

SAINT PETERSBURG STATE UNIVERSITY

CONFERENCE

**OUTCOMES OF THE RESEARCH PROJECTS  
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Department of Psychology

**4-5 February, 2014**

Saint Petersburg, 2014

## **Schedule: General Overview**

### **February 4, 2014, Tuesday**

10.00-10.10 – Welcome, Introductions

10.10-11.50 – Plenary Session, Room 227

11.50-12.00 – Coffee Break on 2nd floor (Hall)

12.00-13.00 – Poster Session on 2nd floor (Hall)

13.00-15.05 – Plenary Session, Room 227

15.05-15.45 – Lunch

15.45-17.45 – Workshop «Internal Grants of the Department of Psychology, 2013»  
2013, Room 227

17.45-18.15 – Summary

### **February 5, 2014, Wednesday**

10.00-11.40 – Plenary Session, Room 227

11.40-12.00 – Coffee Break on 2nd floor (Hall)

12.00-13.00 – Poster Session on 2nd floor (Hall)

13.00-14.20 – Plenary Session, Room 227

14.20-15.00 – Lunch

15.00-17.00 – Workshop «Experience of conference participation: research trends,  
contacts and ideas», Room 227

17.00-17.30 – Summary

## **February 4, 2014, Tuesday**

**10.00-10.10** – Welcome, Introductions: Larissa Tsvetkova, Provost; Alla Shaboltas, Dean.

**10.10-11.50** – Plenary Session, Room 227

### **10.10-10.35 – The Role of Functional Brain Systems in the Organization of Cognitive Activity in Depression**

*Principal Investigator:* Olga Schelkova, Ph.D., Professor, [olga.psy.pu@mail.ru](mailto:olga.psy.pu@mail.ru)

*Research team members:* L. Wasserman, B. Ovchinnikov, B. Ershov, A. Tagiltseva, Y. Hozhainova, N. Daeva; L. Schelkunova  
(SPSU Funding, 2011-2013)

The relations emotions and cognitive processes in the scientific psychology are fundamental point in the study of neuroanatomical mechanisms of human mental activity. In the neuropsychiatry and neuropsychology for one of the directions, allowing to determine the relationship cognitions and emotions, is to build a model of the cognitive and affective relations in affective disorders, including depressive disorders.

Main volume of the sample was 320. Among them - the 137 patients suffering from affective mood disorders, and 97 patients with affective disorders due to brain damage, and 86 epilepsy patients with depressive symptoms and without it. Besides clinical scales was used patopsihologicheskikh complex, neuropsychological and psychometric methods and techniques. The results were supplemented with data from MRI studies of 47 patients with affective mental disorders.

Differences between patients expressed slightly and determined mainly memory and spatially -constructive impairment in patients with organic affective disorders. Most informative diagnostic data in distinguishing clinical groups have indicators that reflect the visual- spatial and visual-motor immediate memory, visual-motor coordination and constructive praxis.

Affective disorders entail not only emotional disturbance, but also marked changes of cognitive activity, the structure of which may vary depending on the involvement of different brain regions in the pathogenesis of the disease. Common for patients with depressive symptoms, regardless of etiology and pathogenesis are to reduce the rate of mental processes, weakening activity of attention, limiting the scope of short-term and working memory.

**Keywords:** affective disorders, depression, neurocognitive deficit, pathological and neuropsychological assessment, MRI study, the limbic system.

### **10.35-11.00 – Endocrine and Psychological Determinants of Human Reactions in Stress**

*Principal Investigator:* Valentin Ababkov, Ph.D., Professor, [ababkov@nm.ru](mailto:ababkov@nm.ru)

*Research team members:* A. Shaboltas, O. Bogoliubova, T. Voyt, M. Nikitenko, V. Safonov, R. Skochilov, G. Uraeva  
(SPSU Funding, 2011-2013)

The objective of the study was aimed on complex investigation of endocrine and psychological human reactions in social stress situations as transactional processes. The experimental research method was developed and tested for studying human behavior in lab modeled stresses. The instrumental tasks included: experimental research of stress reactivity; data

analysis with modern mathematical-statistical methods; describing and analyzing of the types of stress reactivity, specificity of the individual's endocrine and psychological (including behavioral) reactions in response to stressful situations. Stress reactivity was assessed in two experimental situations: public speaking stress and interview induced sexual behavioral stress.

The following measurements were used: 3 sets of psychometric questionnaires, 4 express-methods for psychophysiological states assessment and cortisol level express-test in 3 saliva samples (pre- and two post-experiment).

The study sample included 151 young males and females, aged 19 – 34 years old.

Research data supports the consideration that stress reactivity is stable individual's characteristic which is manifested constantly in different stressful situations. The complex correlations between the types of stress reactivity, self-assessment of mental state, psychological characteristics and used coping-strategies were detected. The important data was discovered about the correlation between adverse childhood experience, health risk behaviors and level of stress reactivity. The main results are developed experimental model of human's microstress and piloted methods for it's assessment. The proposed model of experimental stress is based on complex investigation of the cortisol level, psychophysiological and mental parameters. Assessment of cortisol level is considered as objective parameter of stress level. Psychological and mental parameters are much more subjective. The choice of psychometric methods should be based on the specific of evaluation related to experimental situation. The most informative psychophysiological method was tensometry which provided the more objective data.

**Keywords:** experimental stress models, psychological and psychophysiological determinants of stress, individual coping, cortisol.

## **11.00-11.25 – The Informational and Energetic Aspects of Cognitive Performance**

*Principal Investigator:* Marina Kholodnaya, Ph.D., Professor, [o.scherbakova@gmail.com](mailto:o.scherbakova@gmail.com)

*Research team members:* M. Osorina, O. Shcherbakova, Y. Ledovaya, M. Filippova, R. Chernov, S. Miroshnikov, I. Gorbunov, A. Avilushkina, V. Ustinova (SPSU Funding, 2011-2013)

The result of the three-year project is the set of five researches: four of them were aimed to explicate the psychophysiological correlates of mental effort (in terms of HSR, HRV, EP, EEG) while various cognitive tasks solving and the fifth one was devoted to the studying of the semi-structured deep interview as a method for the explication of one's individual conceptual experience. The first research showed that HRV changes while the increase of mental effort (during the Stroop Test solving); there are also differences in patterns of HRV between the subjects with higher and lower strength of inhibition. The second research showed that there is the increase of mental effort (in terms of EP) while perceiving the ambiguous information. The third research showed that in terms of EEG, HSR and HRV the more effective the cognitive operations are the less physiological activation provides them (the results correspond to the neural efficiency hypothesis). In the fourth one the results were as following: reflectivity and impulsivity differ in terms of the amount of mental energy consumption supporting these two different types of perceptual scanning. Reflectivity requires more mental effort than impulsivity. In the fifth research there was described the method of deep semi-structured interview as the tool for one's individual conceptual experience explication.

**Keywords:** cognitive performance, mental effort, galvanic skin reaction, electroencephalography, evoked potentials, heart rate variability, neural efficiency hypothesis.

## **11.25-11.50 – Cognitive Mechanisms of Social Action**

*Principal Investigator:* Viktor Allakhverdov, Ph.D., Professor, [vimiall@gmail.com](mailto:vimiall@gmail.com)

*Research team members:* A. Karpov, I. Ivanchei, E. Voskresenskaya, V. Gershkovich, V. Karpinskaya, S. Manichev, S. Lisanyuk, V. Perov, P. Shapchits, N. Kononova, G. Artemov, D. Shyukin, N. Moroshkina  
(SPSU Funding, 2011-2013)

**Introduction.** The aim of the project was to create common theoretical context for the investigation of the cognitive models regulating the process of social interaction.

**Methods.** The methods of the experimental psychology, the analysis of the organizational structure, logical and pragmatic analysis, and also methods of the assessment of the moral attitudes were used to conduct interdisciplinary study.

**Results.** We conducted the critical analysis of the literature on the problem of the cognitive mechanisms of the social action, the logical and pragmatic analysis of the verbal interaction, the discussion and the development of the designs for the experimental studies. Then the data was collected. It was demonstrated that the acquisition of the regularities related to the social interaction and their transfer to the different tasks are possible on the level of unconscious information processing. On the next stage the final series of the experimental studies, dedicated to the description of the mechanisms of the erroneous actions occurrence in the process of the social interaction was conducted.

**Conclusions.** We conduct the series of the studies within the frameworks of the modern psychology, the logical and pragmatic analysis and the analysis of the moral attitudes to investigate the mechanisms of social action. The novelty of our work is determined by the integrative approach to the research subject that allowed us to describe the psychological concepts in terms of the logical and pragmatic analysis.

**Keywords:** consciousness, cognitive mechanisms, social interaction, pragmatic analysis, moral attitudes, knowledge sharing.

**11.50-12.00 – Coffee Break on 2nd floor (Hall)**

**12.00-13.00 – Poster Session on 2nd floor (Hall)**

### **International Research on Biosocial Determinants of HIV Transmission and Prevention in Women**

*Principal Investigator:* Alla Shaboltas, Ph.D., [a.shaboltas@psy.spbu.ru](mailto:a.shaboltas@psy.spbu.ru)

*Research team members:* L. Tsvetkova, E. Burina, Y. Batluk, A. Naledov, R. Skochilov, T. Krasnoselskikh, E. Mitrofanova  
(Russian Foundation for Basic Research & NIH, 2013-2014)

The research is focused on fundamental issue – identification and investigation of biosocial and cognitive factors influencing health protection and risk behaviors associated with HIV transmission in women. The main objective of the study – to study organizational, medical, social and psychological determinants which play significant role in HIV testing and the process of decision making about testing in women.

The total sample size 400 females, age range 18 - 44 y.o. representing the general population. The recruitment will be conducted at the medical out-patient facilities in St.Petersburg. The inclusion criteria's include: willingness to participate; no pregnancy; no recent HIV testing; Russian speaking; no medical or psychological conditions which could be a barrier for understanding informed consent and study participation.

The behavioral experiment as part of the study will include two types of randomly assigned HIV testing procedure (express-test with 20-30 minutes waiting time for results) : (1) HIV testing as

single diagnostic (opt-out); (2) HIV testing as part of several diagnostic tests on different health conditions (opt-in) – level of sugar in blood, cholesterol, hemoglobin. Women who will reject HIV testing will be invited to participate in the focus-groups with other women who agreed to be tested. Participants will be able to share their experience or concerns about HIV testing and the ideas about the best HIV testing practices.

The research will provide significant data on the types and level of influence of different barriers for HIV testing in women, the differences between testing strategies and specific of group influence on the process of decision making about testing. The research outcomes could be used for the developing of effective prevention programs important for individual and public health.

**Keywords:** HIV infection, women, alcohol, risk behavior, prevention, HIV testing

## **Development of Risk Behavior in Ontogenesis: Risk Acceptance on Subculture and Group Levels**

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*Research team members:* N. Antonova, [I. Gurvich](#) N. Vasilyeva, K. Eritsyman, A. Mahamatova

(Russian Foundation for Basic Research, 2013-2015)

The present theoretical and methodological phase of the project is based on systematization of approaches to the study of risk behaviors in the modern social sciences and humanities.

Methods: analysis, classification and systematization of theoretical and empirical data and approaches that exist in the world of science.

The results of the 1st phase of the study: 1) Conceptualization of risk behavior in the ontogenetic aspect. Distinction of objective and subjective risk is a fundamental for theoretical and empirical study of risk behavior. Risk behavior is peculiar to every person throughout the course of his/her life - from birth to death. From the point of view of formation risk-taking early stages of the life cycle - childhood, adolescence, adolescence, early adulthood period – have greatest interest for study. 2) Systematized discourses of risk behavior. Nowadays there are several most popular psychological interpretations of risk behavior: psychodynamic paradigm, cognitive behavioral paradigm, econometric approach, clinical (psychopathological) approach, and approaches from the standpoint of social learning theory, theories of stress and deviant behavior. 3) It were developed methodological foundations of empirical research study of risk behaviors.

Conclusions. One should distinguish between risk behavior as a manifestation of a certain personality trait and risk-taking behavior as a reaction, i.e., the response to the situation's challenges. Risk acceptance and risk behavior patterns are also influenced by cultural and subcultural factors and factor of belonging to particular formal and informal groups, which could be considered as a precipitating factors. Theoretical model (flowchart) formation of risk behavior in ontogenesis was created.

Gurvich I.N., Tsvetkova L.A., Antonova N.A., Eritsyman K.Y. Conceptualization of risk behavior in psychological science (the article was accepted for publication in Vestnik of SpBU).

**Keywords:** psychological content of risk behavior, risk-taking, ontogenesis, discourse, a theoretical model, flowchart.

## **Cognitive Mechanisms of Visual Perception of Social Interaction Situations in Norm and Pathology**

*Principal Investigator:* Mikhail Zotov, Ph.D., Professor, [mvzotov@mail.ru](mailto:mvzotov@mail.ru)

*Research team members:* N. Andrianova, A. Voyt, K. Dolbeeva, V. Petrukovich, A. Gaievsky, V. Klayman, O. Shmonina, A. Fedorova

(Russian Foundation for Basic Research, 2013-2015)

We elaborated program and mathematical software for non contact eye movement registration system Tobii X120, which allowed to realize methodical approach, implying change of presented visual information depending on registered in real-time eye fixation of participants (gaze-contingent paradigm). Eight researches were conducted. These researches were focused on studying processes and mechanisms of social interaction, including processes of brief recognition of extrafoveal information about social objects, processes of tracking direction of characters view and processes of brief detection of interested object, processes of saccadic targets selection during social real-world photograph and videos perception.

Eighty milliseconds are enough both for recognition of information about social peripheral objects and for accurately assessment of object's spatial localization, allowing to realize saccadic eye movements toward these objects. To select saccadic targets, an extrafoveal information comparison about several perceptual objects requires additional timing outlay. Recognition and assessment of spatial location of objects, presented in visual scenes, occurs in conditions of short-term peripheral perception of several visual scenes. Low-level visual characteristics analysis and perceptual context analysis occurs in these conditions too. We retrieved new scientific data about mechanisms, which underlie the healthy individuals' ability of effective tracking direction of scenes characters view and ability of brief detection of interested object. We analyzed how forming conceptual model influences processes of saccadic targets selection during perception of social real-world videos. Patients with affective disorders show dysfunction of retention of information about visual details of stressful events in short-term memory, by storing only general conceptual information about content.

**Keywords:** visual perception, eye movements, social situations, social attention, neuropsychiatric disorders, schizophrenia

## **Implicit Learning: Mechanisms of Development, Functioning and Awareness of Tacit Knowledge**

*Principal Investigator:* Nadezhda Moroshkina, Ph.D., Associate Professor, [moroshkina.n@gmail.com](mailto:moroshkina.n@gmail.com)

*Research team members:* V. Gershkovich, I. Ivanchei, A. Karpov  
(Russian Foundation for Basic Research, 2012-2014)

**Introduction.** The project is dedicated to the description of the implicit learning mechanism. Implicit learning is a process of incidental knowledge acquisition with inability to express it verbally.

**Methods.** In the course of 2013 the experimental methods for implicit learning exploration were refined and three experiments were conducted to investigate the possibility of the implicit knowledge transfer to new stimuli and situations.

**Results.** In accordance with our aims, the research in 2013 were concentrated on the investigation of the factors influencing strategies that the participants use during learning. We investigated the factors, provoking analytical strategy in the complex stimuli classification. The role of the cognitive styles was also investigated.

**Conclusions.** As a results of the study we made a description of situational and individual factors determining the contribution of the explicit and implicit knowledge in the decision making process in the classification of the socially relevant (faces) and neutral (letter strings) stimuli.

**Keywords:** consciousness, implicit learning, implicit and explicit knowledge, cognitive unconscious.

## **Complex Study of Personality Potentials and Resources in Different Periods of Adulthood**

*Principal Investigator:* Marina Petrash, Ph.D., Associate Professor, [mp.07@bk.ru](mailto:mp.07@bk.ru)

*Research team members:* O. Strizhitskaya, A. Shevchuk, N. Alexandrova  
(Russian Foundation for Basic Research, 2013-2015)

Project is dedicated to investigation of resources and potential system of an adult. Project is focused on internal resources of a person during later periods of his development – late adulthood and aging. These periods can be called a time when person possesses a great professional a personal experience. Both Western and Russian researches underline deep interaction of career and personality at this period. Among most significant tasks of this period we can name a need to forward this experience to younger generations though professional supervision and other forms of activity. It is important to mention that in many professional fields need and readiness to forward their experience is correlated not only with physical state but also with subjective well-being. For the formation of such readiness we need understanding of factors and mechanisms of this phenomenon not only in later life, but also in previous periods.

In accordance with project plan during first year theoretical model of potentials and resources system was developed, pilot study was conducted. Considering pilot study results, study designed was modified for further investigation.

**Keywords:** personality resources, personality activity, personality potential, professional development.

### **Processing of Irrelevant Features in Visual Tasks**

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*Research team members:* A. Kulieva, P. Iamshchinina  
(Russian Foundation for Basic Research, 2012-2014)

The main objective of the project was to review the allocation of irrelevant features of the object and to define the influence of these features processing on the main task. It was assumed that processing of irrelevant features of the object could be part of active hypotheses testing. Once hypotheses about the task are revised then object-based attention is attracted. Lack of the control over the implementation on hypotheses verification draws feature-based attention. The main method: multiple objects tracking task with an additional object as potentially detectable target. We examined the inattention blindness task level (which is failure to notice the additional object once its features are intersected with the features of targets and distractors) and the main task efficiency (which is tracking the four targets and counting their bounces off the edges of the window). In 2012 we explored ways of varying irrelevant features of the targets with respect to the whole task, and in 2013 were considered irrelevant characteristics of distractors and additional object. We defined the properties of the task under which irrelevant features of targets and distractors could be put apart. Results confirm the hypothesis that the irrelevant attributes of the targets are processed, but actively suppressed later. Processing of distractors in inattention blindness task is also associated with partial neglect. Suppression that occurs with respect to the distractor apparently does not occur with respect to an additional object if it is in the middle of the dichotomous classification (target - distractor). Together, according to all of the experiments we can say that multiple objects tracking task involves a work of featured -based attention.

**Keywords:** irrelevant feature, inattention blindness (IB), feature-based attention

### **Psychophysiological Mechanisms of Cognitive Fatigue in Norm and Pathology**

*Principal Investigator:* Mikhail Zotov, Ph.D., Professor, [mvzotov@mail.ru](mailto:mvzotov@mail.ru)

*Research team members:* N. Andrianova, A. Voyt, K. Dolbeeva, V. Petrukovich, I. Akhmedova, V. Klayman, O. Shmonina, A. Fedorova  
(SPSU Funding, 2013-2015)

This research is aimed at studying psychophysiological determinants of mental fatigue in norm and pathology, in accordance with the previously developed concept of cognitive regulation.

The first stage was aimed at studying regularities of mental fatigue development in healthy subjects and patients with mental disorders. Relying on different cognitive tasks, we conducted an analysis of regulation characteristics of sensory-perceptual, intellectual-mnemonic components of cognitive activity in healthy participants and patients with schizophrenia. We used modified versions of the Multi-Attribute Task Battery (MATB) and the experimental procedure «Route». The study results showed increased fatigue of patients with schizophrenia, when they performed different types of sensorimotor tasks, was associated with excessive and ineffective oculomotor activity, caused difficulties of a voluntary regulation of saccadic eye movements. Dysfunctions of oculomotor activity regulation are associated with mobilization difficulties of cognitive resources and the preparatory set forming during an initial work period. Using ineffective strategies of the information processing in working memory, associated with excessive elements in a cognitive regulation system, healthy subjects fatigued more quickly both in conventional conditions and in conditions of hypoxia impact. Experimental data prove that a cognitive training, aimed at optimizing the cognitive activity regulation system, significantly increases stability of mental fatigue development. We studied fatigue dynamic of subjects in simulated conditions of a professional activity and detected typical changes of heart rate nonstationary periods characteristics, arising as response to load increase. The experimental results expand an existing representation about the mental fatigue development mechanisms in norm and pathology.

**Keywords:** mental fatigue, cognitive processes, oculomotor activity, heart rate nonstationary periods, regulation of cognitive activity, mental disorders.

## **Building the Statistical Discourse of Psychology during the Process of Psychological Education in Saint-Petersburg State University**

*Principal Investigator:* Andrey Nasledov, Ph.D., Associate Professor, [andrey.nasledov@gmail.com](mailto:andrey.nasledov@gmail.com)

*Research team members:* D. Volkov, S. Morozova, A. Chetverikov  
(SPSU Funding, 2013-2015)

In the report, we present the results of a study of statistics discourse in psychology (SDP). We conducted a state-of-the-art review of SDP in Russian and foreign psychology and developed a theoretical model of the system of statistical notions in psychology. We conducted three empirical studies. The first two of them provide support for the proposed statistical model of SDP. A simple knowledge of how to use data analysis software is not enough to write successfully the reports on psychological studies and the special education of SDP is necessary. When subjects have successfully learned the material, at the time of exams they have developed a hierarchical system of mathematical methods (SMM) as is evident by their subjective easiness and attractiveness. The third study utilized an analysis of the “Theses base” (2005-2013) which was also developed as part of this project. During the analyzed period students’ system of statistical notions expanded, the use of paired correlations decreased in favor of two-sample comparison methods. Among simpler methods, the frequency of non-parametrical criteria increased. The simpler methods are used more often than the ones that are more complex. Among complex methods the frequency of multiple regression analysis use increased, different forms of factor analysis become more differentiated, and the structural equation modelling is still unreasonably infrequent.

**Keywords:** statistical discourse in psychology, methodological discourse, the system of statistical concepts, psychological community, statistical methods, mathematical models

## **Functional Blindness as a Phenomenon of Exogenous Attention**

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*Research team members:* P. Iamshchinina

(Grant Council of Russian Federation President, 2013-2014)

The purpose of this year is to study the reaction of surprise in functional blindness tasks (in particular inattentional blindness) within the definition of "grand illusion" of perception (surprise that occurs in perceptual errors). Surprise is considered to be a cognitive reaction to exceeding expectations. Results of experiments in sustained inattentional blindness paradigm, suggest that the stimulus that defies categorization within the performed task refers to the same level of inattention blindness (from 30 to 60 %), as an incentive that defies categorization. A prediction of the appearance of a new object, made the subject, does not reduce the level of inattention blindness. The results of experiments in the paradigm of «rubber hand illusion» suggest that, despite the high level of exposure to this illusion, the subjects do not show spontaneous reaction of surprise. Results of empirical research in the paradigm of "misdirection of attention" suggest that joint attention (eye contact) reduces the level of inattention blindness, but does not reduce the assessment of surprise reaction if the subject does not notice changes in the situation. In general, reaction of surprise in the case of exposure to inattention blindness is related to the possible categorization of additional object in terms of the observed situation. Verbal signs of surprise depend on the type of testing of the hypothesis about the discovery of a new object (self or by the experimenter). Part of the reaction of surprise is formed by the additional question of the experimenter that provokes reassessment of the situation and at least comparison of what the subject has observed that he/she could miss. If reassessment of the situation does not occur, we can not observe the reaction of surprise.

**Keywords:** inattentional blindness, "grand illusion" of perception, reaction of surprise, involuntary attention.

### **Self-Determination of Development in Later Adulthood and Aging: Cognitive, Emotional, Personality Aspects**

*Principal Investigator:* Olga Strizhitskaya, Ph.D., senior lecturer, [o.strizhitskaya@psy.spbu.ru](mailto:o.strizhitskaya@psy.spbu.ru)

*Research team members:* N. Alexandrova

(Grant Council of Russian Federation President, 2013-2014)

Adult development always has been a discussional field. While many researchers from psychological disciplines proved that an adult and even an aging person has the capacity, potential and resources for mental and psychological development, many people continue considering adulthood and aging as periods of stagnation and regression.

Participants: 276 people aged 55-78 (154 retired but continuing working, 122 – retired, not working). Methods used were: Self-regulation Questionnaire by V. Morosanova, "Method of self-attitude study" by S. Pantileev, Self-actualization test by A. Lazukin modified by N. Kalin. To measure positive effect of self-determination was used Subjective well-being test, originally developed by C. Ryff; interview based on quality of life questionnaire (subjective health). As mediator of self-determination some personality regulation mechanisms were considered (coping-test by Lazarus, locus of control by Rotter). To estimate cognitive functions: behavioral memory test Rivermide-3, "mixed lines", Bourdon test. To estimate emotional functioning SAT projective test was used.

Level of life satisfaction and subjective well-being didn't reveal any differences in terms of age or gender and had average scores. Self-determination structure analysis using regression analysis showed high integration, components have close between-component correlations while in-component correlations are not that integrated. Maximum correlations were found with "capacity to establish contacts" that proved crucial importance of social relationships for subjective well-being of aging people. Self-determination appeared to be a significant resource for aging people to maintain both mental and physical health. Further mediator analysis showed that aging people with

different level of “social relationships” interaction between self-determination and subjective well-being is mediated by different characteristics.

**Keywords:** self-determination, personality activity, autonomy, positive aging, development, personality resources.

### **13.00-15.05 – Plenary Session, Room 227**

#### **13.00-13.25 – Research Potential of Student**

*Principal Investigator:* Nina Bordovskaia, Ph.D., Professor, [nina52@mail.ru](mailto:nina52@mail.ru)

*Research team members:* N. Moskvicheva, S. Kostromina, S. Rosum, L. Darinskaia, N. Iskra, T. Dvornikova, M. Pahmutova, D. Gnedykh  
(SPSU Funding, 2011-2013)

The problem of potentials is a significant in psychology. But there are still not studied psychological foundations of successful's person as researcher and the effectiveness of his research activity (RA). Our task was the search of theoretical foundations and designing methodology of the research potential (RP) study, selection, validation and disclosure of psychological factors influencing the effectiveness of its realization by the students.

**Methods:** modeling, psychodiagnostic methods of studying motivation, cognitive and personality features of students, expert assessment, content analysis, survey, statistical methods.

**Results:** The structural-functional model and the methodology for studying the RP were created; the differentiation psychological characteristics of students depending on their level of RP were revealed and described; personality typology of undergraduates successfully implemented its RP was disclosed. The split growth of RP components of students and its dependence on conditions of learning environment were empirically proven.

**Conclusions:** RP as prognostic characteristics of human are established by structure-functional components (motivational, cognitive, behavioral) and includes assessment of their manifestation in RA as research initiative, the scientific-information extent, form of mental experience organization, non-triviality, self-organization skills). The theoretical basis of RP study is its isomorphism of RA. The levels of research potential development are directly related to the levels of education (bachelor, master, teacher). Time perspective, character features (self-control/impulsive, emotional stability/instability, expressiveness/practicality), self-attitude and cognitive variables (originality, reflexivity and theoretical abilities) are psychological factors of RP development. The future orientation, practicality and inherent worth are predictors of RP implementation in the University.

**Keywords:** student, research activity, research potential.

#### **13.25-13.50 – Psychology of Occupational Health among University Teachers**

*Principal Investigator:* German Nikiforov, Ph.D., Professor, [prof@psy.spbu.ru](mailto:prof@psy.spbu.ru)

*Research team members:* E. Starchenkova, N. Vodopyanova, R. Berezovskaya, E. Petanova  
(SPSU Funding, 2011-2013)

The problem of occupational health prevention and promotion is important for working capacity, efficiency and quality of scientific/pedagogical activity among university teachers. This problem gains special relevance in conditions of higher school reform and global transformations in society that increase the level of stress and risk for occupational health.

Participants were 211 university teachers (90 women, 121 men, aged from 24 till 76 years, length of experience from 1 to 54 years; 64% teachers of natural-science and 36% - of humanities). Health indicators at physical, psychological and social levels were measured using the special

technique which has been developed for assessment of university teachers' occupational health on the basis of biopsychosocial model.

The higher risk for occupational health have the teachers of humanities comparing with their colleagues from natural-science faculties; the senior teachers and assistants in comparison with associate professors and professors. The integrated approach to psychological support of occupational health and recommendations about health promotion on personal and organizational levels are developed. The situational, organizational and individual risk factors for university teachers' occupational health are described.

The administration and trade-union organization of Saint-Petersburg State University have to work out and realize the policies of human recourse management taking into account the revealed risk factors and the developed recommendations of psychological support of teachers' occupational health. It is necessary to work out the psychological program for occupational health promotion and realize it as a part of organizational culture in all divisions of University.

**Keywords:** occupational health psychology, occupational health, criteria and factors of occupational health, burnout syndrome, university teachers, principals of the prophylaxis and support of high school teachers' occupational health.

### **13.50-14.15 – Psychological and Political Model of Interaction between Citizen and State**

*Principal Investigator:* Anatolij Zimichev, Ph.D., Professor, [azimichev@yandex.ru](mailto:azimichev@yandex.ru)

*Research team members:* N. Sveshnikova, M. Solov'eva, A. Zabarin, N. Leont'eva, M. Volynskaja  
(SPSU Funding, 2012-2013)

The work purpose: working out of theoretical and methodological base of civil psychology as areas of political psychology for creation of psychological and political model of interaction of the citizen and the state. Research methods: interview, polls, modeling, questioning, expert estimations, matematiko-statistical processing of results of research. Object of research: 1. Students of High Schools and a college of St.-Petersburg (2640p.), 2. People with the higher education, not concerning civil service (500p.), 3. Experts, including representatives legislative, executive and judicial authority of the Russian Federation (150p.). Within the limits of research the following themes making a basis of civil psychology are developed and presented: 1) base categories (taxonomy of concepts) civil psychology from positions of the interdisciplinary complex approach, natural-science methodology and the is formal-logic description are developed; 2) analytical working out of base categories of civil political and legal culture is spent; 3) the psychological and political analysis of identification processes during an epoch of sociopolitical transformations is carried out, 5) the estimation of the ethno psychological bases of tolerant interaction of representatives of various cultures and subcultures of the Russian society (on an example of St.-Petersburg) is presented: 6) the psychological and political analysis of existing Russian legal system is carried out. As a result of research and the corresponding data processing, became obvious that the unambiguous perception of standard documentation completely is absent! By results of the conducted research it is formalization and adequate modeling of interaction of the state and the citizen are impossible. As consequence - it is necessary to continue the research answering to tasks in view.

**Keywords:** civil psychology, citizen, political and legal culture, civil consciousness, state, identity.

### **14.15-14.40 – Methodology of Maladaptive Behavior's Investigation (Medico-Social and Psychological Aspects)**

*Principal Investigator:* Gorbatov S.V., Ph.D., Associate Professor, [s.gorbatov@bk.ru](mailto:s.gorbatov@bk.ru)

*Research team members:* S. Milutin, A. Shaboltas, T. Shelonina., E. Krasko

(SPSU Funding, 2011-2013)

**Background.** On the one hand, maladaptive behavior's investigations are conducted actively and this theme represented widely in literature. On the other hand, unified diagnostic and expert approach to the maladaptive behavior's analysis is not formed as yet. Questions of diagnostic by this behavior as integrated and united phenomenon, but equipped of its own systemic diversity, are not completely examined. Conducting of the research was conditioned by topicality of questions in maladaptive behavior's investigation, and also by requirement of unific methodological approach to diagnostic of adaptation/desadaptation's mechanisms, heterogeneous in their own character and genesis (biological, psychological, pathological and non-pathological ets.).

**Methods.** Method of observation, projective methods, clinical method, method of expert evaluations, analytical method, neuropsychological method, methods of coping strategies' evaluation

**Results.** The expert and diagnostic algorithm was approved, which contain methods of observation and projective methods in the cluster of integrated evaluation, and methods associated with parameters: neuropsychological methods of evaluation in personality's preponderated coping strategies, in cluster of detailed evaluation. The results were revealed, which simultaneously distinguish as illustrative for an integrated maladaptive behavior's picture, as well of detailed examination by maladaptive behavior's degreases, manifestations and determinants. For example, the observation made it possible to concretize the maladaptive behavior in them own realized, impartially fixed forms; and by projective method this behavior was clearly defined as follows from characteristics of integrated and stable personality's inner construct, which deflect the behavior away from generally accepted adaptive norms. Methods of cluster of detailed evaluation have allow to delimit a determining of behavior's forms by cerebral or personality mechanisms, and also to separate maladaptive forms of behavior with pathological conditioning – from maladaptive behavior on the basis of mental health.

**Conclusions.** The results of investigation may have recommended for using as at improvement by effectiveness of available programmes for maladaptive behavior's prophylaxis, as well for planning of a new similar programmes.

**Keywords:** behavior, psychology, desadaptation, appraisal by experts, diagnostic algorithm, methodology

#### 14.40-15.05 – "Development a diagnostic tool wich could predict behavioral risks in health and law-abiding among young people"

*Principal Investigator:* Iosif Gurvich, Ph.D., Professor

*Research team members:* N. Antonova, F. Gurvich, N. Vasilyeva, K. Eritsyana, A. Mahamatova, Spirina V., A. Avilushkina, A. Batustin

(SPSU Funding, 2012-2013)

The project aimed to develop the diagnostic tool focused on behavioral risks (deviance and delinquency) among teens and their predictors. This aim was achieved throw the number of stages and procedures, including 1) study of social perceptions of deviance among different professional groups and adolescents, 2) design of the primary form of the test based on expert evaluation of test's components; 3) verification of the scales on internal consistency, discriminative measures, distribution characteristics and external validation based on empirical study among adolescents (N=305). Based on the study results several articles and conference thesis were prepared, as well as methodological toolkit. Also methodological seminar was conducted where study results were presented for specialists.

**Keywords:** Adolescent health, deviation, delinquency, psychodiagnostic test, prevention, correction

**15.05-15.45 – Lunch**

**15.45-17.45 – Workshop «Internal Grants of the Department of Psychology, 2013», Room 227**

### **Interaction of Individual Variable and Characteristics of the Task in Problem Solving**

*Principal Investigator:* Victor Allakhverdov, Ph.D., Professor, [vimiial@gmail.com](mailto:vimiial@gmail.com)

*Research team members:* A. Odainic

(SPSU Funding, 2013)

In the process of iterated solution of one-type cognitive tasks the subjects tend to repeat their previous both correct and wrong answers, while the reasons of such repetition are unclear up to date. It was stated that the after-effect of unconscious choice is due to such parameters of performance as effectiveness (accuracy of solution), learning effect and confidence value, i.e. they are part of the common process of task solution, but does the solver influences aftereffect tendency or it is an universal cognitive phenomena? To test the main hypothesis was conducted three experiments using arithmetic, mnemonic and perceptual tasks. All tasks were presented in three series of each test. It turned out that the strength of aftereffect between different tasks for each subject is not different. I.e. each solver shows a sustainable tendency to repeat his previous responses. Comparing the effect strength between solvers found that in the perceptual task, all solvers have the same sustainability in repeating their answers. In mnemonic and arithmetic tasks were found significant differences between aftereffect strength. Thus, it turns out that the more complex the problem (based on the average efficiency), the more significant differences are observed not only in the efficiency, but also in the tendency to preserve the previous answers.

**Keywords:** aftereffects of unconscious choice, problem solving, consciousness, cognitive unconscious

### **Cognitive Components of Media Competence of Voters as a Factor of Their Political Behavior**

*Principal Investigator:* Tatyana Anisimova, Ph.D., Associate Professor, [anissim@psy.pu.ru](mailto:anissim@psy.pu.ru)

*Research team members:* K. Bakuleva

(SPSU Funding, 2013)

Nowadays the person continuously creates new ways of communication. This process changes not only the information environment, but also compels the person to develop new skills and abilities. Research of influence of new information technologies on political behavior of voters began to take a special place in political psychology. Our paper discusses the features of the study of media competence of voters in political psychology.

The objects of research were voters aged 18 to 67 years old, living in St. Petersburg.

The following methods were used: multi-factor questionnaire FPI (form B), the method of semantic differential and author profiles.

During the study the basic components of media competence and psychological characteristics of the personality were described. The results of empirical studies of media competence of the voters were presented. The paper analyzes the images of modern Russian political leaders formed by voters. The elements of political images in groups of voters with different levels of media competence were examined. The main characteristics of evaluation of media information were presented. The analysis of the correlations between the preferred media, the

level of media competence of voters and the degree of political participation of the electorate were conducted.

Results of the study allow to infer that the media competence of voters is related to their perception of political images and further political participation. Russian voters who have a high level of media competence have more clear representations about politicians, more tolerant for authoritarianism in politics but more critically perceive the statements and actions of the leading political leaders.

**Keywords:** media competence, media psychology, cognitive features, political behavior, political participation, political image.

## **Regularities of Visual Perception and Mnestic Processing Affective Social Information in Depressive Disorders**

*Principal Investigator:* Mikhail Zotov, Ph.D., Professor, [mvzotov@mail.ru](mailto:mvzotov@mail.ru)

*Research team members:* N. Andrianova, Y. Khozhainova  
(SPSU Funding, 2013)

This research was aimed at studying regularities of visual perception and mnestic processing affectively meaningful social information in depressive disorders. Dysfunctions of mnestic processing visual material in perception of static (photographs) and dynamic (videos) social information of emotionally negative content were considered. We elaborate an original method of studying mnestic processing information in perception of static and dynamic images of social situations. Subjects were presented with static expositions and short videos of positive, negative and neutral content. Then subjects were asked to identify local fragments of previously presented visual material. 43 healthy controls and 38 patients with depression participated in this study. Indicators of success in identification of image fragments were examined and eye movements were recorded during the research. Data were processed using one-factor and two-factor ANOVA.

Depressive patients, in contrast to healthy individuals, demonstrate recognition dysfunctions of static and dynamic negative social images fragments (not positive and neutral). These dysfunctions impacted on recognition and perceptual characteristics of patients' activity. Thus, patients with depressive disorders show representations formation dysfunctions of specific details of the negative social situations. The results also show that depressive patients are able to distribute attention between positive, negative and neutral images, when it shows simultaneously. The instruction, stimulating to view all image elements, explains these results. Based on experimental data we have developed a theoretical model of dysfunctions of processing affective negative social information in depressive disorders, which might be used in developing new psychological diagnostic methods and techniques of psychological correction of affective disorders.

**Keywords:** depressive disorders, visual perception, mnestic processing, affective social information, non contact eye movements registration.

## **Study «Benign Envy» and «Malicious Envy» in Interpersonal Communication**

*Principal Investigator:* Leonid Kulikov, Ph.D., Professor, [leon-piter@rambler.ru](mailto:leon-piter@rambler.ru)

*Research team members:* A. Pilishina  
(SPSU Funding, 2013)

The problem of studying the sensual sphere of man represents an increased interest on the part of psychologists.

The purpose of research is the study of situational conditionality «benign envy» and «malicious envy» in interpersonal communication. Was held a theoretical analysis, organized research on a sample of 20 - 35 years, reveals the essence «benign envy» and «malicious envy», content, structure and forms in the context of interpersonal relationships, investigated the role of «benign envy» and «malicious envy» in social interaction.

In this study, we used the following methods: a comparative analysis of foreign and domestic literature, profile "Presentation of envy", free association experiment, aimed associative experiment (research method envy unfinished sentences), questionnaire «Manifestation of envy and self-esteem", personal differential C. Osgood technique PCHO (L. Kulikov), methods of mathematical data processing using software packages EXCEL ( methods of descriptive statistics ), U- Mann Whitney - Wilcoxon T , PASW Statistics 17.0 SPSS.

Envy as a psychological phenomenon is ambivalent: it can be both positive and negative. «Benign envy» mobilizes and facilitates self-actualization of the subject of envy, «malicious envy» impairs relationships and undermines the position of the subject of envy. Simultaneously two types of envy initializes a number of internal resources, abilities of the subject of envy. Mechanisms are the envy update comparison and evaluation. The comparison and evaluation is carried out revaluation and devaluation of the qualities of self and excessive idealization of merit "other." This study contributes to the formation of the social psychology of envy.

**Keywords:** envy, social comparison, difficulty communicating, interpersonal relations, benign envy, malicious envy.

### **Dynamics of Cognitive Function of Patients with Coronary Heart Disease during Rehabilitation after Coronary Artery Bypass Surgery**

*Principal Investigator:* Olga Schelkova, Ph.D., Professor, [olga.psy.pu@mail.ru](mailto:olga.psy.pu@mail.ru)

*Research team members:* D. Eremina  
(SPSU Funding, 2013)

The object of study is the dynamics of cognitive function of patients with coronary heart disease during rehabilitation after coronary artery bypass surgery. Purpose - to study cognitive function of patients with coronary artery disease receiving high-tech surgical treatment: their structure, dynamics, connection with clinical, emotional and personal characteristics of the patients.

Clinical, psychological and experimental psychological study of cognitive function of patients with coronary heart disease during rehabilitation after coronary artery bypass surgery, implemented with a specially selected set of psychodiagnostic methods, was conducted.

The results can be used for lectures and seminar and workshops with students of the Faculty of Psychology State University, studying for a degree of "Clinical Psychology", as well as for medical students at St. Petersburg State University part of the training course "Medical Psychology".

The results can be used in the somatic hospital cardiology for: improvement of existing schemes of rehabilitation of CHD patients, the differential diagnosis of cognitive impairment conducted to refine the first treatment of these conditions, the development of the principles of psychosocial rehabilitation of patients with coronary artery disease.

**Keywords:** coronary heart disease, cognitive function, rehabilitation, coronary bypass surgery.

### **Study of the Mechanisms of Inferential Evaluation of Unconscious Information Availability Using the "Tip-of-the-Tongue" Phenomenon**

*Principal Investigator:* Andrey Chetverikov, Junior Research Associate, [a.chetverikov@psy.spbu.ru](mailto:a.chetverikov@psy.spbu.ru)

*Research team members:* V. Klayman, A. Fedorova, O. Shmonina  
(SPSU Funding, 2013)

"Tip-of-the-tongue" phenomenon attracts attention due to its curiosity: one feels that she knows something, but she cannot remember what she. Despite the fact that this phenomenon has been described even in the works of W. James, the question why does it occur remains opened. This

project is aimed at the analysis of this phenomenon from the meta-cognitive perspective (Schwartz & Metcalfe, 2011) complemented by the ideas of affective feedback in the process of answer-related hypothesis testing. This approach suggests that "Tip-of-the-tongue" phenomenon is caused by the mechanism of inferential evaluation of the availability of unconscious information. Inferential evaluation allows gaining access to the information about the presence of availability of forgotten word in memory, even when the direct access to the forgotten word is impossible. This allows explaining, how is the dissociation between awareness of the answer itself and awareness of the knowledge of the answer. Basing on the notion of affective feedback it is suggested that during initial memory search a positive affective experience signals the potential availability of the answer. However, as the word itself is inaccessible (due to the lack of activation or due to the presence of active distractors), the consequent attempts to find an answer results in a negative affective feedback, which becomes positive only when the answer is found. In course of this project, we plan to conduct two experiments to test the proposed account. Based on the results, two abstracts in conference proceedings and one journal paper will be prepared for publishing.

**Keywords:** tip-of-the-tongue phenomenon; TOT; affective feedback; metacognitive approach; confidence.

### **Shame as a Traumatic Experience: Psychological and Psychophysiological aspects**

*Principal Investigator:* Olga Bogolyubova, Ph.D., Associate Professor, [bogoliubova@yahoo.com](mailto:bogoliubova@yahoo.com)

*Research team members:* E. Shelygina, G. Uraeva  
(SPSU Funding, 2013)

The goal of this study was to explore the psychological and psychophysiological manifestations of shame as a traumatic experience. Two research projects were carried out for the purposes of this goal.

The first project was aimed at studying the psychological and psychophysiological expressions of shame in connection to adverse childhood experiences in a sample of young adults. Forty adults aged 18 – 25 were recruited to participate in this study. The study participants were asked to describe a situation in which they experienced shame. Their narrative was presented to the participant later in the experiment. The participants' heart rate was measured at 4 points during the experiment. Self-report measures of shame proneness, impact of event and childhood adversity were also employed. The results of this research project demonstrated that the self-rated symptoms of intrusion, avoidance and hyperarousal related to the shame experience are correlated with the heart rate reactivity during the recounting of the shame experience. We also found that the participants who have experienced childhood psychological abuse were more prone to experience shame and demonstrated more prominent heart rate reactivity during the experiment.

The second research project was aimed at exploring the role of shame in online aggression and victimization. The study participants were recruited online and 104 young men and women constituted the final sample. Their age range was 18 – 25. This research yielded new information about the types of aggression experienced by Russian young adults online and the impact it has on their emotional wellbeing.

**Keywords:** shame, trauma, heart rate reactivity, child abuse, narrative.

### **Visual Context Processing of Social Scenes in Schizophrenia**

*Principal Investigator:* Klara Dolbeeva, Junior Research Associate, [kdolbeeva@gmail.com](mailto:kdolbeeva@gmail.com)

*Research team members:* A. Gaevskii  
(SPSU Funding, 2013)

**Background:** Disturbed visual processing of social scenes seems to lead to interpersonal communication dysfunctions and social maladaptation in schizophrenia. The aim of this study was to investigate visual context processing which was shown to be a crucial factor of perception abnormalities in schizophrenia.

**Methods:** Schizophrenia patients and healthy controls were assessed with modified rapid categorization tasks. Gaze following processes were studied in object detection task with different types of distractors. During the study eye-tracking data was also collected.

**Results:** Schizophrenia patients were found to identify perceptual (e.g. in modified categorization task), but not conceptual context of complex scenes. Visual scan path analysis revealed a bias to perceptive salient features in patients. In gaze following task patients were worse accurate in object detection, a tendency to choose a salient distractor was observed. Unlike schizophrenia patients, healthy subjects were less effective when another face was used as a distractor.

**Conclusions:** in schizophrenia patients global processing disturbances lead to choosing a salient but not semantic areas as a saccadic target, which lead to incorrect processing of local semantically salient features and poor conceptual context processing.

**Keywords:** schizophrenia, context processing, global features, local features, perceptual context, conceptual context, gaze following, eye tracking.

## **Mismatch of the Hand-Eye Coordination and Evaluation during the Perception of Illusory and Nonillusory Objects**

*Principal Investigator:* Valeria Karpinskaia, Ph.D., Associate Professor, [karpinskaya78@mail.ru](mailto:karpinskaya78@mail.ru)  
(SPSU Funding, 2013)

The research work “Mismatch of the hand-eye coordination and evaluation during the perception of illusory and nonillusory objects” was made to know the difference in perception and coordination process in eye-hand movements with illusory and non illusory objects.

Two empirical studies were made:

1. The evaluation of the length of lines by hand movements in a situation with the illusion of Mueller- Laer , Ponzo illusion and without illusions.

2. Memorization and reproduction of hand movements on the target (right and left)

The mismatch was found by fixing the errors of the left and the right hand during the motor movements across the objects

There was the difference of the movements, when participants memorized Mueller –Laer or Ponzo illusions, which may indicate different levels for the illusions.

It was found the difference of the errors for the right and the left hand in the experiment with nonillusory objects, maybe it is connected with different coding systems (positional and vector), which play role in movements of the right and the left hand.

**Keywords:** Mueller –Laer or Ponzo illusions, perception, hand-eye coordination

## **Patterns of Social Participation of Children with Disabilities in Inclusive Preschool Setting and Baby Home**

*Principal Investigator:* Anna Kravchenko, Ph.D., senior lecturer, [annakravchenko@inbox.ru](mailto:annakravchenko@inbox.ru)

*Research team members:* I. Dragomiretskaya  
(SPSU Funding, 2013)

Social participation and recognition in peer relationships are important for successful development and social competence of children with disabilities. However, researchers point to a decreased level of interaction and less friendship formation of children with special needs than typically developing children. An analysis show that few reports have highlights the process of social participation between children with disabilities and normally developing children in inclusive setting.

This study is conducted in an integrative preschool and orphanage. The interactions between peers and children with adult were video-recorded and analysed with the Individual Social Behavior Scale (M. J. Guralnick, 1987, U. Janson, 2011). Observation in well-known preschool and baby home environments was used (U. Janson, E. Melin, 2013).

There are similarities and differences in social participation and interaction of typically developing children and children with disabilities, as well as children from babyhome and children, who attend preschool. Children with Down syndrome are excluded in a large number of situation of socio-pedagogical and peer community interaction. Typically developing children approach to peers, interact, assume the role of assistant and pay attention to each other more often than children with disabilities. Children from preschool more often spend time in interaction with peers. Children from baby home prefer to play alone or observe, as well as to be in situations in which adults take care of them.

**Keywords:** children with disabilities, teacher, peer interaction, inclusion, social participation

### **Interaction between Implicit and Explicit Knowledge in Category Learning**

*Principal Investigator:* Nadezhda Moroshkina, Ph.D., Associate Professor, [moroshkina.n@gmail.com](mailto:moroshkina.n@gmail.com)

*Research team members:* I. Ivanchei, A. Karpov  
(SPSU Funding, 2013)

The process of implicit learning (unconscious knowledge acquisition) is actively studied in contemporary cognitive psychology. Experiments have shown that process of implicit learning can be influenced by subject's strategies (analytical or intuitive), which he or she uses in the given task. Thus the key question in this research area is about way of interaction between subject's implicit and explicit knowledge during different problem solving. We conduct two experimental studies in different paradigms of: artificial grammar learning task and the task of assessment of psychological features of the person by her appearance. We also analyzed individual differences (impulsivity, cognitive control, and trust in intuition). In both experiments implicit learning was shown. The important result of the first experiment is that induction of the contradiction between different kinds of implicit knowledge lead to use of analytical strategy. We also obtained some significant results about how individual differences influence the preference of use of analytical or intuitive strategy. It was found that such individual variables as impulsivity and the dominance of nonverbal functions of reasoning correlate positively with the use of intuitive strategy in our experiments. The theoretical significance of the results is that early theories of implicit learning, predicting impossibility of identification of individual

**Keywords:** implicit learning, consciousness, unconsciousness, classification tasks, cognitive style, intuition.

### **Factors of Relation to the Unborn Baby in Pregnant Women**

*Principal Investigator:* Svetlana Savenysheva, Ph.D., Associate Professor, [owlsveta@mail.ru](mailto:owlsveta@mail.ru).

*Research team members:* I. Kovpak, M. Kudryashova  
(SPSU Funding, 2013)

This study investigates the relationship to pregnancy and the unborn child and the factors influencing them.

The study involved 500 pregnant women living in St. Petersburg, gestation from 10 to 38 weeks in age from 18 to 42 years old, with a variety of educational and marital status. To study the relationship to pregnancy and the unborn child and the factors influencing them following methods were used: a test for pregnant (IV Dobryakova), test "Figures" (Brutman, Filippova, Khamitova), Color Test relations, Family drawing, drawing "I and my child", questionnaire marriage satisfaction (YE Alyosha), Color Test relations, parental attitude questionnaire (AJ Varga, V. Stolin), 16-factor questionnaire R. Cattell (Form C), questionnaires character accentuation (Shmishek), questionnaire situational and personal (trait) anxiety (Spielberger, Hanin), questionnaires of self-study (VV Stolin, SR Panteleev).

Analysis of the results showed that attitudes toward pregnancy and the unborn child related to relationship with her mother in childhood, relationship with your spouse during pregnancy, personal characteristics, and the factors of age, marital status, educational status of women, and planning of pregnancy. The hypothesis about the relationship with gestation wasn't confirmed.

**Keywords:** prenatal psychology, psychological readiness for motherhood, prenatal attachment, personality traits, self-attitude, marital relationship.

### **Development of Infants in Association with Timing of Institutionalization**

*Principal Investigator:* Daria Chernego, Junior Research Associate, [d.chernego@psy.pu.ru](mailto:d.chernego@psy.pu.ru), (SPSU Funding, 2013)

This longitudinal study analyzes infant's development according to the institutional life timing. Two groups of young orphan children (preterm children, n=12, gestational age=34,7; and full-term children, n=21, gestational age=39,1) were assessed at age 3 and 9 months by the Battelle Development Inventory (LINC Associates, 1988). The comparative analysis of personal-social, motor, adaptive, language, cognitive and general developmental skills between groups at 3 and 9 months and the analysis of development with increasing of the institutional timing from 1-3 to 7-9 months were conducted.

Preterm children had significantly lower developmental quotients (DQ) in comparison with their full-term peers at age 3 month but not at age 9 month. 7-9 months of the institutional timing has a negative impact on the general mental development of children in both groups.

**Keywords:** infant development, preterm and full-term children, orphanage, timing in the institution.

### **The Development of Child's Attachment during First Year of Life**

*Principal Investigator:* Natalia Pleshkova, Ph.D., Associate Professor, [fanciulla@yandex.ru](mailto:fanciulla@yandex.ru)

*Research team members:* V. Ivanova, E. Deman (SPSU Funding, 2013)

An attachment relationship is a dyad specific organized relationship creating individual self-protective strategies that function to maximize protection and probability of survival, in particular under dangerous conditions. The self-protective strategies are learned and internalized through interaction with attachment figures. The parental sensitivity and the interactive style of the caregiver are crucial. This longitudinal study analyzes mother- infant interaction and the quality of attachment of the child. 16 dyads "mother- infant" took part in the study. The following methods were used: a) the "Strange Situation" procedure with the consequent analysis child's attachment behavior on video; b) PCERA method was used for assessment of mother-child interaction. The children were assessed at age 1, 3, 6 and 9 months by PCERA, and at age 11-15 months by

“Strange Situation” procedure. Results of the study demonstrated that the characteristics of mothers’ mood, emotional tone, emotional and behavior involvement into interaction are better in the group of children with relatively safe pattern of attachment. The level of interactional style of mothers of children with complex pattern of attachment becomes lower since 3 till 6-9 months of infant’s life.

**Keywords:** mother-infant interaction, attachment relationships, maternal sensitivity.

### **Automatic Processes and Cognitive Control in Schizophrenia**

*Principal Investigator:* Maria Berezantseva, Ph.D., Associate Professor, [m.berezanceva@spbu.ru](mailto:m.berezanceva@spbu.ru)

*Research team members:* A. Pavlova, M. Kuvaldina, A. Kulieva  
(SPSU Funding, 2013)

The study was conducted in order to examine attention disturbances in schizophrenia. The problem was considered in terms of an information processing model which described two types of processing – automatic and controlled. The study was aimed to assess the automatic and controlled processing in schizophrenia.

The experimental tasks were designed in experimental paradigms of visual search and inattentive blindness. Subjects comprised 24 patients with paranoid schizophrenia and 24 normal subjects.

No significant differences in efficiency of both automatic and controlled processing were found (ANOVA with repeated measures,  $F(2, 27) = 1,53$ ;  $p=0,233$ ;  $F(2, 27) = 2,1$ ;  $p=0,137$ ). However, giving a response in Experiment 2, patients with schizophrenia were more susceptible to exogenous factors, compared to normal subjects, that could be connected with control impairment in schizophrenia ( $\chi^2(1, N=1296) = 131,3$ ;  $p<0,001$ ).

**Keywords:** schizophrenia, visual search, inattentive blindness, automatic processing, controlled processing

### **Influence of Regular Change of Different Types of an Irrelevantness on Einstellung Effect**

*Principal Investigator:* Nargiz Tukhtieva, Ph.D., senior lecturer, [tukhtieva\\_n@mail.ru](mailto:tukhtieva_n@mail.ru)

(SPSU Funding, 2013)

Object of research were effects of installation in A. Luchins (Einstellung effect) and D.N. Uznadze's experimental paradigm (installation illusion). At research of effect of installation there is a studying problem as regularities of its fixing, and conditions of its overcoming. Research objective - comparison of possibility of change of an orientation of shift of effect of Luchins and Uznadze's mediated by influence of different ways of the organization the irrelevantness of parameters of tasks effect, namely irrelevantness types – regular and chaotic.

Research methods: the method of the fixed installation developed at school of D.N. Uznadze, and the method used in experiments of A. Luchins (water jar problem).

As a result of the conducted researches two possible tendencies of influence of various types of an irrelevantness on effect the installations which are showing in changes of an orientation of shift of effect – its decrease and increase were revealed. Such influence is explained by two ways of change of an orientation of the mechanism of conscious control: its activation for the solution of a target task or refocusing on an additional task. Possibility of use of approach to research at the same time two different effects of installation (Luchins and Uznadze) from the point of view of functioning of the mechanism of conscious control that allows to reveal uniformity of these two effects is shown.

**Keywords:** Luchins effect, Uznadze's effect, irrelevant parameters of tasks, cognitive control

**17.45-18.15**

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**Summary**

**February 5, 2014, Wednesday**

**10.00-11.40 – Plenary Session, Room 227**

**10.00-10.20 – The Anthropological Psychology of Boris G. Ananiev and its Development in the World Science**

*Principal Investigator:* Natalia Loginova, Ph.D., Professor, [n\\_a\\_loginova@mail.ru](mailto:n_a_loginova@mail.ru)  
(Russian Foundation for Humanities, 2013)

*Research team members:* L. Bochkaryov

**Background:** the purpose is to reconstruct Ananiev's theory and to show its position and perspectives in the modern science.

**Methods:** comparative analysis of Ananiev's texts and the texts of his contemporaries and followers.

**Results:** B.G. Ananiev's methodology was created in the making of Marxist psychology as an original scientific school in the world psychology. B.G. Ananiev worked out the human being problem. So his theory had gained the anthropological character.

A human being has four structure forms. Individuality is the most integral one. Consciousness of Individuality is a relatively autonomous inner world. The sensations, sensor organization and all sensual human sphere as well speech are of great important for development of consciousness.

A development includes an ontogenesis of individual and a life course of personality. Every human big system has its projection on the psychic process.

B.G. Ananiev's theory is not well known in the world science. Nevertheless there are many examples of successful development B.G. Ananiev's ideas.

**The conclusions:** B.G. Ananiev is one of the founders of the soviet psychology as the world scientific school. The main basis of his theory are anthropological principal and developmental as well the principal of reflection. It ought to be named as an anthropological psychology. The enormous ideal potential is a guarantee of its perspectives.

**Keywords:** B.G. Ananiev, methodology, structure of personality, psychic development, cognition of human nature.

**10.20-10.40 – Unconscious Error Registration in Performing Cognitive Tasks**

*Principal Investigator:* Viktor Allakhverdov, Ph.D., Professor, [vimiall@gmail.com](mailto:vimiall@gmail.com)

*Research team members:* A. Odajnic, A. Karpov, A. Chetverikov, M. Kuvaldina, N. Tukhtieva, T. Mamina, O. Naumenko

(Russian Foundation for Basic Research, 2011-2013)

According to V.M. Allakhverdov's approach to understanding functions and mechanisms of consciousness, an error made in performing cognitive tasks should be regarded not as the result of a bug or lacking the resources, but as regular manifestation of cognitive mechanism activity. Such unconscious error registration was theoretically predicted and found out in experiments: stable error repetition; higher subjective confidence in right answers as compared to the wrong ones; speed delay in reproduction and recognition of stimuli containing an error which had not been realized before; decrease in attractiveness of non-realized stimuli which led to an error.

Methods of detecting unconscious error registration were elaborated: analysis of repetition of different right and wrong answers, comparison of reaction time during performing different right and wrong actions; analysis of stimuli attractiveness; using implicit and explicit criteria of error awareness; using ambiguous stimuli; varying irrelevant parameters of tasks.

Some ways of predicting and correcting repeated errors were offered, these methods were also approved in independent experiments. It was shown that errors' reaction times allowed us to predict their probability in future. We also concluded that changing subjective sense of situation (by means of false additional information or regular changes of irrelevant parameters) led to decrease of repeated errors. It was found that repeated errors were related to interference phenomenon, i.e. control of performing the task to neglect something. Permission to make a mistake allows not to control the neglect-task, to diminish the number of testing operations, thus leading to fast and automated action.

**Keywords:** consciousness, unconscious processes, error, confidence, reaction time.

#### **10.40-11.00 – Social Adaptation Psychodiagnostics of People with Limited Cognitive Abilities**

*Principal Investigator:* Olga Schelkova, Ph.D., Professor, [olga.psy.pu@mail.ru](mailto:olga.psy.pu@mail.ru)

*Research team members:* E. Burina, V. Rakova, M. Il'ina

(Russian Foundation for Humanities, 2011-2013)

An acute scarcity problem of valid methods to assess the quality features of patients social adaptation exists in clinical psychology. In this regard, the study aimed to determine the correlation among different aspects of cognitive performance and patients with mental disorders' social adaptation.

100 children and adolescents (8-14 years) with mental disorders (53% with primary cognitive impairment, 47% with characterological and behavioral disorders) and 226 adult patients with mental illness were studied. Clinical psychological method of assessing social adaptation, psychometric assessment scale D. Wechsler Intelligence for Children (WISC) and adults (WAIS) and Vineland adaptive behavior scales VABS (Sparrow SS, 2005) were used.

The children study results showed close connection of intellectual activity violations with the level of socio-psychological adaptation. In a comparative study of adults a highly significant statistical difference among individual nosologic groups (mental retardation, organic brain disease, schizophrenia) on all WAIS indicators were revealed.

The conclusion identifies the effectiveness of adaptive behavior scales VABS in the study of children with mental disabilities; diagnostic capabilities in adults' study need clarification.

**Keywords:** social adaptation, intellectual functions, children with mental disorders, mentally ill adults, adaptive behavior scales.

#### **11.00-11.20 – Unconscious Control of Exogenous Attention: Case of Mistakes**

*Principal Investigator:* Maria Kuvaldina, Ph.D., senior lecturer, [m.kuvaldina@psy.spbu.ru](mailto:m.kuvaldina@psy.spbu.ru)

*Research team members:* D. Volkov, A. Chetverikov, E. Mitrofanova, N. Adamyan  
(Federal Target Program, 2012-2013)

This project was aimed at studying the mechanisms of involuntary attention attraction in functional blindness tasks. As a model for the study inattentive blindness was taken, which is inability of an observer to perceive clearly distinguishable (critical stimulus), once his/hers attention is occupied by another task. Based on the results from group of experiments, we can conclude that the cause of inattentive blindness is a selective set of attention and suppression of other objects that have similar features with selected set. In favor of this hypothesis is the fact that the modulation (change) the descending branch of cognitive control (instructions without changing the characteristics of the stimuli, knowledge of the task at hand) is not an effective method of increasing the probability of attention capture. On the other hand the influence of a combination of high-level process (definition of objectives through instruction) with processes that ensure representation of the task (low-level processes) provides a high probability of attention capture

(90%). However, it should be noted that the level of functional blindness in our experiments was never equal to zero, which means that any methods to increase the probability of capture of attention in a difficult task will not have 100% efficiency. The most effective strategies to increase the likelihood of capture of attention (and also ways to overcome functional blindness) are the following:

- Increase in the emotional significance of the stimulus.
- Probabilistic assessment of the appearance of the new object (modified by the representation of the task itself and not the prior knowledge about the task) .
- Representation of the targets.
- Strengthening of conscious control over the task performance is a method which may disrupt the effects of functional blindness in the early stages of its occurrence.

**Keywords:** functional blindness, inattentional blindness (IB), exogenous attention, cognitive control.

## **11.20-11.40 - Intellectual Competencies within the Framework of Individual Cognitive Performance**

*Principal Investigator:* Olga Shcherbakova, Ph.D., Associate Professor, [o.scherbakova@gmail.com](mailto:o.scherbakova@gmail.com)

*Research team members:* L. Khamatshina, D. Makarova  
(Grant Council of Russian Federation President, 2012-2013)

The two-year project was aimed to describe the construct of intellectual competencies as behavioral manifestations of one's intellectual resources. We wanted to reveal the variety of these general intellectual competencies and hypothesized the correlation between the level of competencies' manifestation and the level of conceptual capacities. At the first stage we used the deep interviews to reveal the set of intellectual competencies and described seven of them. At the second stage we examined the "experts" demonstrating various levels of the intellectual competencies using the tests for conceptual capacities. We found out that the brighter experts (participants with higher level of intellectual competencies) have the better results in tests for the conceptual capacities. It corresponds well to the suggestion that the conceptual capacities are the core component of one's intelligence.

**Keywords:** intelligence, intellectual competencies, individual cognitive performance, conceptual capacities, intelligence testing, experts.

**11.40-12.00 – Coffee Break on 2nd floor (Hall)**

**12.00-13.00 – Poster Session on 2nd floor (Hall)**

## **Neurophysiological and Psychological Mechanisms of Cognitive Control Dysfunction in Affective Disorders**

*Principal Investigator:* Mikhail Zotov, Ph.D., Professor, [mvzotov@mail.ru](mailto:mvzotov@mail.ru)

*Research team members:* N. Andrianova, K. Dolbeeva, I. Akhmedova, R. Serebriakova

(Russian Foundation for Humanities, 2011-2013)

The research is aimed at experimental studying psychophysiological mechanisms of cognitive control dysfunctions in affective disorders. Patients with affective disorders demonstrate forming and retention difficulties of stabilized cognitive regulation system in stressful information perception. Patients demonstrate selective and coordinated passing processes dysfunctions at all

cognitive activity levels. These dysfunctions arise after stressful stimuli influence and are retained during some time after impact abort. The main factor of voluntary regulation dysfunctions is temporary loss of «image-goal» in operative memory when stressful stimuli influence. An additional factor contributing to an emergence of voluntary regulation dysfunctions of cognitive activity is reduced ability of patients with affective disorders in rapid and differentiated mobilization of functional resources at initial stages of stressful stimuli influence. Dysfunctions of cognitive activity regulation in affective disorders might arise in the conditions of peripheral perception of visual stressful stimuli. Patients with affective disorders use two compensatory strategies to reduce dysfunctions emergence probability of cognitive control during stressful stimuli perception. The first strategy is connected with using the internal discourse to maintain thoughts and associations in operative memory, which are related with current activity goal. The second one is connected with avoidance of detailed stressful information perception. The low efficiency of the second strategy is experimentally proved. An experimental conditions, which block focal processing stressful visual stimuli, don't lead to a decrease of cognitive control dysfunctions in patients with affective disorders. Based on experimental data we've developed recommendations for psychological correction of cognitive control dysfunctions regarding the patients with affective disorders.

**Keywords:** affective disorders, cognitive dysfunction, modeling stressful influence, non contact eye movements registration, stress adaptation mechanisms

### **Psychophysiological Correlates of Inattentional Blindness Phenomenon**

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*Research team members:* A. Shestakova, A. Kharauzov, P. Iamshchinina, O. Vahrameeva

(Russian Foundation for Humanities, 2012-2014)

In 2013 several studies on inattentional blindness were conducted using eye-tracking method, ERP and fMRI methods. Results of the study show that sustained inattentional blindness could be caused by saccadic suppression. In this experiment two groups had different tracking strategies. First group was watching similar objects by fixating in the center of the screen with near absence of saccades, while the second one was tracing different objects and rapidly moving their eyes from one object to the other. In the second study the differences in brain activity related to presence/absence of salient object in inattentional blindness were investigated. The results showed deactivation of FEF region in the presence of salient object. As right FEF is known to be related to covert attention the obtained result might be interpreted as reaction of overt attention to the salient object which leads to more saccades. The differences in activation were also received in supramarginal gyrus, while the activation in IPS was found in both conditions. We replicated the results by D. Matsuoshi that IPS is related to evaluating relevancy of the additional object in inattentional blindness task. However, this activation is not related to IB rate but rather corresponds to the type of the task. Since the activation of IPS was not verified with fMRI method its function in inattentional blindness origin cast doubts. We also haven't found any TPJ activation which challenges its contribution to inattentional blindness effect as well.

**Keywords:** inattentional blindness (IB), irrelevant information suppression, psycho physiological correlates, exogenous attention

### **Factors that Define False Memories Creation**

*Principal Investigator:* Valeria Gershkovich, Ph.D., Associate Professor, [valeria.gershkovich@gmail.com](mailto:valeria.gershkovich@gmail.com)

*Research team members:* N. Moroshkina, I. Ivanchey, M. Morozov, P. Iamshchinina (Russian Foundation for Humanities, 2012-2014)

The most part of false memories experiments are conducted exclusively with the attention on person's memory changes while the person is passive observer of the situation.

Experiments conducted within this project are aimed to define the role of actively constructed interpretations in false memories creation. Within the first investigation by interpretation we understood the situation in which the subject completed the text fragment to the well-known whole text (the generation). We were interested in the aftereffect of the created generations on the accuracy of memories. The experiment was conducted, 30 subjects participated. Well-known sayings were used as stimuli. The generation of the whole text evoked the specific memory mistakes – false memories of the constructed beginning of saying as if it was really presented. This effect is, supposedly, due to the peculiarities of conscious control of the generation task. Within another series of experiments there were conducted investigations devoted to the study of false memories, created cause of wrong reconstruction of choice, previously made. In our experiments we varied the parameters, associated with the accessibility of the reasons for choice explanation: emotionality/rationality of criteria for the estimation: explicit/implicit knowledge about the criteria; the presence of schemata for information estimation. It was shown that only explicitly formulated criteria used for the choice help to diminish the choice blindness effect and can be used even after the misinformation explanation. The implicit criteria and the set towards the emotional (intuitive) choice don't help to prevent the choice blindness effect and false memory creation.

**Keywords:** False memories, generation effect, choice blindness, misinformation, explicit/implicit choice criteria

### **Psychological aspects of problematic Internet-communication among students**

*Principal Investigator:* Natalia Antonova, Ph.D., senior lecturer, [natalimyr@mail.ru](mailto:natalimyr@mail.ru)

*Research team members:* L. Mararitsa, K. Eritsyayn  
(Russian Foundation for Humanities, 2012-2014)

No significant correlation was found practice of finding sexual partners through the Internet among male students. Girls who have had this experience have significantly more characteristic symptoms of Internet addiction, smoking, alcohol and drug using with negative social consequences, have lower self-esteem as well as lower satisfaction with their professional and personal lives.

There were found several forms of online dating from the standpoint of the success of their intentions and transfer of online relationships offline. There was found gender specific factors of internet dating. The phenomenon of concealment (forced disguise) online dating experience, including successful (official marriage), from the immediate social environment were found.

**Conclusions.** Internet communication can perform a compensatory function among "problematic" person, can act resource without formation of "problem", as well as can enhance the "problem" in communication.

**Key words:** Internet communication, healthy and problematic Internet use, communication strategies, youth health, risk factors, protective factors, social capital.

### **Mechanisms of Subjective Evaluation of One's Effectiveness in Cognitive Tasks**

*Principal Investigator:* Margarita Filippova, Ph.D., Research Associate, [box4fox@yandex.ru](mailto:box4fox@yandex.ru)

*Research team members:* A. Chetverikov, R. Chernov, A. Odainik, M. Kuvaldina, I. Ovchinnikova  
(Russian Foundation for Humanities, 2012-2014)

Our project this year had two main tracks. First, we tested, whether correct perception of ambiguous image will lead to more positive liking ratings. In agreement with the proposed theoretical model, subjects liked more the images they were able to perceive correctly. Importantly, these findings were independent from the initial affective valence of stimuli (positive or negative). Second, we tested the effect of recognition on the liking ratings of simple and ambiguous stimuli. We found that in line with the previously obtained findings, recognition of the stimuli that agreed with previous subjective interpretation of ambiguous stimulus lead to more positive ratings, while non-recognition of such images decreased their ratings. In addition, this year we were able to replicate in part the effect of irrelevant emotional stimuli on confidence, which was found during the initial year of the project.

**Keywords:** Emotions, confidence, ratings, perceptual hypotheses, affective feedback, ambiguity, errors.

## **Value Orientations of Personality in Historical and Psychological and Cognitive Contexts**

*Principal Investigator:* Mikhail Ivanov, Ph.D., Professor, [mvifp@mail.ru](mailto:mvifp@mail.ru)

*Research team members:* V. Allakhverdov, O. Danilenko, A. Karpov, G. Nikandrova (Russian Foundation for Humanities, 2013-2015)

The main aim of the project is connected with investigation of dominant personal models represented in culture of concrete historical period and of appearance new models. The urgency of the problem caused by the inefficiency of the existing methods of resolution of the psychological conflicts of different level when using psychologists and social actors of the experience gained through the understanding of modernity as only synchronous structure interaction of group and personal attitudes. It was necessary to make an analyze of personality asynchronous levels and to find the way development in contemporary conditions. The asynchrony of cultural and psychological personality layers means that a system of personal attitudes consists of orientations that prevailed in different historical periods, and therefore is able to combine both harmony and disharmony of interaction between them. Orientation on the reproduction or on the creativity has a particularly strong influence on the formation and dominance over private personal attitudes. Using the classic psychological study methods (observation, experiment, test, self-report) study is to correlate the historical typology of personality with cognitive mechanisms of the psyche. Currently, we have got a working version of the historical typology of personality and conducted the first flight research, opening the way for the creation of the asynchronous layer analysis techniques. Published one monograph and three articles.

**Keywords:** cultural asynchrony, personality asynchronous levels, cognitive mechanisms, positive and negative choice, personality, self actualization.

## **The Role of Conscious and Unconscious Processing in Cognition**

*Principal Investigator:* Viktor Allakhverdov, Ph.D., Professor, [vimiiall@gmail.com](mailto:vimiiall@gmail.com)

*Research team members:* M. Allakhverdov, O. Naumenko, N. Tukhtieva, T. Mamina, N. Petrova

(Russian Foundation for Humanities, 2013-2015)

Project leader's theory maintains that all psychic phenomena should be described in terms of cognitive logic. It's suggested that a man should be regarded as having ideal cognitive instruments. It's assumed that cognitive potential has no fundamental limitations except those imposed by the logic of cognition itself.

Basic theoretical assumptions were verified in the series of experiments. The effect of set, polysemy perception, errors generating, implicit hypotheses, time constraints of perception speed became the objects of research.

The results discovered two possible tendencies of influencing the effect of set (its increasing or decreasing) by means of irrelevant information. Such influence is explained by means of conscious control orientation: its activation for target task performing or its refocusing on supplementary task. Effectiveness of either correctly or mistakenly memorized stimuli remembering was estimated: high-performing subjects remembered their mistakes better than their right answers. Influence of ambiguity on the processes of verbal information perceiving and recognition was revealed. Actualizing one of the homonym meanings in the context of a sentence leads to active suppression of another meaning. The new meaning of the homonym and the old one clash, influencing cognitive processing of the homonym itself. Possibility of influencing time constraints in perception was found out. It was demonstrated that constellation of implicit notions constituted implicit theories, which were formed on the basis of rules resembling methodological principles of scientific theories construction.

Several conclusions were drawn about possibility of changing the ambit of conscious; possibility of conscious control orientation changing; methodological epistemology principles implementation in performing cognitive tasks.

**Keywords:** consciousness, cognitive unconscious, cognitive control, implicit hypotheses, task irrelevant parameters, ambiguous text.

## **Family as a Resource for Mental Development of Children in Stable and Critical Periods of Ontogeny**

*Principal Investigator:* Larissa Golovey, Ph.D., Professor, [lgolovey@yandex.ru](mailto:lgolovey@yandex.ru)

*Research team members:* V. Vasilenko, S. Savenysheva, E. Engelhardt, E. Skladnova, N. Boikova

(Russian Foundation for Humanities, 2013-2015)

The research aimed to study the characteristics of the family as a resource for the development of the child in the stable and critical periods of ontogenesis.

**Method.** To investigate the behavioral manifestations of crisis 3 and 7 years, were designed questionnaires for the parents “questionnaire symptom of the crisis three years” and a similar questionnaire for the 7 years of the crisis. Used a range of methods that reflect the different sides of the parent-child interaction: questionnaire of analysis of familial relationships (E. Eidemiller, V. Yustitskiy); parental attitude questionnaire (A. Varga, V. Stolin); technique of parent-child interaction (I.M. Markovskaya); questionnaire PARI (E. Schaeffer and R.Bell); questionnaire features child-parent emotional interaction (E. Zaharova). In different series of studies was attended by 120 to 260 mothers of preschool children.

**Results.** Comparative analysis of the interaction of parents and children in period of crisis and stable development revealed that mothers show increased levels of control, excessive restrictions, reduced willingness to cooperate and the emotional background of relations with children during age crisis. Tendency to prefer the qualities of children and child infantilization is a growing in times of crisis. It was found that the characteristics of the parent-to-child interactions have a significant impact on the character of passing of the age normative crises in preschool period. Identified both general and specific characteristics of the parent interaction, depending on the child's age and the severity of the crisis.

**Keywords:** Family, psychological readiness for parenthood, family structure, parent-child relationship, stable and critical periods, age crisis, mental development

## **Socio-Cultural Determinants of Body Image in Childhood and Adolescence**

*Principal Investigator:* Valentina Byzova, Ph.D., Professor, [VBysova@mail.ru](mailto:VBysova@mail.ru)

*Research team members:* I. Bragina, E. Zinovyeva, N. Ilina, S. Kostromina, A. Nikonova, E. Chikurova  
(Russian Foundation for Humanities, 2013-2015)

Today social and cultural impact on the subjective reflection of the body is one of the highest priorities for researchers working on the issue of psychosomatic relationships. We can mark out several directions of investigations in this area, among which the most relevant are the analysis of socio-cultural factors connected with alimentary behavior (e.g., anorexia nervosa) [Cash T.F., 2004], the investigation of the role of socio-cultural factors in the perception of the body (mostly appearance) and the degree of satisfaction with it [Smolak L., 2004-2011]. Russian researches just began investigations in these fields.

This project involves the systematic study of socio-cultural factors, mechanisms and processes which influence the formation of body image representation and relation in youth and adolescence based on ethnic and cultural factors. Theoretical analysis, structured interview; content analysis; testing; projective techniques were used.

It was found, that adolescent boys have higher criticism to their physical appearance development; adolescent girls have more concrete images of their bodies with focus on physical limitations. Body image peculiarities among high school students connect with temporal perspective. With age, the body image becomes more differentiated. Also polarization in appearance parameters estimation enhances.

Thus, stereotypes assigned by context of parent-child relationship are on the first place in terms of their impact on formation of the body image and relation to one's own body, then gender and ethnic stereotypes follow. The collision of conflicting stereotypes can lead to the body negativism. Some peculiarities of body image connect with gender, age, ethnicity and culture.

**Keywords:** body image, psychology of body, psychosomatic, social situation of development, ethnic culture, parent-child relationships

## **Dynamics of Changes in the Functional State of the Brain in the Process of Understanding of the Meaning of the Texts**

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*Research team members:* V. Balin, A. Nasledov, I. Gorbunov, V. Koval  
(Russian Foundation for Humanities, 2013-2014)

The SRW investigates the study of features of brain activity by the process of understanding of the meaning of texts in adult subjects (n=148). The purpose of the work is the elimination of existing contradictions to the role of high - and low-frequency components of EEG as markers of understanding.

The methodology of step-by-step presentation of the texts was developed. This allowed "to catch" a markers of understanding and identify the stages of the process of understanding. EEG data was analysed using spectral and non-linear methods. Three stages were highlighted: «before understanding», «understanding», «after understanding».

The phenomenon of V - shaped changes of the fractal dimension (FD) of EEG was discovered. The first and the third stages are characterized by the increasing of high frequency range and the increasing of the FD of EEG. The second stage is characterized by the decrease of the FD of EEG and an increase of the low-frequency range.

Two regimes of information were obtained in the activity of the brain. The first regime is associated with a process of search and generation of ideas and reflect by high frequency range of EEG and increase of FD EEG. The second regime provides consolidation of information within the semantic relations and to reflect the simplification of the reality to one alternative. It is accompanied by low-frequency theta range and a decline of FD EEG.

**Keywords:** stages of understanding of the meaning of texts, psychosemantics, FD of EEG, gamma range of EEG, theta range of EEG.

### **Human Semantic Space Simulation by Using ERP Data**

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(Russian Foundation for Humanities, 2013-2015)

The study of semantic space of the person is one of actual tasks, as in fundamental psychology, and in applied areas. On the one hand the structure of semantic space is closely connected with the content of consciousness, with another on this structure it is possible to diagnose various mental phenomena which, are in turn formed in the course of accumulation of life experience. Creation of mathematical model of formation of semantic space is very perspective. Rogers-Maklelenda's model proposes the neuronetwork solution in which distances between objects and their signs are not universal, and depend on the set type of the relation. The task of the research was to build a models (trained), the most optimum for each person from control and experimental groups. Models were trained on obtained data on the basis of answers of subjects, and further was comparison of the formal characteristics of these models in the two groups. The results confirm a hypothesis that such stimulus as the feature film, at its viewing, influences our brain so that our semantic space changes that is reflected in formal parameters of its model. Data pilot experiment on possibility of measurement of semantic links for this model in the brain VP parameters are obtained.

**Keywords:** semantic space, cognitive model, neural network, evoked potentials, psychodiagnosics.

### **Psychological Problems of Socialization of Youth in Being Transformed Russian Society**

*Principal Investigator:* Natal'ja Sveshnikova, Ph.D., Associate Professor,  
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*Research team members:* M. Solov'eva, E. Hmelevskaya

(Russian Foundation for Humanities, 2013-2014)

Research work is devoted to theoretical and empirical study of the psychological problems of socialization of young people in transforming the Russian society. Socialization is a complex and dynamic, multi-level and integrated phenomenon, forming the personality of the modern young Russians. Features of socialization are both objective and subjective factors. Youth-specific socio-demographic group, one of the main capital of the society. Socialization affects the nature of social adaptation and self-realisation, determines the identity of the person, its specificity determines the processes of social and cultural continuity. The actuality of the research of psychological problems of socialization of young people is determined by the fact that changes in the system of Government in Russia, economic innovations led to the transformation of consciousness and changes in behaviour. The study brought together young people aged 18-25 years. The study identified techniques with comprehensive diagnostic capabilities, and to examine the cultural, socio-political and personal levels of socialization, as well as the characteristics of consciousness of the modern Russian youth. Results of the study. Among young people there is no common view of contemporary Russian culture. This is due to objective factors of socialization of the young generation, and it is the real situation-a combination of three cultural elements in society. The findings suggest a combination in the minds of the young people of traditional community values

with the values of the Conciliar individualistic orientation. The study found that images of "real" and "ideal State" as a socio-political institution has does not match. The image of the real Russian State negative. The prevalence of personal identity over social, tells about the peculiarities of the socialization process. First, this is the result of the general trend of individualization, secondly, the destruction of social structures due to the transformation of societies and political systems. Conclusions: on the basis of the pilot study used techniques can be included in the package for the core study. The data obtained give grounds to extend the basic package of methodological tools.

**Keywords:** Socialization, the youth, being transformed society, sociocultural norms and values, obraz-Ya, sociopolitical attitudes.

### **Emotional Well-Being of Patients of Different Clinical Groups: the Complex Analysis of Emotional Sphere**

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*Research team members:* N. Gorchakova

(Russian Foundation for Humanities, 2013-2015)

The study aims at a comprehensive analysis of the emotional sphere of the patients of different clinical groups - gastroenterological, cardiac, pulmonologic patients, patients with eating disorders - in order to make a complete description of the features of their emotional development, including the frequency of various emotional states experiences, biographical information about the experience of emotion in childhood, defence mechanisms, dominating emotional state, coping strategies, peculiarities of experiences of different emotional states. The novelty of the research is in studying the emotional areas from the perspective of psychology, physicality and bodily experience in experiencing different emotions, as well as in the whole description of emotional well-being (general and specific criteria) for these clinical groups.

**Keywords:** emotional sphere, emotional well-being, emotional state, coping strategy, peripheral somatovisceral response, defence mechanisms.

### **13.00-14.20 – Plenary Session, Room 227**

#### **13.00-13.20 – Psychological Factors of Stealing among Younger Students with Intellectual Disabilities**

*Principal Investigator:* L. Shipitsyna, Ph.D., Professor, [special@psy.spbu.ru](mailto:special@psy.spbu.ru)

*Research team members:* O. Zashirinskaya, Y Nizova, D. Mikhailova, M. Zashirinsky, I. Gorbunov.

(Russian Foundation for Humanities, 2011-2013)

#### **13.20-13.40 – Early Development of Children in Different Systems of Psycho-Pedagogical Support**

*Principal Investigator:* Maria Solodunova, Ph.D., Associate Professor, [m.solodunova@psy.spbu.ru](mailto:m.solodunova@psy.spbu.ru)

*Research team members:* E. Komalyeva, A. Khiretskaya, D. Chernego

(Russian Foundation for Humanities, 2012-2013)

Over the last years many centers of early development were opened. They offer trainings for young children, allowing to develop intelligence very fast, learn to read and count by the age of 2-3 years. There are Russian and foreign techniques of early development which utilize the reserves of the child, with the help of a sequence of actions teach your baby all the skills and abilities that are

usually formed later in life. There are also other support system of early child development based on the concept of infant's development in the close relationships between child and his/her primary caregiver. According to these ideas child development including social-emotional, adaptive, communication, motor, cognitive areas largely depends on 'parent-child' interaction.

The main goal: to study infant development (personal-social, adaptation, motor, cognitive) in different systems of psycho-pedagogical support ("Smart group", "Creativity group", "Group of socialization").

Sample: 30 children (age 15-34 months), their mothers and fathers.

Method:

1. Battelle Development Inventory.
2. Kent Infant Development Scale.

Results

1. The data showed the differential impact of various developing groups on child development.

2. We found that maternal scores of child development became closer to expert ratings after the child's attending groups of different kind.

This information will clarify the existing theory of developmental psychology and may contribute to the improvement of existing programs for early support of children with the focus on harmonization of child development.

**Keywords:** toddlers, early development, developing groups.

#### 13.40-14.00 – **Context Role in Formation of Relevance of Verbal Incentive**

*Principal Investigator:* Tatyana Mamina, Ph.D., senior lecturer, [tmamina@mail.ru](mailto:tmamina@mail.ru)

*Research team members:* M. Avanesyan

(Russian Foundation for Humanities, 2012-2013)

By the purpose of this project was to determine a context role in formation of relevance of verbal incentive. In our research we considered dynamics of interaction of extramental and realized values of the multiple-valued word when forming relevance of the word, in the conditions of context change. As multiple-valued incentive in our project, words homonyms, polysemous words, synonyms, antonyms, metaphors were considered. Influence of synonyms, antonyms and homonyms, the polysemous of words on perception and storing was studied by means of a series of author's techniques. On the basis of research of understanding of a metaphor the technique of development of intellectual skills of students was developed.

It was supposed that the sense of the text remains, first of all, due to preservation of rejections (the values not foreground in consciousness). It was shown that unconscious values of the multiple-valued word at the isolated presentation worsen cognitive work with this word, and these values tend to remain unconscious at repeated presentation. Various influence of presentation of synonyms and antonyms on cognitive activity is confirmed. Distinction of mental representations of homonyms and the polysemous of words is shown. Prerequisites of formation of "figurative sense" of a metaphor were revealed. It is shown that in the course of understanding of a verbal metaphor respondents foreground own figurative material so economically (schematically and fragmentary) as far as figurative support are necessary for them for designing of sense of a metaphor. The regulatory role of the verbal language directing process of its understanding was revealed.

**Keywords:** lexical uncertainty, cognitive mechanisms of consciousness, context influence, involuntary storing, efficiency of the solution of lexical tasks, metaphor, fancies

#### 14.00-14.20 – **Affective Evaluation as Implicit Memory about Decision**

*Principal Investigator:* Andrey Chetverikov, Junior Research Associate.

(Russian Foundation for Humanities, 2012-2013)

This study began with the question, whether the information about the decision made in simple cognitive tasks can be stored in form of affective evaluation. The studies that were done in 2012-2013 provide a positive answer on this question and support our hypothesis: a decision, even in simple cognitive tasks such as recognition and visual search, is provided with internal affective feedback that influence preference ratings for the associated objects. It is important to note that obtained effects cannot be explained by initial affective feedback or statistical selection and are not task-specific.

**Keywords:** decision aftereffect, emotions, consciousness, decision making.

**14.20-15.00 – Lunch**

**15.00-17.00 –**

### **On participating in postdoctoral grant competition of St. Petersburg State University, Room 227**

«Cognitive mechanisms of visual information processing»

*Principal Investigator:* Brian Rogers

*Research team members:* O. Naumenko

(Postdoctoral grants, 2013 – 2015).

### **Workshop «Experience of Conference Participation: Research Trends, Contacts and Ideas », Room 227**

#### **Participation in Academic Staff Exchange Programme**

- Regina Berezovskaya, University of Jyväskylä, Finland, 11.03.13 – 18.03.13;
- Regina Berezovskaya, University of Hamburg, Germany, 13.05.13 – 20.05.13;
- Sergey Miroschnikov, Univerzity Karlovy v Praze, Czech Republic, 17.06.13-28.06.13;
- Sergey Miroschnikov, University of Hamburg, Germany, 19.08.13-02.09.13;
- Nina Bordovskaia, Natalia Iskra, University of Edinburgh, United Kingdom, 20.05.13 – 27.05.13;

#### **Participation in Expeditions to Foreign Organizations (SPSU Funding)**

Valeria Karpinskaya, Oxford University, United Kingdom, within the framework of project “Cognitive Mechanisms of Social Action”, Principal Investigator: Viktor Allakhverdov, 10.05.13 – 31.05.13.

#### **Participation in Conferences (SPSU Funding)**

- 13th European Congress of Psychology, Stockholm, Sweden
- “Human, Subject, Personality in Contemporary Psychology. The 80th Anniversary of A.V. Brusilinsky”, Moscow, Russian Federation
- "2013 Fourth International Conference on Adoption Research", Bilbao, Spain

- “European Association of Psychology and Law Conference”, Coventry, United Kingdom
- "20th IAGG World Congress of Gerontology and Geriatrics", Seoul, South Korea
- "International Conference on Education and Educational Psychology", Antalya, Turkey
- “16th Congress of the European Association of Work and Organizational Psychology”, Muenster, Germany
- "World Conference on Psychology and Sociology", Brussels, Belgium
- “2nd Annual International Conference on Cognitive and Behavioral Psychology (CBP 2013)”, Singapore
  - 3<sup>rd</sup> Russian Conference «Nonlinear Dynamics in Cognitive Studies – 2013», Nizhny Novgorod, Russian Federation
  - ESCOP 2013, “18th Conference of the European Society for Cognitive Psychology”, Budapest, Hungary
  - "36th European Conference on Visual Perception (ECVP 2013)", Bremen, Germany
  - EADP 2013 Conference (16th European Conference of Developmental Psychology), Lausanne, Switzerland

**17.00-17.30 - Summary**