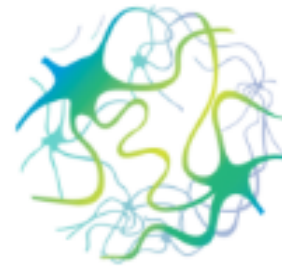


Psychoergometry



SYNAPSE



Participated in the creation:



Oleg Druzhinin, PhD in Psychology
Psychophysiologicalist
Founder, Psychoergometry Project



<https://synapse.expert/laboratory#team>



وإذا كان الرئيس لا يمكنه أن يقوم بكل الأفعال، وجب أن ينيب من يقوم بها على التمام

«If the ruler cannot do all things himself, he must entrust them to those who is capable of completing them fully»



Abu Nasr Muhammad al-Farabi

It is considered that as a person used to work, so he will always work. It means that we can predict his efficiency in future. But how? We need to evaluate his experience...

- Place, Duration, Time about his last workplace, his efficiency, working conditions;
- How he got the skills? Who was his mentor?
- Has he lost his previous skills or not?
- Read and/or hear reviews, check the competence, qualification of those who gave these feedback
- Check his educational documents, the level of knowledge that educational organizations provide, the competence of faculty.



Evaluating a person by his experience - we buy an elephant by the tail of a coon.
His experience is an elephant in the room.

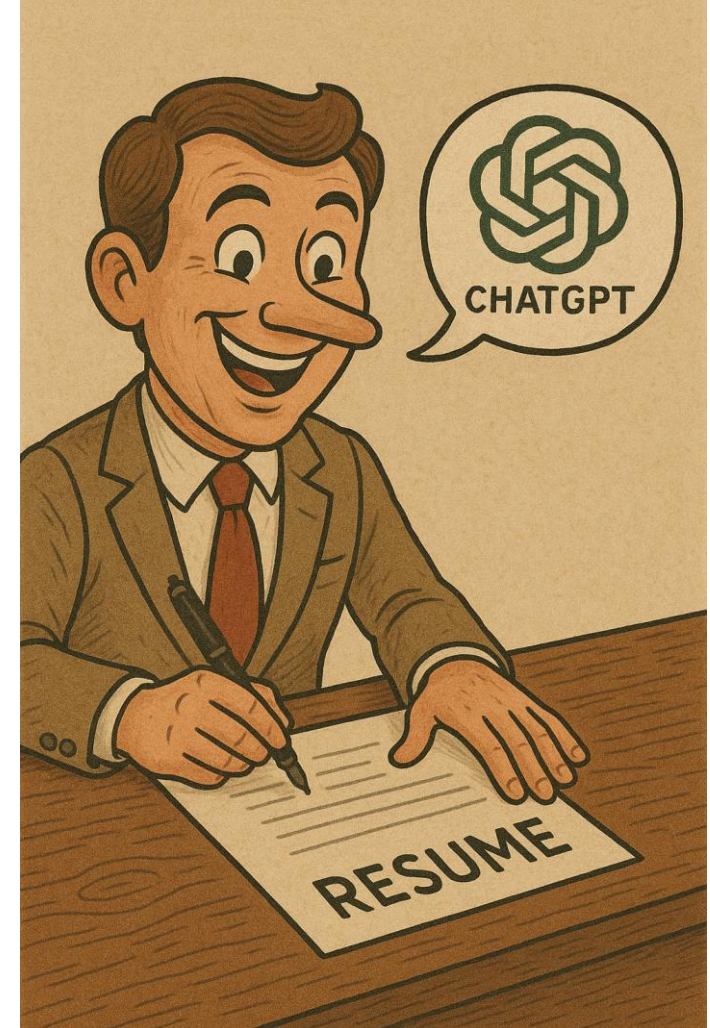
Especially if the applicant is a foreigner



Often the experience is judged by the summary.

It is either difficult or impossible to verify the authenticity of the written text.

AI helps us to talk big...



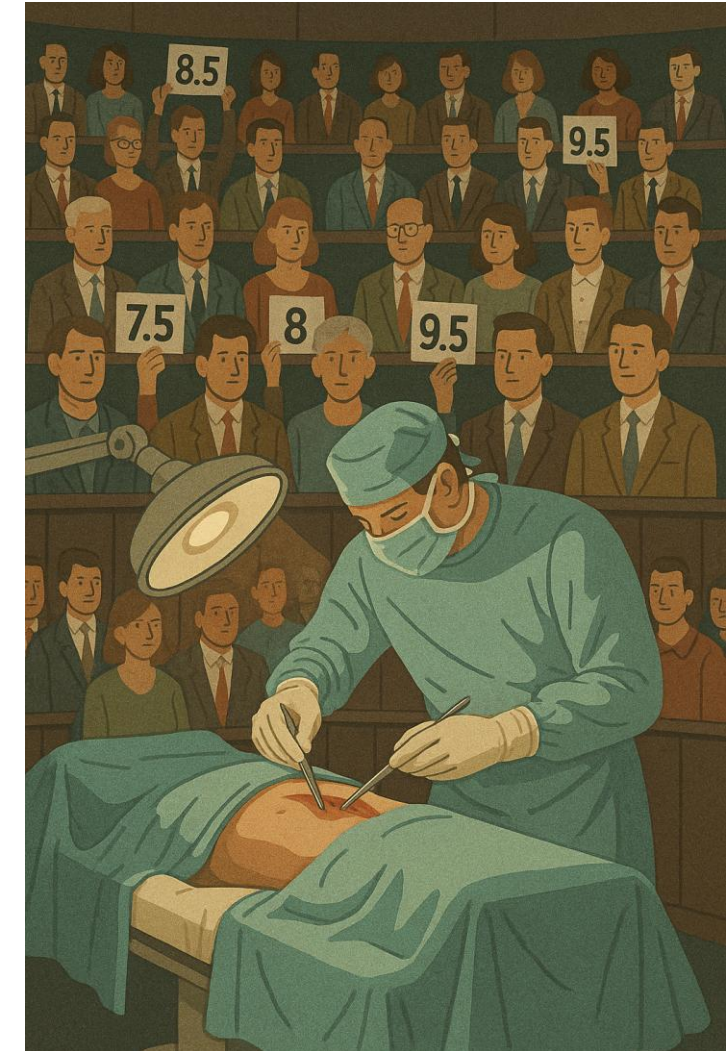
There is special coach, who can prepare for a job interview and that's why we can't understand applicants true potential



The effectiveness of traditional psychological surveys is low.
Many have been written long ago for other tasks as well.



Expert evaluation at the time of recruitment is the most effective and objective means, but requires time and isn't always possible



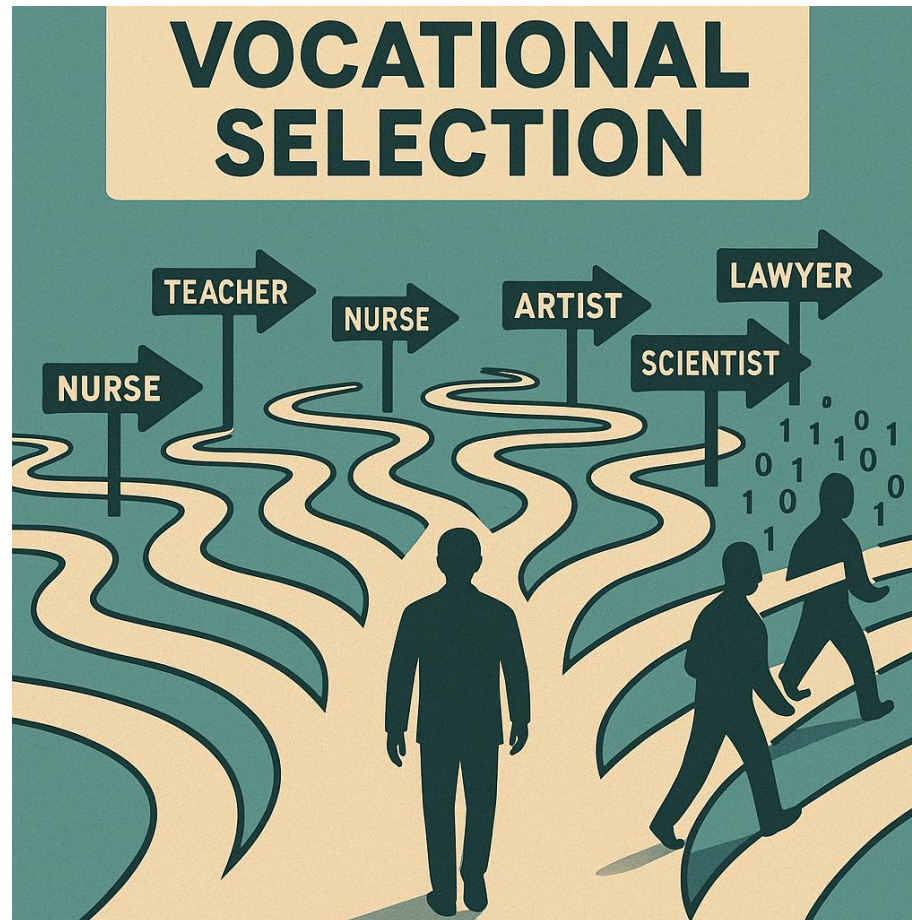
Trial work period is the most effective mean, but it's abusing leads to staff turnover, costs, loss of time and privacy



50 000 professions and specialties

As there are varieties of firms, there are so many occupation.

It's impossible to create competency maps even for popular job opening



ONLY HUMAN EVALUATES HUMAN



Assessment center

ASSESSMENT TECHNIQUES:

1. RESUMES REVIEWING,
2. QUESTIONNAIRES*,
3. INTERVIEW,
4. BEHAVIORAL SIMULATION.



Human

**QUESTIONNAIRES which were created by certain someone*

CV & CL,
psychometric questionnaires,
SJT,
assessment center

THESE AREN'T ASSESMENT MEANS:

Назначение	Термин	Комментарии
Applicant Tracking System	ATS – Applicant Tracking System	Vacancy database, vortex, documents
HR-database	HRIS – Human Resource Information System	Main staff register
Extended HR-Management	HRMS / HCM Suite – Human Resource Management System / Human Capital Management	Payment system, benefits, personnel
Learning Management System	LMS – Learning Management System	Course catalog, tracking results
«Netflix for education»	LXP – Learning Experience Platform	Suggestions, social-learning
Candidate Relationship	Recruiting CRM – Candidate Relationship Management	Narturing of passive talents
Video interview	Video Interview Platform	Live & on-demand records
Technical screening	Coding-Challenge Platform / Dev-Assess	CodeSignal, HackerRank
Game-based test	Game-based Assessment Tool	Pymetrics, Arctic Shores
Online-proctoring	Remote Proctoring System	Fairness control of test
«Softskill measuring»	AI Video-Scoring / SJT Engine	speech and tonality analysis
People-analytics	People Analytics Platform	BI-dashboard, KPI, predictive
Engagment	Engagement / Pulse Survey	Regular surveys NPS
Perfomance Management	Perfomance Management System	OKR, MBO, 1-on-1
Staff reserve	Succesion Planning Tool	9-Box matrix
Internal mobility	Talent Marketplace	Job-skills matching
Compensation policy	Compensation Management	Grades, rewards, promotions
Workforce-management	WFM / Time& Attendance	rotating shift schedule
Onboarding	Digital Onboarding Platform	Check-lists, e-signs
Background Check	Background Check Platform	Criminal, education, credit
ESG/DEI-analytics	Diversity & Inclusion Analytics	Parity control
HR-chatbot	Recruitment Chatbot / Visual Assistant	first response + FAQ

[These are assistive technology](#)



Psychoergometry – № 5 Method

Functional and instrumental diagnosis

KEY FEATURES AND ADVANTAGES:

- ✓ Can predict human success in **ANY** activities - mental, physical and combined
- ✓ Evaluates **ABILITIES** independent of experience. Ability is an innate quality
- ✓ Results **can't be misrepresented** by trainings or subjects sabotage on a physiological level
- ✓ **Gamified** realization
- ✓ **Accuracy** of primary data capture is assured by The Federal Health and Social Development Agency certificated hardware
- ✓ **Scientifically validated** and has RSCI-verified publications in HAC K-2 level journals
- ✓ Created by engineers, doctors and candidates of sciences in Psychology and Biology
- ✓ Results are clear and logically explained and based on **Daniel Kahneman** world-famous works (Nobel, 2002)
- ✓ Compatible with **any other existing** method



Primary data contain key metrics and conclusions, they are INDEPENDENT of the host, BUT:
With deep system deployment can be effectively integrated into the personnel management process and subsequently **create their own** corporate, closed, unique knowledge, conclusions and **competency maps**, patterns where human knowledge of job specifics is indispensable.



UNIQUE

NO ONE IN THE
WORLD HAS THIS



HARD TO COPY

It took 7 years of research to
create this



OUTPERFORMS THE COMPETITION

THERE'RE NO
COMPETITORS



ESTABLISHED

THERE'S NO HUMAN
FACTOR INVOLVED



WORKS IN SOME CASES

WILL SUIT ALL
WITHOUT EXCEPTION

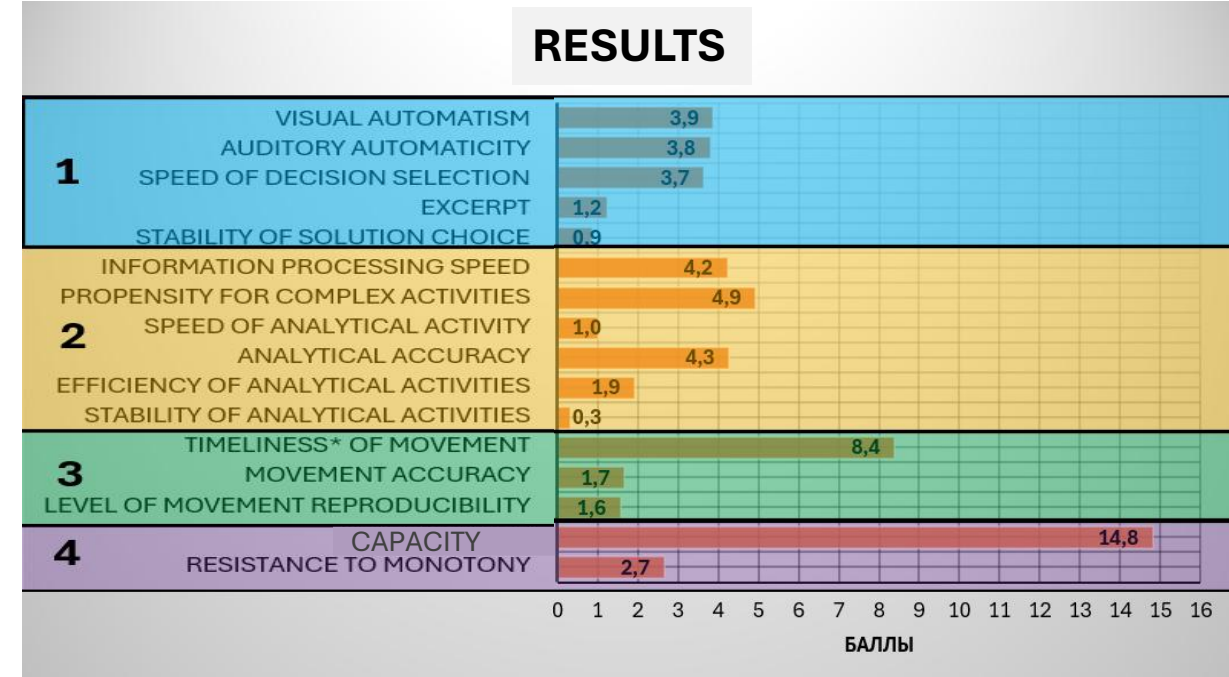
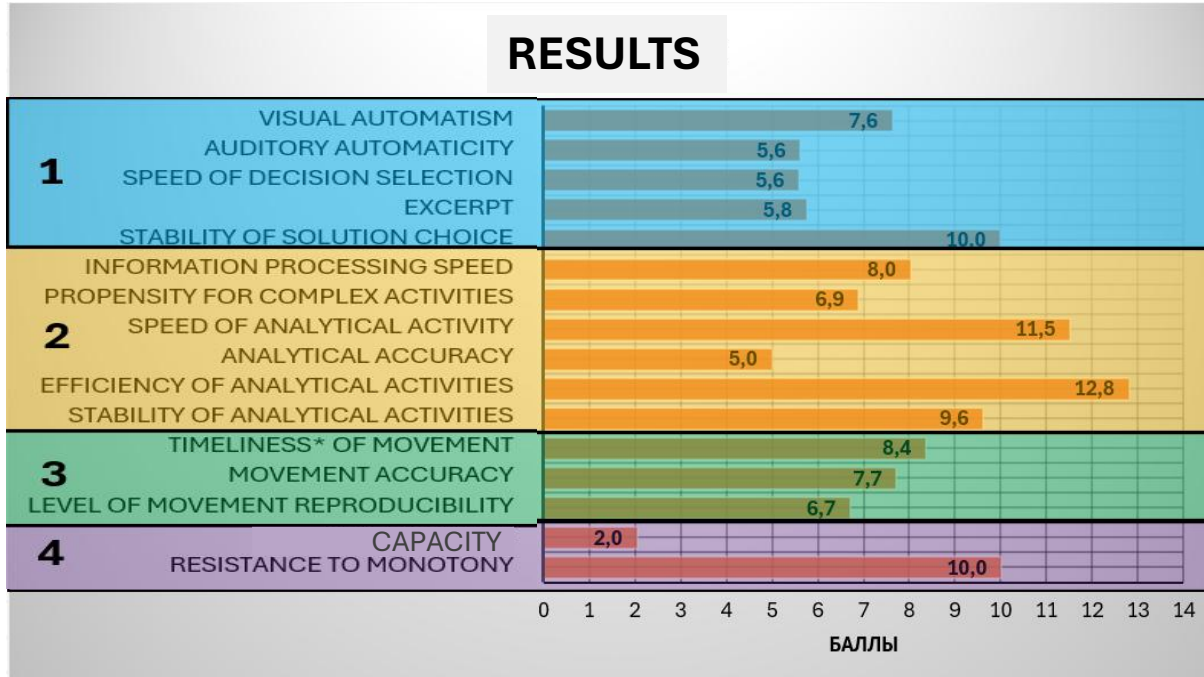
For (B2B)

B2B
Psychologist
Neuropsychologist
Psychotherapist
Clinical psychologist
Career guidance counselor
Teacher
HR-manager
Doctor
Coach
Sports coach
Director
CEO
Gerontologist
School administrators
Tutor



Can be effectively integrated into an any business process
enhancing its expertise

EXAMPLES OF RESULTS



1 Automatic Action System

2 System of deliberate actions

3 Movement system

4 Productivity

Profiles of capacity are intuitive and easily applied to any professional activity, their intended results.

We can see strengths and weaknesses, their balance and ratio.

Detailed expert behavioral interpretation available in various variants and can be carried out on the client's request by doctors and candidates of psychological sciences.

DESIGNATION OF METRICS

Visual automatism is an unconscious level of activity organization. It facilitates routine, monotonous actions. It is least susceptible to training. It is the basis of habits.

Auditory automatism, like visual automatism, is the basis of habits and automatic actions.

Speed of decision making – semi-automatic mode of operation. Important in cyclical activities with simple rules.

Restraint is the ability to refrain from impulsive decisions in simple choice situations. Also refers to the semi-automatic mode of activity.

Stability of decision making – the ability to calculate your energy costs in a semi-automatic mode of operation. The higher the stability, the higher the efficiency.

Information processing speed – the ability to work productively in an intense information flow.

Tendency to complex activity - a tendency to choose and solve more complex cognitive problems.

Speed of analytical activity is the ability to manage large amounts of information.

Accuracy of analytical activity – the ability to retain complex arrays of information and rules in memory. The ability to organize and conduct complex mental activity, to obtain new knowledge.

The effectiveness of analytical work is a combination of speed and accuracy in working with complex information.

Stability of analytical activity is the stability of energy expenditure when working with complex information.

Movement timing is the ability to initiate, correct, or complete a movement at the optimal time. It is related to physical activity and, in some cases, may reflect behavioral constants - the degree of anticipatory or conservative response strategy.

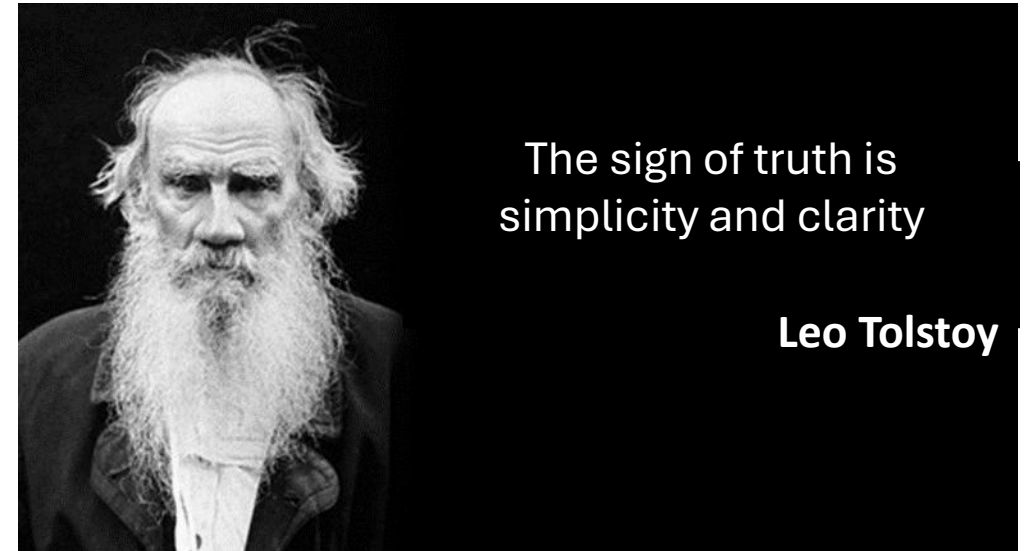
Movement accuracy is the degree to which movement corresponds to a predetermined target or trajectory.

The level of movement reproducibility is the stability of achieving the goal with repeated presentation of the motor task.

Productivity is the ability to perform a certain amount of activity at maximum intensity.

Resistance to monotony - the ability to maintain efficiency when performing monotonous work for a long time, is inversely proportional to the ability to withstand excessive loads.

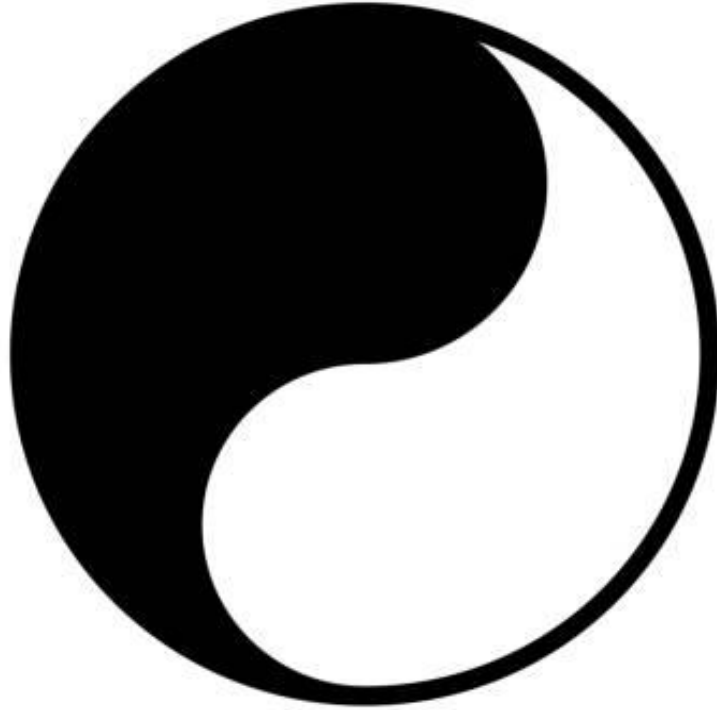
Metric terms are simple, common and their application doesn't require specialized knowledge



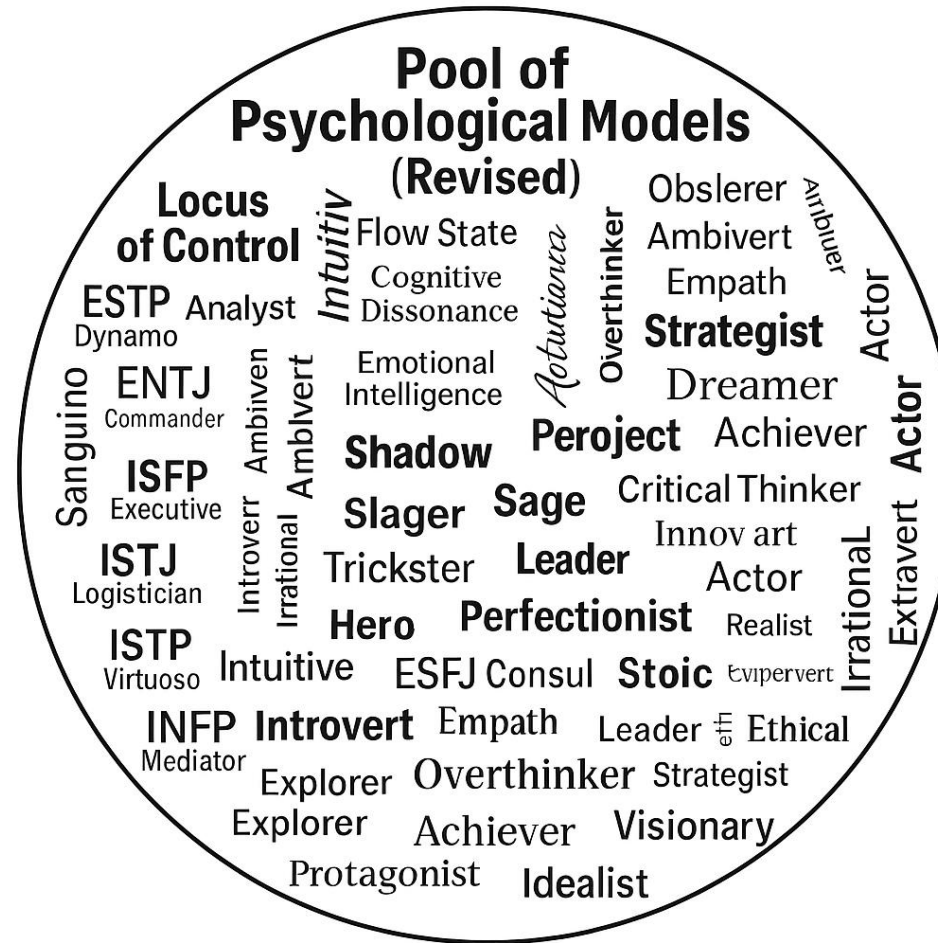
The sign of truth is
simplicity and clarity

Leo Tolstoy

The most common dual model



Pool of psychological models



They tried

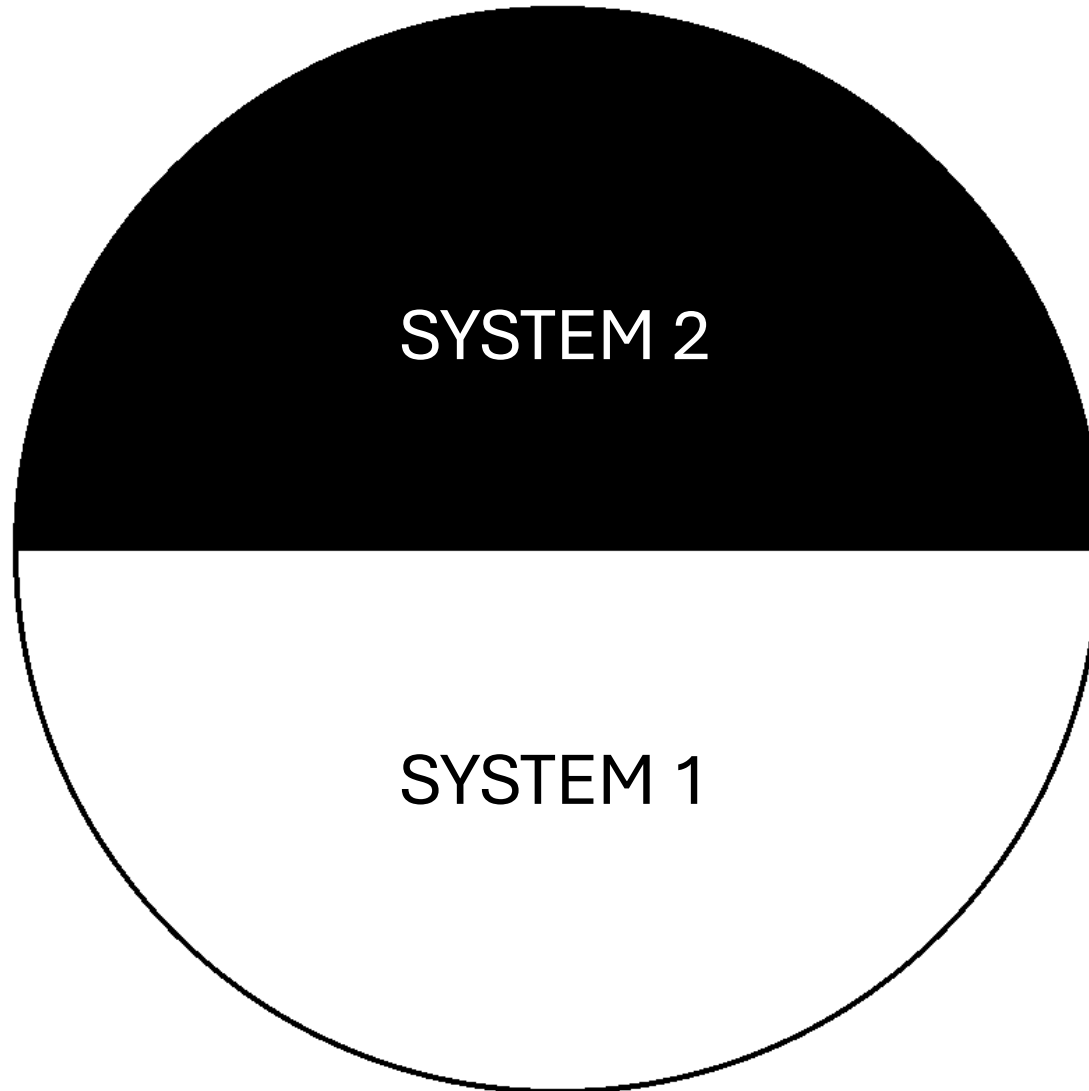
They're trying

There're so many

10 000+ psychological methods

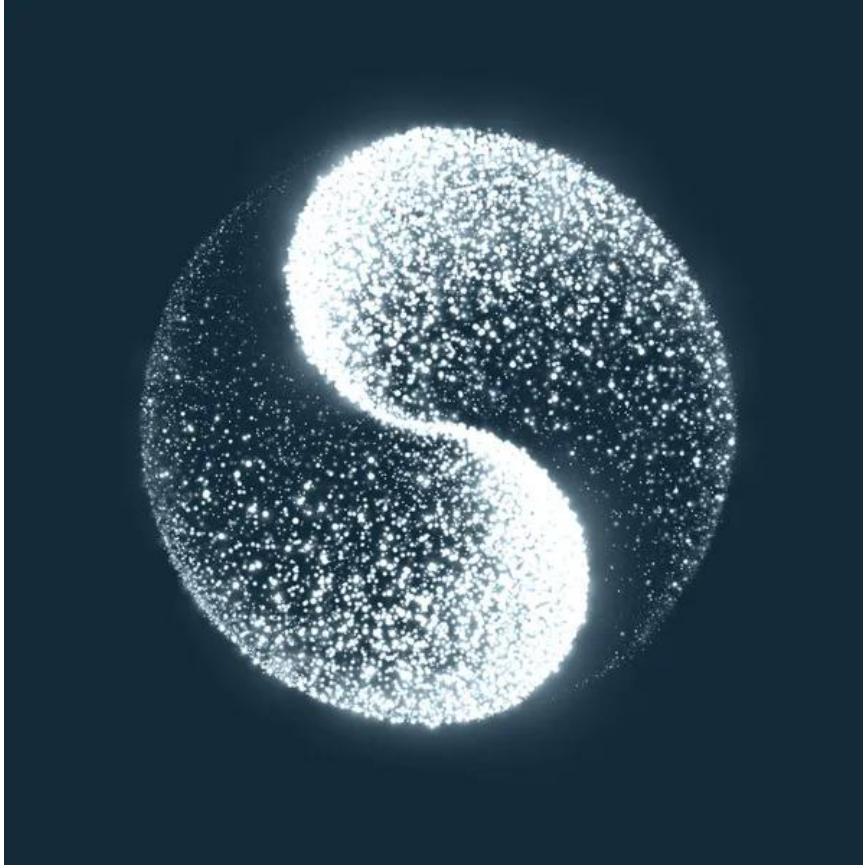
Scientifically validated — nearly **3000**

Kahneman's dual processing model of human cognition

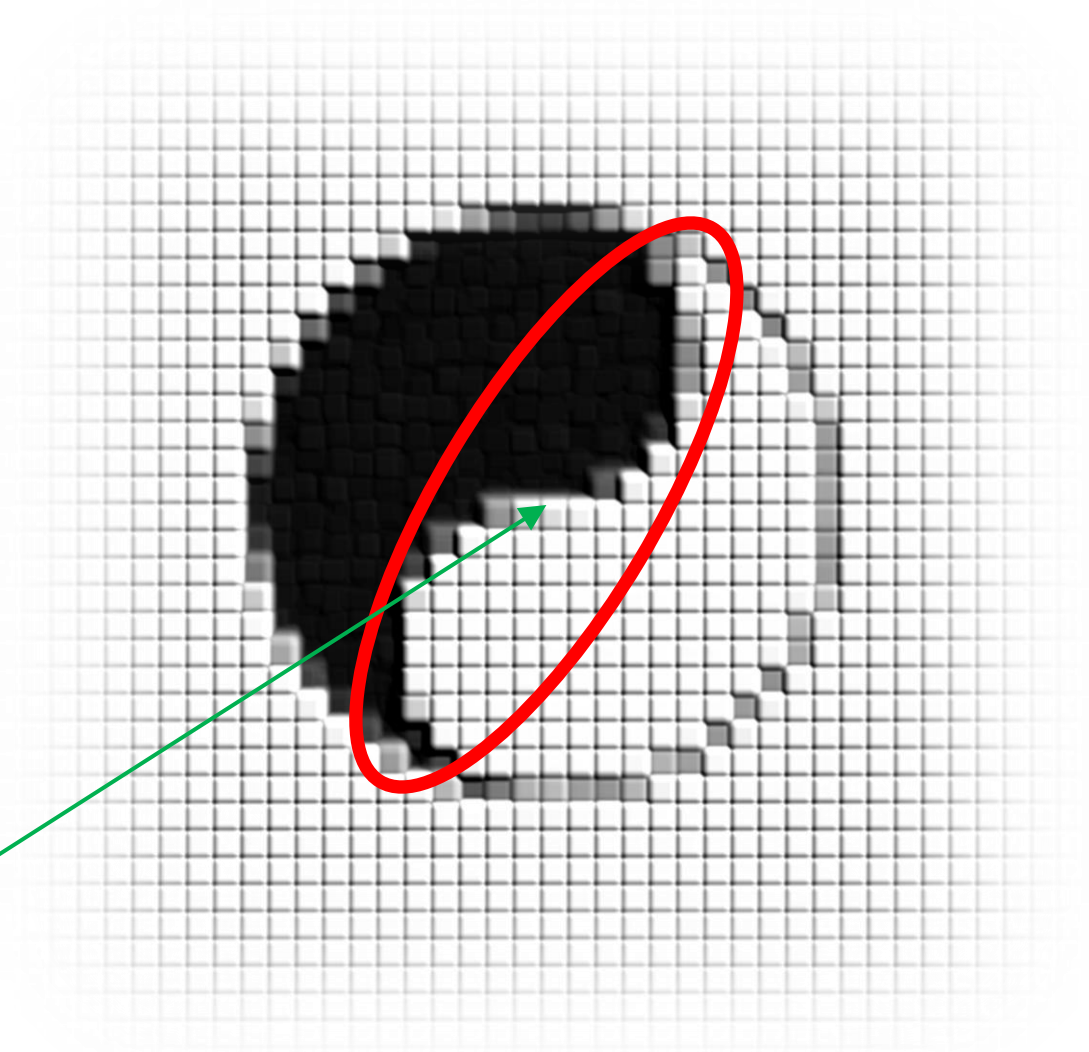


OUR MODEL

Infinitely complex world



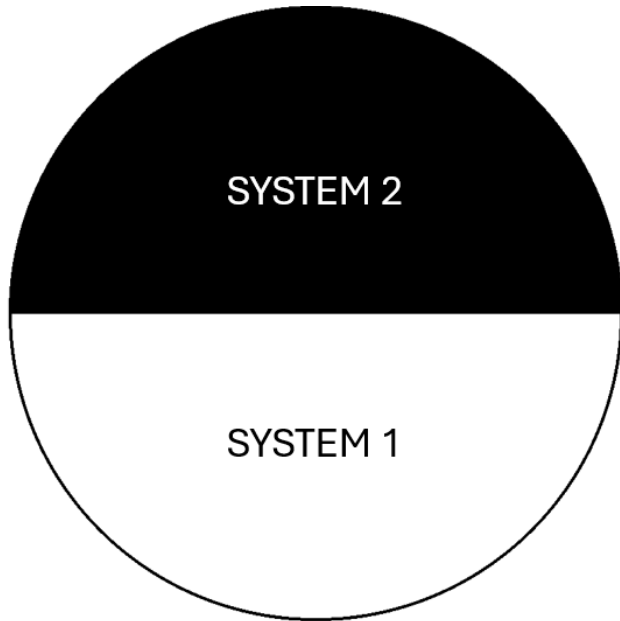
Measurable world



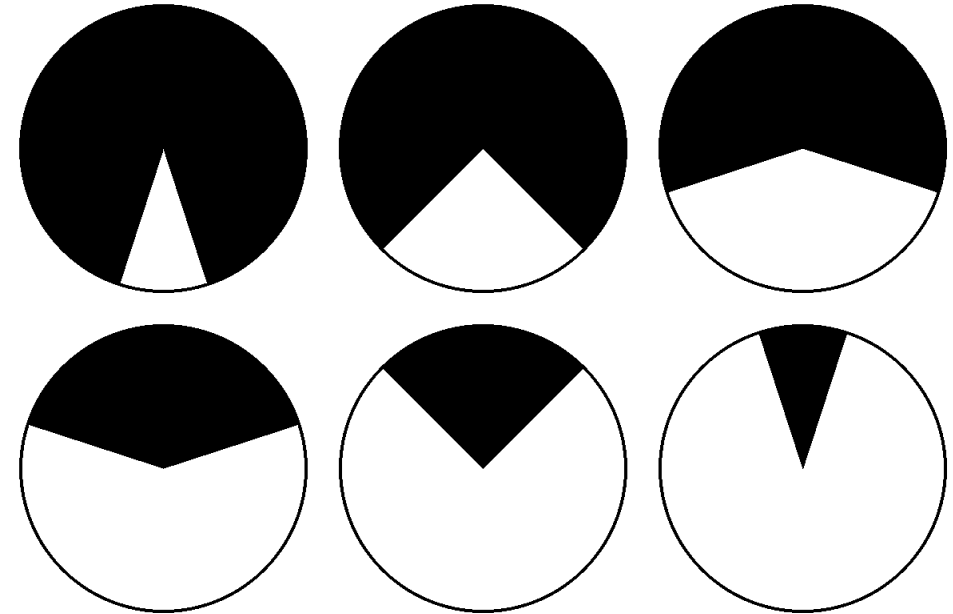
AND WE ARE WORKING AT THE CROSSROADS OF PSYCHOLOGY AND PHYSIOLOGY

WHAT ABOUT THE KAHNEMAN THEORY?

Perfect human



Real people are various



All people are pretty similar

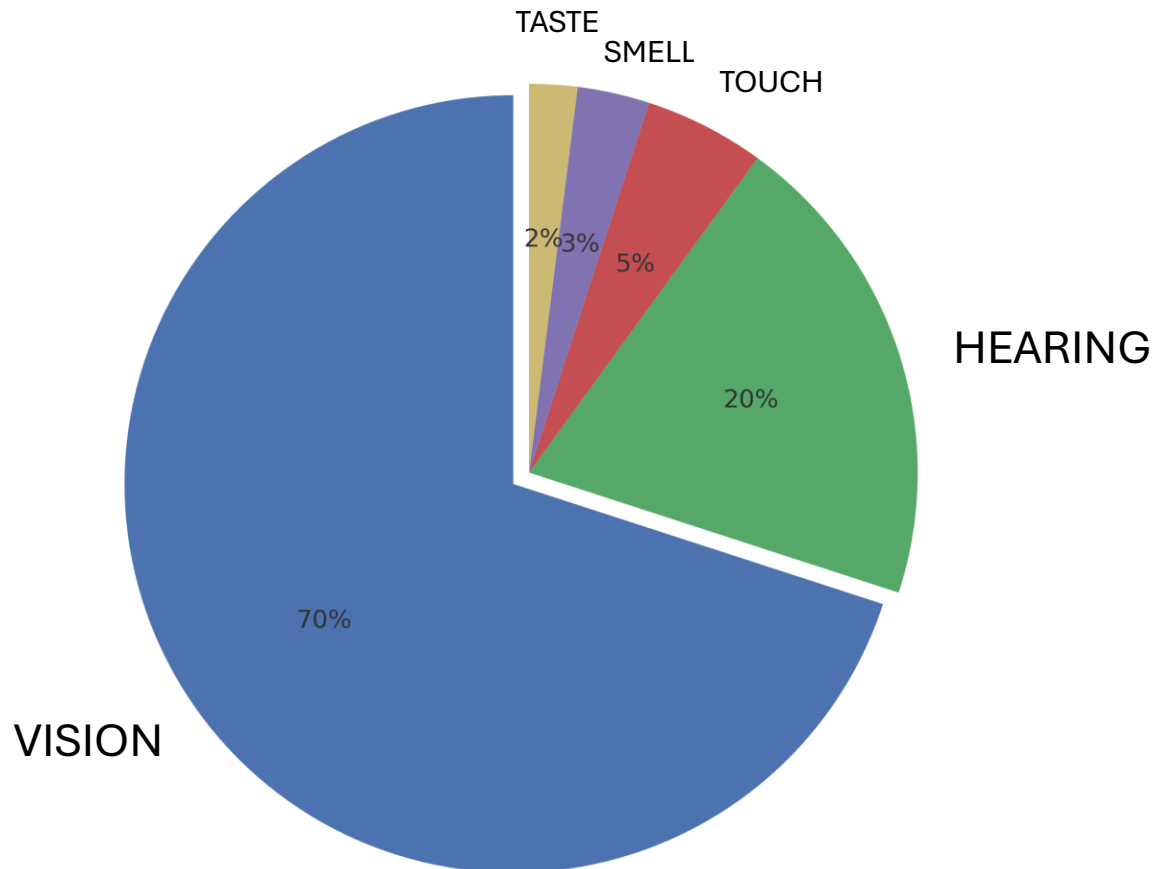


YES! But nature of the systems 1 and 2 work is different

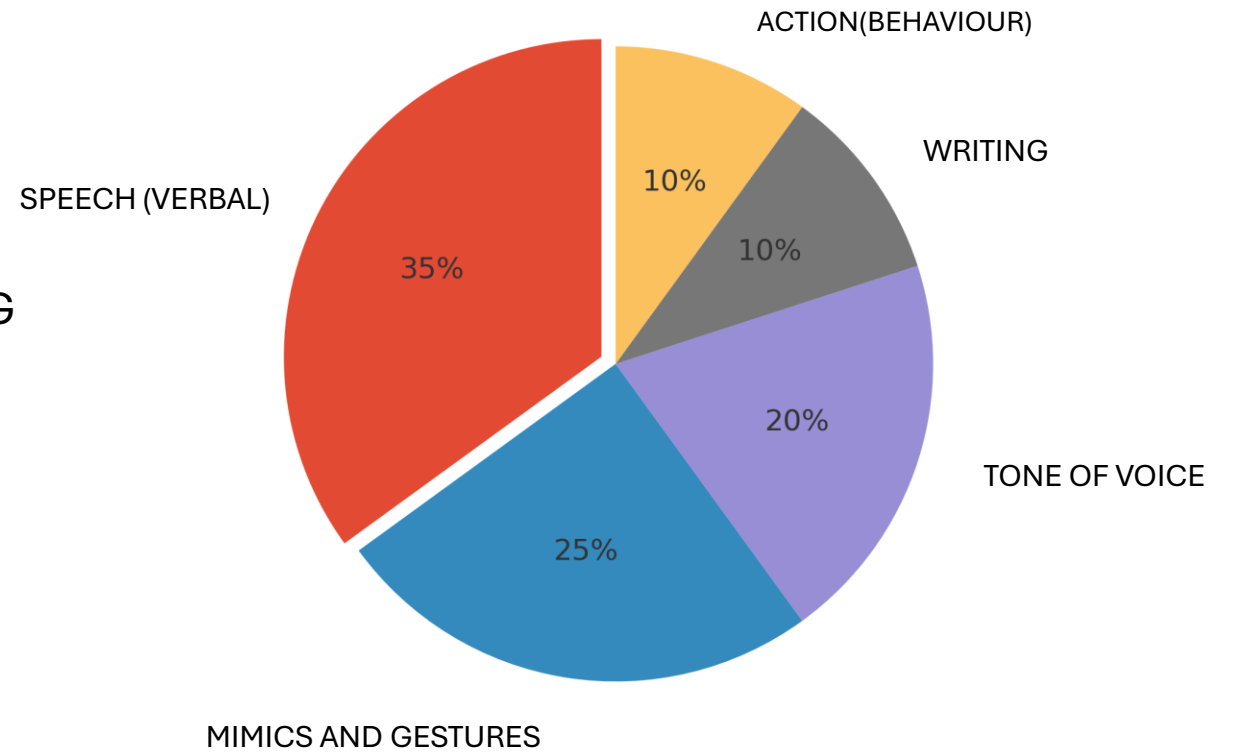
WHAT ELSE PEOPLE ARE MUCH ALIKE?

RECEPTION AND TRANSMISSION OF INFORMATION IS LIMITED TO A SMALL NUMBER OF CHANNELS

The share of perception by sensory systems



The share of transmitting by relaying channels



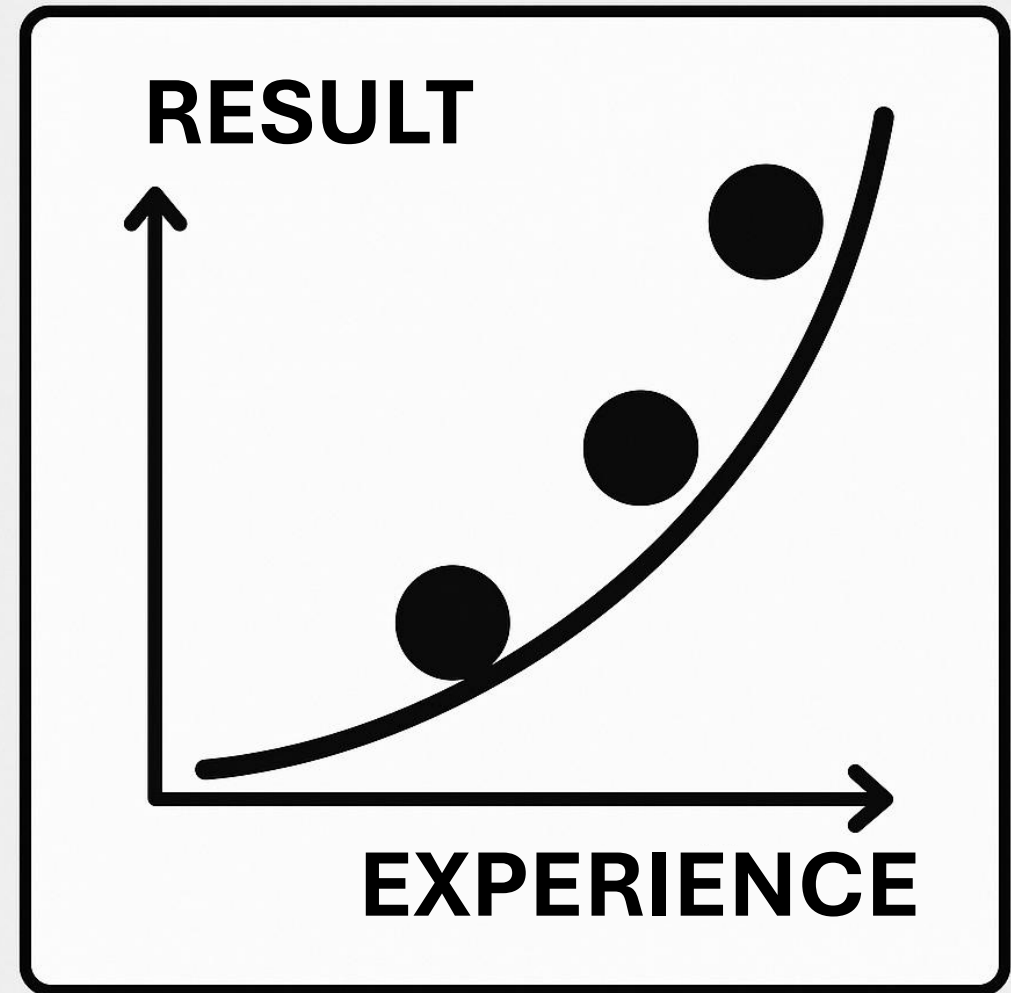
Experience that's a son of errors....

He is also the father of most psychological mistakes.

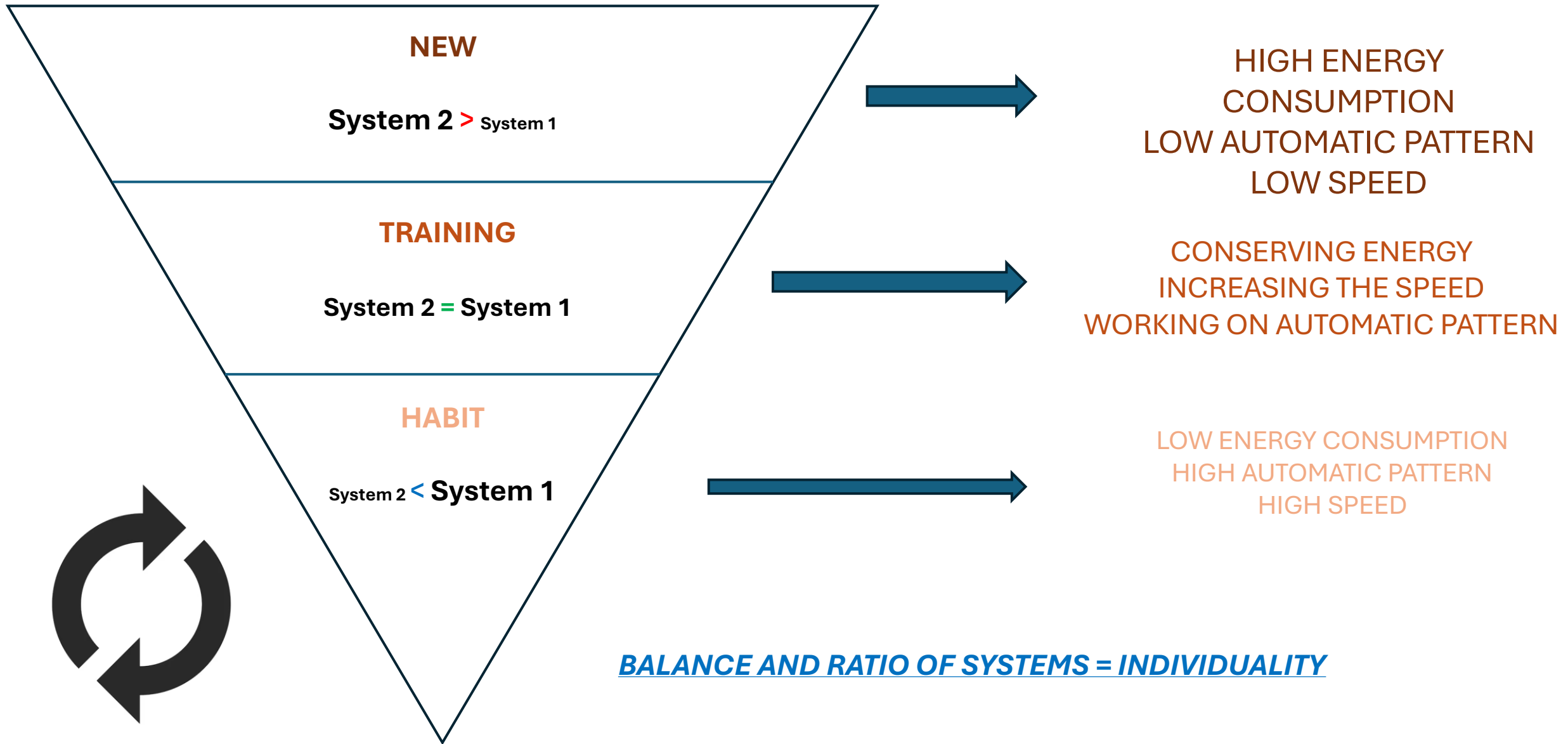
In contrast to the innate abilities - experience is acquired by a person and depends on his environment. And the experience helps to pass psychological tests, answer questionnaires, questionnaires, also adjust their answers towards expected desire ... As a consequence, psychologist evaluates abilities (innate) but not exactly + experience (acquired) (exactly). And based on this results he concludes his success and style of behavior in the future...

If person's future, his success and occupation consists only in answering questionnaires, we can assume, that's great method, but clearly, what's wrong.

Real life requires real habits and results in И реальная жизнь требует от человека реальные результаты in a diverse operations, which are capable of capabilities and features of Systems 1 and 2.

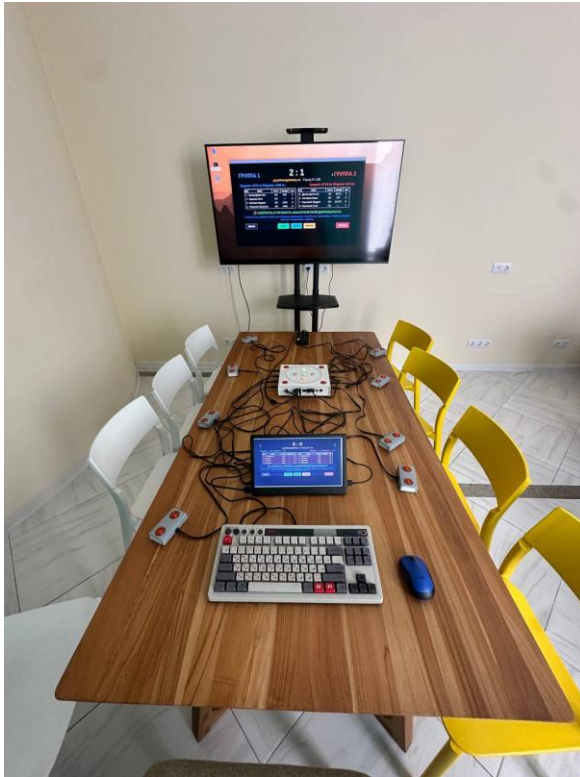


ОСНОВНАЯ МОДЕЛЬ ВЗАИМОДЕЙСТВИЯ СИСТЕМ



WHAT HAS BEEN DONE

We measured unconscious (System 1), meaningful (System 2) and combined (1+2) actions and responses on simple quests, where quality of which **doesn't depend on experience**. It takes 2-3 attempts to achieve top-gear.



SIMPLE, REPETITIVE QUESTS



MATHEMATIC MODEL



COMPLEX LONG-TERM ACTION

OUR PARTNERS, more than 1400 people were tested in 7 years of work



ПРОГНОЗ
детская неврология



WE HAVE PROCESSED *MORE THAN 7,000,000 DATA* MATHEMATICALLY AND STATISTICALLY

PERSONAL WORK OF TESTING RESEARCHER:

-more than *9 000 times and 650 hours* instruction explanation and monitoring progress in live participation mode

THE RESULT of long-term work of scientists and engineers team became a new method:

PREDICTING HUMAN'S IMPACT IN DIFFERENT ACTIVITIES *(in education, sports, job)*

The methodology evaluates 4 major human systems, which determinate behavior:

1 Automatic Action System	2 System of deliberate actions
3 Movement system	4 Productivity

Our articles are publishing in opensource,
in HAC K-2 level journals.

Мир Науки
педагогика и психология

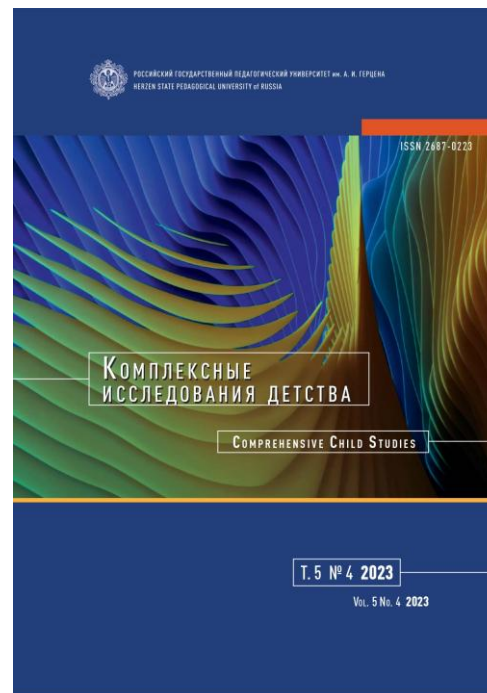


ФЕДЕРАЛЬНОЕ ГОСУДАРСТВЕННОЕ БЮДЖЕТНОЕ УЧРЕЖДЕНИЕ НАУКИ
ИНСТИТУТ ПСИХОЛОГИИ
РОССИЙСКОЙ АКАДЕМИИ НАУК

НАУЧНЫЕ ЖУРНАЛЫ РОССИЙСКОГО ГОСУДАРСТВЕННОГО ПЕДАГОГИЧЕСКОГО УНИВЕРСИТЕТА им. А.И. ГЕРЦЕНА

Психология человека в образовании

PSYCHOLOGY IN EDUCATION



- 1 **ВРЕМЯ РЕАКЦИИ И БЕЗОПАСНОСТЬ ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ (ОБЗОР ЗАРУБЕЖНЫХ ИССЛЕДОВАНИЙ)**
Ефимова Виктория Леонидовна, Дружинин Олег Александрович
Психология человека в образовании. 2025. Т. 7. № 1. С. 79-87.
- 2 **ПРОЕКТИВНЫЕ ТЕСТЫ В БОКСЕ**
Дружинин О.А.
В сборнике: Педагогика и психология: передовой опыт и реализация. сборник статей по итогам Международной научно-практической конференции. Стерлитамак, 2024. С. 29-32.
- 3 **СВЯЗЬ ЗАНЯТИЙ БОКСОМ С ПОКАЗАТЕЛЯМИ АГРЕССИВНОСТИ**
Дружинин О.А., Барченко С.А.
В сборнике: Психология образования и педагогические инновации в цифровую эпоху. сборник статей по итогам Международной научно-практической конференции. Стерлитамак, 2024. С. 62-65.
- 4 **СРАВНИТЕЛЬНЫЙ АНАЛИЗ СЕНСОМОТОРНЫХ РЕАКЦИЙ ДЕВУШЕК-БОКСЕРОВ И СТУДЕНТОК УНИВЕРСИТЕТА, НЕ ЗАНИМАЮЩИХСЯ БОКСОМ**
Дружинин О.А., Ефимова В.Л., Якубова Г.А., Расулов Э.Ю.
Психология и психотехника. 2024. № 1. С. 70-84.
- 5 **ОСОБЕННОСТИ ВЗАИМОДЕЙСТВИЯ ВЕСТИБУЛЯРНОЙ И СЛУХОВОЙ СИСТЕМ У ДЕВУШЕК-БОКСЕРОВ**
Дружинин О.А.
Мир науки. Педагогика и психология. 2024. Т. 12. № 3.
- 6 **ИСПОЛЬЗОВАНИЯ СЕНСОМОТОРНЫХ ТЕСТОВ В ПРОФЕССИОНАЛЬНОЙ ДЕЯТЕЛЬНОСТИ ВОЕННОСЛУЖАЩИХ**
Ефимова В.Л., Дружинин О.А.
Мир науки. Педагогика и психология. 2024. Т. 12. № 4.
- 7 **ИЗМЕНЕНИЕ ПОКАЗАТЕЛЕЙ СЕНСОМОТОРНЫХ ТЕСТОВ ПОСЛЕ РИТМИЧЕСКОГО ТРЕНИНГА У ШКОЛЬНИКОВ С ТРУДНОСТЯМИ В ОБУЧЕНИИ**
Дружинин О.А.
Мир науки. Педагогика и психология. 2024. Т. 12. № 2. С. 66.
- 8 **СЕНСОМОТОРНЫЕ ТЕСТЫ И ИСПОЛНИТЕЛЬНЫЕ ФУНКЦИИ У ШКОЛЬНИКОВ**
Ефимова В.Л., Николаева Е.И., Дружинин О.А.
В сборнике: Человек, субъект, личность: перспективы психологических исследований. Материалы Всероссийской научной конференции, посвященной 90-летию со дня рождения А. В. Брушлинского и 300-летию основания Российской академии наук. Москва, 2023. С. 629-632.
- 9 **ИСПОЛЬЗОВАНИЕ СЛОЖНОЙ СЕНСОМОТОРНОЙ РЕАКЦИИ ДЛЯ ПРОГНОЗА УСПЕШАМОСТИ В ШКОЛЕ**
Ефимова В.Л., Николаева Е.И., Дружинин О.А., Мазурова И.С.
Психология и психотехника. 2023. № 1. С. 1-11.
- 10 **ПОИСК ПСИХОФИЗИОЛОГИЧЕСКИХ ПРЕДИКТОРОВ УСПЕШНОСТИ ОБУЧЕНИЯ В ШКОЛЕ**
Дружинин О.А.
Психология и психотехника. 2023. № 3. С. 87-96.
- 11 **ВРЕМЯ СЕНСОМОТОРНОЙ РЕАКЦИИ И КОГНИТИВНЫЕ СПОСОБНОСТИ (ОБЗОР ЗАРУБЕЖНЫХ ИССЛЕДОВАНИЙ)**
Ефимова В.Л., Дружинин О.А.
Комплексные исследования детства. 2023. Т. 5. № 1. С. 58-63.
- 12 **СЕНСОМОТОРНЫЕ РЕАКЦИИ И ИСПОЛНИТЕЛЬНЫЕ ФУНКЦИИ**
Ефимова В.Л., Дружинин О.А.
Вестник психофизиологии. 2022. № 4. С. 108-113.

МЕЖНАЦИОНАЛЬНАЯ ПСИХОФИЗИОЛОГИЧЕСКАЯ АССОЦИАЦИЯ ОРГАНИЗАЦИЙ, УЧЕНЫХ, СПЕЦИАЛИСТОВ
INTERNATIONAL PSYCHOPHYSIOLOGICAL ASSOCIATION OF ORGANIZATIONS, SCIENTISTS, SPECIALISTS

ISSN 2227-6157

ВЕСТНИК ПСИХОФИЗИОЛОГИИ

Psychophysiology News

New Method for measuring human behavior is part of the pool of other objective instrumental techniques promoted by us, which we have united by the notion

«**PSYCHOERGOMETRY**»

 Etymology

Components	Origin	Meaning
PSYCHO -	греч. ψυχή (<i>psyche</i>)	Soul, mind, psyche
ERGO -	греч. ἔργον (<i>ergon</i>)	Action, labor, work
METRY -	греч. μετρία (<i>metria</i>)	Measure, assessment, reference system



science of measuring humans mental capacity, activity and effectiveness of tasks

Practical application in corporations, small and medium businesses

Objective software evaluation of personnel can be applied as a stand-alone methodology or as a complement to any other existing one.

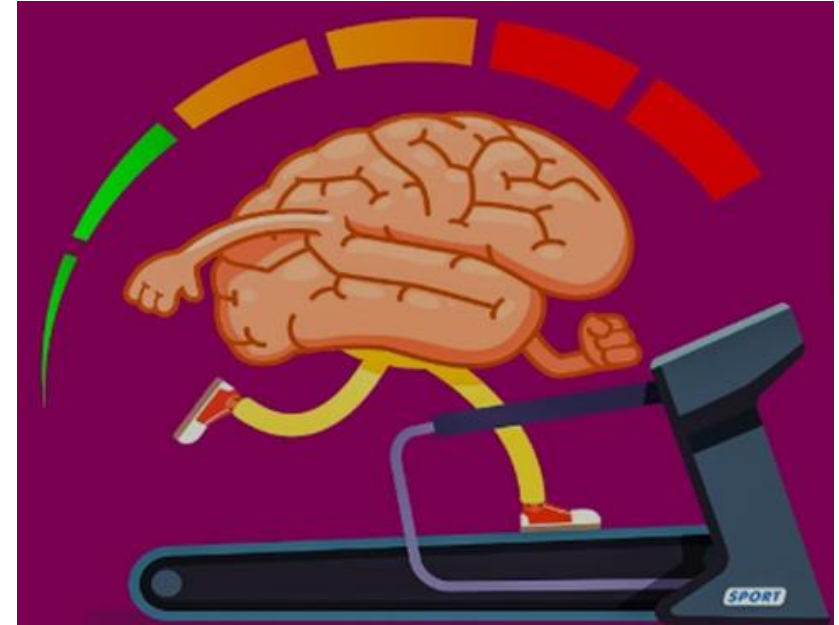
For managers:

- objective employees assessment, suitability of their post
- capable staff detecting
- creation of a personnel reserve
- Division and unit teamwork
- support for staff optimization decisions
- identification of employees at risk
- making informed personnel decisions in the application of grading technology
- reform of the internal staffing structure in response to changing external conditions
- human factor in business process automation and innovative breakthrough technologies such as artificial intelligence
- auditing the correctness of personnel decisions of subordinate managers, line managers.

For staff:

- trades/occupation, fields of activity choice,
- reducing the risk of burnout by selecting optimal workloads
- assessment of the relationship between energy costs and income
- decision-making and skills development

Do we develop something else?



In the works we have some hard-software methods on other devices

Our Center of Cognitive Resources is based in Saint Petersburg.

It can be helpful:

- While preparing for exams, interview, work changing;
- When cognitive decline due to burnout, depression, intensive or monotonous work;
- For improving sports, studies, works results and productivity;
- After sickness;
- With gadget and social medias addiction;
- For improving auditory perception;
- With age-related changes.

We have Health Committee License



Certificates of state registration:

РОССИЙСКАЯ ФЕДЕРАЦИЯ



СВИДЕТЕЛЬСТВО
о государственной регистрации программы для ЭВМ
№ 2026616646

Программа профилирования и ранжирования профессиональных направлений на основе балльных сенсомоторных показателей и многомерного сопоставления метрик способностей

Правообладатель: *Дружинин Олег Александрович (RU)*
Автор(ы): *Дружинин Олег Александрович (RU)*

Заявка № 2026615545
Дата поступления 28 февраля 2026 г.
Дата государственной регистрации в Реестре программ для ЭВМ 10 марта 2026 г.

Руководитель Федеральной службы по интеллектуальной собственности
Ю.С. Зубов



Документ подписан электронной подписью
Сертификат 00a5750487, #3053754b8818a7529506
Подписано: Зубов Ю.С. Сергеевич
Действителен с 04.07.2025 по 28.11.2026

РОССИЙСКАЯ ФЕДЕРАЦИЯ



СВИДЕТЕЛЬСТВО
о государственной регистрации программы для ЭВМ
№ 2026617229

Программа приведения возрастнo-половых норм сенсомоторных показателей к единой стандартизированной балльной шкале

Правообладатель: *Дружинин Олег Александрович (RU)*
Автор(ы): *Дружинин Олег Александрович (RU)*

Заявка № 2026615900
Дата поступления 05 марта 2026 г.
Дата государственной регистрации в Реестре программ для ЭВМ 13 марта 2026 г.

Руководитель Федеральной службы по интеллектуальной собственности
Ю.С. Зубов



Документ подписан электронной подписью
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РОССИЙСКАЯ ФЕДЕРАЦИЯ



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№ 2026621018

База эмпирических многолетних измерений сенсомоторных показателей с возрастной и половой систематизацией

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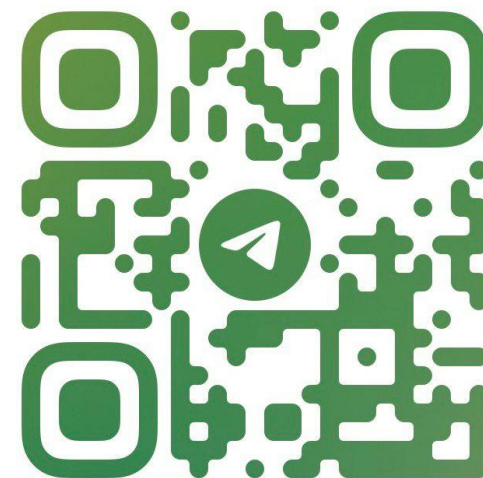
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