

## Research areas of the Department of Medical Psychology and Psychophysiology of Saint Petersburg State University

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### Summary

This article represents primary aspects of Saint Petersburg School of Clinical Psychology and briefly describes its history, as well as the main research goals pursued at the Department of Medical Psychology and Psychophysiology at Saint Petersburg State University, Russia. The main key areas of research presented in the article are the following: studies in the field of theory and methodology of clinical psychology, psychological research in clinical and preventive medicine, research in the field of pediatric and perinatal clinical psychology, research on the theory and practice of psychotherapy, research in psychophysiology, and development of methods for clinical psychodiagnostics.

**research / medical psychology / psychophysiology / St. Petersburg School of Clinical Psychology**

### INTRODUCTION

St. Petersburg School of Clinical (previously – pathological) Psychology was formed on the basis of psychoneurology influenced by the works and with personal participation of outstanding Russian psychiatrist, neurologist and psychologist, V.M. Bekhterev. The works of V.M. Bekhterev and his associates, A.F. Lazurskiy, M.Y. Basov and S.L. Frank, started the tradition of a humanistic and holistic approach to the study of the patient's psyche, integrating all aspects of the patient's life functioning in the face of illness and treatment. This tradition was con-

tinued by V.N. Myasishev, his disciples and followers, and formed the basis of the Leningrad school of medical psychology.

The methodology of clinical and psychological research, developed in the 1950s to 1970s by domestic psychologists, representatives of V.N. Myasishev's Leningrad school of medical psychology, due to the new life conditions was being significantly supplemented by foreign approaches. The integration processes typical at the time led to the emergence of a new psychological specialty, clinical psychology. According to modern concepts, it is a specialty of a broad profile characterized by interdisciplinary features and one that participates in solving complex psychological problems in medicine, public health, education, social care and other social areas.

The first cohort of clinical psychology majors graduated in 2004, trained at the Department

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of Medical Psychology and Psychophysiology, the Faculty of Psychology of St. Petersburg State University. The Department was established on the basis of the medical psychology specialisation at the Faculty in 1966 at the initiative of V.N. Myasishev [1]. The concept is based on the ideas of the founders of the psychological school at Leningrad University. Staff of the St. Petersburg Institute of Neuropsychiatry named after V.M. Bekhterev played a major role in the creation of the Department.

A personal approach to the patient in conjunction with the study of the role of the neurophysiological processes in the mechanisms of psychic phenomena, the nature of the psychosomatic interaction mechanisms of mental adaptation and compensation in the face of illness, and conditions that threaten the development of the disease, constitute the basic research directions of the Department of Medical Psychology and Psychophysiology. However, it should be noted that the discussion in this article does not exhaust the whole variety of problems of clinical psychology explored at the Faculty of Psychology of St. Petersburg State University.

#### *Research in the field of clinical psychology: theory and methodology*

One of the key areas of research in the field of clinical psychology is to further develop a systematic approach to understanding health and disease. A systematic approach identifies a shift from the study of an abstract construct – disease – to a holistic study of a specific person, the person who exists in terms of disease, “pre-disease” or psychological maladjustment. The concepts of mental adaptation and health-related quality of life, as well as a systematic approach to psychodiagnostics, are currently being rapidly developed.

#### *System concept of mental adaptation and maladjustment*

At present, the concept of mental adaptation and maladjustment receives special attention in connection with the revival of interest in the theory of stress, in which several research areas are

highlighted: biochemical, physiological and psychological. The concept of mental adaptation integrates these research areas and considers adaptation as an integrated, multi-level (including biological, psychological and social levels) and self-governing functional system aimed at maintaining a stable interaction of the individual with the environment [2].

#### *The concept of stress and coping*

The study of mental adaptation processes marked an interest shift from the study of unconscious intrapsychic defense mechanisms to the study of stress coping, i.e. coping which implies strategies implemented for the most part consciously and actively in order to overcome negative feelings and dealing with problems [3]. Domestic studies stress the importance of total situation parameters faced by the subject. Coping is treated as an individual way of interacting with the situation according to its own logic, significance in the person’s life and their psychological resources [4]. It is obvious that such an interpretation of coping with stress behavior is more appropriate for research in clinical psychology.

#### *The concept of health-related quality of life*

The recent intensified focus on research of health-related quality of life is noticeable all over the world. As a result of these studies the idea of health-related quality of life was formed as a complex system concept. In many studies, significance is given to the subjective component of quality of life. It is largely determined by an attitude towards health as a life value, and understanding and recognition that come with the disease [2].

#### *System approach in psychodiagnostics*

According to the modern concepts of psychology, human psyche is a system of mental functions and conditions. It is obvious therefore that in psyche research it is necessary to use the system-situational approach, which was developed in clinical psychodiagnostics in recent years [5].

This approach contrasts with the traditional integrated approach [6]. It involves the study of the nature of the system (integrated) interaction of individual functions, processes and mental states, as well as taking into account situational and contextual influences on human behavior.

#### *Development of the main provision of theoretical psychology*

Looking at the fundamental research of recent years, it is necessary to highlight work related to the creation of a new field of psychology – theoretical psychology, uniting and systematizing methodological principles, categories, laws of psychology, as well as the stages of psychological research [7]. The development of the basic concepts of theoretical psychology is in its final stage; a new monograph on the topic is expected in the near future.

#### *Psychological research in clinical medicine*

The term “clinical psychology” (from Greek *kline* – bed, hospital bed), although it has a much broader meaning, is often used in the traditional, historically acquired sense: the psychology of the sick person. It is also understood that its practical value is determined by the immediate needs of clinical medicine. The subject of clinical psychology is presented by the features of the patient’s mental activity in their implications for pathogenesis and differential diagnosis of the disease, to optimize its treatment, secondary prevention and patient social rehabilitation.

#### *Areas of research in the psychiatric clinic*

In psychiatry, the traditional tasks of applied research are search problems of increasingly narrow and reliable criteria for the differential clinical diagnosis, determining the level and structure of the intellectual, emotional and volitional defect, as well as adjusting patient behavior in various areas of expertise (judicial, military, employment), and an evaluation of the dynamics of a mental disorder following therapy. In the current circumstances, these objectives remain valid, but are filled with new content, including:

search for differential diagnostic criteria; predicting the effectiveness of rehabilitation treatment; the study of the social environment and social position of patients.

#### *Areas of research in the somatic clinic*

The introduction of the tenets and methods of clinical psychology at the medical illnesses clinic occurs rapidly and is associated with a growing understanding of the role that patient personality and socio-psychological factors play in the development of disease and the treatment process. Equally important is the study of the changes that the disease brings to the current mental state of the patient and their social functioning. In this regard, current approaches to assessing the results of treatment consider therapeutic dynamics in three areas: somatic, psychological and social. Main research interests focus on the study of: changes in the mental health of patients with somatic diseases; psychological adaptation to the disease; patients’ quality of life (in particular, the internal picture of the disease, psychological defense mechanisms and coping, quality of life); and the role of psychological factors in the occurrence and progression of psychosomatic diseases.

#### *Psychological research in preventive medicine*

A significant role plays research aimed at secondary psychoprophylaxis in post-traumatic stress disorder, and in treatment and rehabilitation of survivors of extreme and crisis situations. Of particular importance is clinic-psychological research in children and adolescents for the prevention of deviant and self-destructive behavior, as well as targeted family research. These research areas are gaining greater social significance due to a substantial increase in the dynamics and tension of everyday life in recent years. Mental maladjustment risk factors identified in preventive research can be both subjective and objective in nature (i.e. defined as the individual characteristics of emotional responses, volitional control, coping and social factors in the environment, professional activities, etc.). Research methodology in the field of mental health risks

is primarily based on screening, monitoring the state of health of professional groups or population groups, united by general conditions of life.

#### *Research in the field of pediatric and perinatal clinical psychology*

One of the key areas of research in child clinical psychology is the study of abnormalities of mental development in children, the structure of different types of dysontogenesis [8].

Due to a sharp increase in the number of psychosomatic and somatoform disorders in children and adolescents the amount of research in recent years has increased. The studies are aimed at the difficult connection between mental and physical aspects of child development. Another direction is no less relevant in modern socio-economic conditions: the study of children and adolescents with mental and social deprivation, which is held in connection with the task of determining the basic principles and methods of psychological assistance to this category of children.

Preventative line of research in child clinical psychology is represented by work related mainly to the study of the parent-child relationship as a factor promoting and at the same time blocking the harmonious development of the child and his/her successful social adaptation.

A separate area of research and psychological practice is perinatal psychology (in its clinical and preventive aspects). The greatest number of studies in this area is dedicated to the development and evaluation of programs of psychological support for pregnant women [9]. A number of studies focus on issues around the birth of a sick child, and psychological assistance needed by families in these situations, the study of families who have lost their unborn child, as well as psychological support for families at risk of having small children [10].

#### *Research on the theory and practice of psychotherapy*

One of the main areas of practice and research activity of clinical psychologists, who were trained in the psychological traditions of the St. Petersburg school, is psychotherapy. In many

cases, research and development in the field of psychotherapy further the pathogenetic concept of neuroses and psychotherapy of V.N. Myasishev [11]. The main task of pathogenetic psychotherapy of neuroses is to reconstruct and restore the broken system of patient relations. The basis for this is an awareness of the patient's own personality characteristics and system of relations, as well as the relationship between these characteristics and disease.

With the development of group personality-oriented (reconstructive) psychotherapy the fullest realization of its basic tasks became possible. The particular task was achieving positive change in various aspects of attitude to self. This change represents the beginning of more profound positive improvements in the relations system in general.

The Department of Medical Psychology and Psychophysiology has for many years conducted research, in collaboration with a number of medical institutions (primarily – the V.M. Bekhterev Research Institute), on the effectiveness of different types and forms of therapy, focusing on the dynamics of a variety of psychological parameters: self-esteem, coping mechanisms, intrapsychic and interpersonal conflicts, basic beliefs and irrational attitudes, and so on.

In recent years, increased attention has been paid to short-term forms of psychotherapy, both individual and group therapy. At the same time, short-term clinical and psychological interventions are becoming more common. These types of intervention, in contrast to short-term psychotherapy that lasts about 15–20 sessions, are limited to 1–2 meetings. They are used most often in order to create a healthy lifestyle or motivation for treatment (i.e. in patients with alcohol addiction, in fetal alcohol syndrome prevention [12-13]).

#### *Research in psychophysiology*

The overall theme of research carried out at the laboratory of psychophysiology of the Faculty of Psychology of St. Petersburg State University is an exploration of physiological mechanisms of psychic phenomena. Consequently, the basic research is related to mental phenomena modeling. In the context of understanding the ori-

gin of the psyche as a natural phenomenon, the physiological mechanisms of consciousness [14], emotions [15] and speech [16] were studied. Mathematical modeling was applied in the processes of interaction of the modules of the nervous system and the formation of the simplest of psychic phenomena on the basis of this interaction; performance testing and optimization of a mathematical model of a neural network was conducted, describing how brain centers interact [17]. The new directions of this scientific work are applied cognitive and clinical psychophysiology.

#### *Development of methods for clinical psychodiagnostics*

A broad spectrum of methods of experimental and clinical-psychological research are available to study the scientific and practical problems of clinical psychology [18]. However, the development of their own research methods for the study of IQ is a priority, and of great importance in the practical work of a clinical psychologist, especially in expert practice.

Among the new developments in the field of IQ diagnostics is an adapted method called the “test of intellectual potential”, which is a monomeric tool for a rapid assessment of non-verbal intelligence, and the potential for its development in school-age children and adolescents [19]. With regulatory assessment, another test, developed at the national sample, the Intellectual Potential Test, can be effective in solving various problems of clinical and educational (correctional) psychology. With regard to the field of adult cognitive deficits a re-standardized technique called “Complex Figure Rey – Osterreith” is notable [20].

For the purpose of personal diagnostics, in recent years the V.M. Bekhterev Research Institute, in collaboration with the Laboratory of Clinical Psychology, developed a number of original psychometric tests, scales and methods, such as the Neurotic Personality Traits Questionnaire [21], The Level of Social Frustration method [2], The Level of Neurotic Asthenia Questionnaire [2], Attitudes to Disease method [22], and the Semantic Differential of Time method [23]. Widely used in clinical and preventive medicine are tests created in other countries and adapted for

Russian: Coping Strategies Questionnaire [24], the Toronto Alexithymia Scale [2], the Symptomatic Questionnaire of Neurotic Disorders [18] and others.

An important area is the development and improvement of tests for monitoring mental health and early diagnosis of mental disorders [25] as well as addictive and suicidal behavior [26]. Among the new developments are creative methods of determining psychological traits based on situational speech and texts [16], and the validity of psychological testing based on psychophysiological criteria [27].

At the moment it becomes obvious that one of the possible directions in the development of clinical psychodiagnostic methods is connected with the opportunities offered by the continuous development of computer and information technology. A particularly valuable development concerns the psychodiagnostic information expert systems, based on a holistic coverage of various aspects of psychodiagnostics and the psychological characteristics studied.

## CONCLUSION

Currently, research in the field of clinical psychology practice is in demand. Clinical psychology is increasingly establishing itself as an independent professional activity of psychologists, a study of the whole of the human personality and its role in the occurrence, course, prevention and treatment of a variety of diseases and conditions of mental maladjustment, both conventional and related to the new stage of progress. The scientific research of the Department of Medical Psychology and Psychophysiology, St. Petersburg State University, has made significant contributions in this area.

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