd edition. New York: Harper Collins College Publisher.
- Tashakkori, A. and Teddlie, C. (1998) *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. Thousand Oaks, CA: Sage.
- Tashakkori, A. and Teddlie, C. (2003) *Handbook of Mixed Methods in Social and Behavioral Research*. Thousand Oaks, CA: Sage.

- Tytarenko T.M. (2003) Life world of personality: inside and beyond the boundary of daily routine. Kiev. Lybid, 376 p. (In Ukrainian, original title: Титаренко Т. М. Життєвий світ особистості: у межах і за межами буденності. - К.: Либідь, 2003. - 376 с.)
- Valerand, R.J. (1997) Toward a hierarchical model of intrinsic and extrinsic motivation. In Zanna M.K. (Ed.) *Advances in experimental social psychology*. (Vol. 29, pp. 271-360). San Diego: Academic Press.
- Wild, C., Enzle, M. E., & Hawkins, W. (1992). Effects of perceived extrinsic versus intrinsic teacher motivation on student reaction to skill acquisition. *Personality and Social Psychology Bulletin*, 18, 245-251.
- Wild, C., Enzle, M. E., Nix, G. & Deci, E. (1997). Perceiving others as intrinsically motivated: effects on expectancy formation and task engagement. *Personality and Social Psychology Bulletin*, 23, 8, 837-848.
- Williams, G. C., & Deci, E. L. (1996). Internalization of biopsychosocial values by medical students: a test of self-determination theory. *Journal of Personality and Social Psychology*, 70, 767–779.
- Williams, G. C., Deci, E. L., & Ryan, R. M. (1998). Building health-care partnerships by supporting autonomy: promoting maintained behavior change and positive health outcomes. In A. L. Suchman, P. Hinton-Walker, & R. Botelho (Eds.), *Partnerships in healthcare: Transforming relational process* (pp. 67–87). Rochester, NY: University of Rochester Press.
- Williams, G. C., Grow, V. M., Freedman, Z. R., Ryan, R. M., & Deci, E. L. (1996). Motivational predictors of weight loss and weight-loss maintenance. *Journal of Personality and Social Psychology*, 70, 115–126.
- Williams, G.C., Freedman, Z.D., Deci, E.L. (1998) Supporting autonomy to motivate patients with diabetes for glucose control. *Diabetes Care*, vol. 21, #10, October, 1998. 1644-1651.

Article received: 2014-03-10