

sinisters were dominant among Military-Medical Academy students. Both-sexed real sinisters from Iran and Ukraine possessed the highest intellect. Intellect co-efficient was higher in men (both in UMSA and Military-Medical Academy students) than in women. Iranian students possessed higher intellect than the Ukrainian ones among UMSA students.

## TERMS FORMATION PROCESS INVESTIGATION AND IQ LEVEL ASSESSMENT IN THE IRANIAN STUDENTS DEPENDENTLY ON THEIR LEADING EXTREMITY

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The abbreviation IQ is used for two terms designation: intellect co-efficient applying only to children, on one hand, and the intellectualism co-efficient as a mere of the adult mental abilities on the other hand. There are two facts which are opposite to each other: from one point of view, the intellectual tests have no any restricted scientific background and, from another one, the intellect testing gives useful practical results. But these facts, in a reality, do not except but add each other. As the first intellectual tests which have appeared at the XX-th century beginning allowed solving many practical problems than this questions attached rather huge attention of many scientists the psychologists first of all. The first trying of the intellect assessment is younger than 100 years. First, the child intellectual greatness or retardation was considered to be estimated as a difference between his/her passport and mental age. So, the 10-year-old child with mental age equal to 8 years was considered to be retarded in his mental development on 2 years while the 6-year-old child with mental age equal to 9 years – preceding to 3 years. This designation method for the intellectual greatness or mindedness is not so comfortable. The 2-year-old child with mental leaving behind to 2 years is a rather seldom phenomenon and he is rather visible in a human population. Such a possibility is observed with a rate 1:50000 children while such a preceding in 12-14 years is hardly to be met and it means nothing. That is why more standardized methods necessity became actual. New approach was to count the correlation of mental age to the passport one, multiply this numeral to 100 and to receive the intellect co-efficient (IQ). Also IQ assessment tests reflect the differences in mental abilities of the people having various professional training. So, they can be useful at a professional choice.

The investigation object was 81 Iranian students (for 5 study years) to real, hidden and unreal sinisters, dexters and ambidexters. Our aim was to assess some cognitive abilities in the Iranian students dependently on their asymmetry individual profile.

We have used following methodics for asymmetry individual profile assessment: dominant extremity; dominant finger; dominant eye; dominant leg, Napoleon's pose, probe with applauding, anamnesis (sinisters among close relatives, arms and hemispheres traumas – for asymmetry individual profile assessment). We have analyzed the students' marks, participation in different activity types (scientific, artistic, social). Also we have proposed them to solve tests compiled by H.J. Aizenk (for IQ assessment). We have investigated terms formation process: *Experiment 1* – terms determining – the investigated person is proposed a row of words indicating different terms (for example, "table", "tractor", "tree" et al.) and is proposed to determine them. *Experiment 2* – terms comparison and difference – the investigated person is proposed the terms pairs which he must compare or find common features having designated them with one word (for instance, "a chair and a sofa is a furniture"). *Experiment 3* – logic correlations finding out – the investigated person is proposed the pairs from alternatives (for example, high-thick, low-thin, fat-hungry et al.) and he has to find opposite characteristics (warm..., low..., weak...). *Experiment 4* – subject imaginations classification (4<sup>th</sup> one is excessive), subjects free classification. The investigated person is proposed 4 subject images (for example: "spade", "saw", "axe", "log") and to find the one subject inappropriate to the rest ones and to explain his choice having designated 3 chosen figures with one word. Or the investigated person is proposed a row of subjects (or their images) and he should classify these subjects after their division into several groups. The essence of these subjects (experiments) is that the investigated person must understand the conditionality of this operation and find the principle of subjects generalization.

The results have demonstrated that real sinisters (with sinistrality among parents) and ambidexters were more able in different branches of life and their activity was more differentiated and united bigger types. The real sinisters and ambidexters IQ level has been fluctuated from 90 till 100 degrees. Hidden (forced) sinisters IQ level was 80-90 degrees. Unreal sinisters IQ was 75-82 degrees. Dexters IQ in the investigated group was 50-70 degrees. Though it should be

mentioned that tests with time limit have been solved with big difficulties by sinistres comparatively to the dexters (that can be used in a study process, to our point of view).

The scale for the results interpretation while the terms processing investigation was the following: 7-10 degrees – very easy to be performed; 5-7 degrees - easy to be performed; 3-4 – difficult to be realized; 1-2 – practically impossible to be realized. We assessed four operations: terms determining, terms comparison and difference, logic correlations finding out, subjects free classification. The terms determining was easier for ambidexters, then for real and hidden sinistres and more difficult for dexters and unreal sinistres. The terms comparison and difference was the easiest for dexters, then for ambidexters and unreal sinistres and difficult for sinistres (both real and hidden). Logic correlations finding out was easy for dexters and ambidexters, at average level – for unreal sinistres while difficult to be realized or practically impossible to be made – for real and hidden sinistres. The subjects free classification making was an easy operation for real and hidden sinistres, ambidexters, difficult for dexters and unreal sinistres (they study proposed classifications easier than created the new ones by free way).

The results received, probably, can be explained by following. Left hemisphere dominant in dexters and unreal sinistres is logic one, performs consequent operations easier, thinking type for left hemisphere is a successive one. Right hemisphere dominant in real and hidden sinistres is alogic, creative one, it performs semantic operations better and thinking type for it is simultant (id est the sinister "captures" the information as a whole and it is rather difficult for him to tell about details that is easy, in turn, to the dexters and moreover to ambidexters).

## MASTICATORY MUSCLES PHYSIOLOGY AND FUNCTIONAL ANATOMY

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Masticatory function is defined by the complex interaction of masticatory musculature, temporal-mandibular joint, teeth and nervous system during biting, jawing, swallowing and speech. Masticatory muscles comprise temporal one, masseter, medial pterygoid and lateral pterygoid paired muscles.

Masseter and medial pterygoid muscle serve first of all as an origin of powerful tension while the temporal and lateral pterygoid muscle are responsible for mandible stabilization. Masticatory musculature functions in a complex with epihyoideal and subhyoideal muscles as well as with the ones of tongue, lips and cheeks. Neck muscles also influence indirectly on the stabilization, participate into the head position changing during the mastication (P.O.Eriksson, 2000).

Muscular mass is maintained due to physical activity as well as due to natural steroid hormones and growth hormone. Insufficient activity leads to muscular hypotrophy while the training results in hypertrophy; muscular fibers change their length at this. Muscular tissue enzymes react to the releasing energy linked with aerobic and anaerobic loading. Capillaries get adapted to the activity level as well. Characteristics and functional peculiarities of masticatory muscles differ from the ones of the extremities muscles because masticatory musculature has better capillary support and other organization of fibers. The I-st-typed fibers responsible for durable contractions (slow) and resilient to the fatigue are dominant in masticatory muscles. Durable activity and muscles powerful contractions, without resting periods, result in intramuscular tension increasing and then in local ishem, increased membranous permeability, edema and even in the cellular damage. Besides, there re easy edema and hyperemy after the loading to the healthy muscles even at chewing gum usage. They consider that masticatory muscles insufficient power can be the predisposition factor for their "wearing". Muscular tissue decomposition can lead both to fibrosis and to muscular fibers regeneration from the cells-satellites (inactive myoblasts) which are also participate into muscles growth. The biggest masticatory muscles are the ones rising mandible, especially the masseter and the temporal one. Masticatory force depends on their activity level; the muscle width, the fibers size and location are also valuable. Male masticatory muscles are stronger than the female ones but the force also depends on the age and occlusive contacts. There is a link between masticatory force and face morphology: the more powerful the muscles are, the less is face vertical height and mandibular angle. Thus, weak masticatory muscles are the prolonged faces characteristics while the stronger ones – for the square ones. If masticatory muscles activity is lowered because of the diminished necessity in mastication, teeth loss or constant pain, their hypotrophy can develop. And, on the contrary, masticatory muscles excessive activity for instant at night bruxism results in their hypertrophy.