TPM Vol. 32, No. S8, 2025
ISSN: 1972-6325
https://www.tpmap.org/

Open Access

# THE MEASURE OF MIND ADAPTABILITY TO STRESS WITH NEURO GENETIC MATRIX MAPPING AND DHARMASHASTRAS: PRACTICAL APPLICATIONS IN PSYCHOMETRICS

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**Abstract**:
**From Theory to Practice in Psychological Assessment**
The human mind, with its vast capacities for thought, emotion, and action, has long been a subject of profound fascination and scientific inquiry. Concepts such as "intelligence" and "personality" are woven into the fabric of our daily language, used to describe ourselves and others, to explain successes, and to understand failures. Yet, for much of history, these concepts remained in the realm of the abstract, accessible only through introspection and philosophical debate. The field of psychometrics represents a monumental shift in this understanding, providing the scientific framework to translate these abstract psychological constructs into tangible, measurable, and comparable data. The role of neurogenetic varna personality traits matrix has the entailed determination action of stress predispositions of humans that can relate epigenetics and stress influence over cognitive intelligence during the employee work settings and relatedness towards ancient varna system depicted in manusmriti and Santana dharmashastras.
At its core, psychometrics is the science of psychological measurement. It encompasses the theory and techniques used to design, validate, and apply assessment tools that quantify individual differences in abilities, attitudes, and behavioural traits. This endeavour is not merely academic; it has profound and far-reaching practical implications. The scores derived from psychometric tests inform some of the most critical decisions in a person's life, from educational placement and clinical diagnosis to career selection and legal judgments. A well-constructed test can illuminate a path for a struggling student, help a clinician tailor a therapeutic intervention, or guide an organization in building a more effective team. Conversely, a poorly designed or improperly used test can lead to misunderstanding, bias, and significant harm. This report delves into the practical applications of psychometrics, focusing on the two most foundational and widely assessed domains of human individuality: intelligence and personality. It is structured into two comprehensive parts.
**Key words**:intelligence, stress genes, neuro genetics, psycho genetics, personality mapping,

## INTRODUCTION

The Landscape of Human Intelligence, explores the multifaceted nature of cognitive ability. It traces the conceptual journey of intelligence from early theories of a single, general capacity to modern, pluralistic models that recognise a diverse array of cognitive and emotional skills. This part will examine the seminal theories of Spearman, Thurstone, Gardner, and Sternberg, and deconstruct the meaning and measurement of both the Intelligence Quotient (IQ) and the Emotional Quotient (EQ).
The Scientific Assessment of Personality, navigates the complex world of human character. It examines the major theoretical frameworks used to understand its structure, from the deep unconscious drives of psychoanalytic theory to the stable, measurable traits identified by pioneers like Cattell and Eysenck. This part will also explore the diverse psychometric tools developed to measure personality, from structured, objective questionnaires to ambiguous, projective techniques.
Throughout this report, the theoretical discussions are grounded in real-world application. Through detailed examples and illustrative case studies, we will see how these psychometric tools are used in clinical, educational, organizational, and forensic settings to provide invaluable insights into the human condition. By bridging the gap between abstract theory and concrete practice, we can appreciate the immense power—and profound responsibility—that comes with the scientific measurement of the mind.

## LITERATURE REVIEW

### The Landscape of Human Intelligence

The concept of intelligence is central to our understanding of human potential. It is the invisible engine that drives our ability to learn, reason, solve problems, and adapt to an ever-changing world. This section of the report embarks on an exploration of this complex construct, beginning with the fundamental challenge of defining it and tracing the evolution of its measurement. We will journey through the foundational theories that have shaped the field, from the idea of a single "general intelligence" to the modern recognition of multiple, diverse abilities. Finally, through applied case studies, we will witness how the measurement of intelligence provides critical insights that shape lives in educational and clinical contexts.

### The Quest to Define Intelligence

Before we can measure a concept as profound as intelligence, we must first attempt to define it. This task has proven to be one of the most enduring challenges in psychology. Intelligence is not a physical object that can be seen or touched; it is a hypothetical

construct—an abstract variable that is not directly observable but is inferred through its effects on behavior and performance on specific tasks. For over a century, scholars have proposed a multitude of definitions, each reflecting different theoretical perspectives and cultural values.

Early in the 20th century, Lewis Terman, a key figure in intelligence testing, defined it as "the ability to carry on abstract thinking". David Wechsler, the creator of the most widely used intelligence tests today, offered a broader definition: "The aggregate or global capacity of an individual to act purposefully, think rationally and deal effectively with the environment". More contemporary theorists like Robert Sternberg have framed it as a "capacity for goal-directed adaptive behaviour," while Howard Gardner defines it as "the ability to solve problems or create products that are valued within one or more cultural settings". This diversity of definitions underscores a critical point: intelligence is not a single, monolithic entity but a complex combination of higher-order cognitive skills, including reasoning, planning, problem-solving, and learning from experience.

**The Cultural Lens**

The very definition of intelligence is inextricably linked to cultural context. Western cultures have historically placed a high value on skills that can be objectively measured and are relevant to academic and industrial success, such as analytical reasoning, processing speed, and individual achievement. In contrast, other cultures may emphasize different facets of intelligence. For example, some Eastern cultures may place greater value on self-reflection, social harmony, and interpersonal wisdom, while certain indigenous cultures might prioritize practical skills, ecological knowledge, and the ability to navigate the natural environment. This cultural relativity is a crucial consideration in the development and application of intelligence tests, as a test developed in one cultural context may not be a valid measure of intelligence in another.

**The Measurement-Definition Feedback Loop**

The practical challenge of measuring intelligence has historically shaped its very definition, creating a powerful feedback loop. The earliest intelligence tests, pioneered by Alfred Binet, were not born from a grand, abstract theory of cognition. Instead, they were created to solve a practical problem: identifying French schoolchildren who required special educational assistance. Binet's test focused on skills crucial for academic success, such as memory, attention, and verbal reasoning. This pragmatic origin set a precedent. The skills that these early tests could successfully measure—analytical and verbal abilities—became the operational definition of intelligence itself.

This phenomenon was famously, and somewhat cynically, captured by the psychologist E.G. Boring, who declared, "Intelligence is what the tests test". This statement highlights a crucial reality: the tools of measurement did not just assess a pre-existing concept of intelligence; they actively constructed it. Because standardized tests were effective at quantifying logical-mathematical and linguistic skills, these abilities were elevated as the core of
"intelligence." Consequently, societal institutions, particularly schools, came to value and reward these specific skills above others. This created a cycle where the tests validated the school system's focus, and the school system prepared students for the tests.

The emergence of modern theories from figures like Gardner and Sternberg can be understood as a direct challenge to this test-driven paradigm. Their work represents a conscious effort to break the feedback loop by expanding the definition of intelligence to include abilities—such as creativity, practical problem-solving, and interpersonal skills—that are not easily captured by traditional psychometric instruments. They argue that a fuller, more authentic understanding of human intellect requires looking beyond the narrow band of abilities that happen to be the easiest to quantify.

**Introducing IQ (Intelligence Quotient)**

The most common metric used to quantify intelligence is the Intelligence Quotient (IQ). The concept was first proposed by German psychologist William Stern and later popularized by Lewis Terman in his 1916 adaptation of Binet's test, the Stanford-Binet Intelligence Scale. The original formula was a ratio designed to compare a child's intellectual development to their peers:

IQ = (\frac{Mental Age (MA)}{Chronological Age (CA)}) \times 100

Here, "Mental Age" represented the age level at which an individual was functioning intellectually. For example, a 10-year-old child who performed at the level of an average 12-year-old would have an MA of 12 and an IQ of 120 (12/10 \times 100).

While this ratio IQ was intuitive, it proved problematic for assessing adults, as cognitive development does not progress linearly throughout the lifespan. Modern intelligence tests, such as the Wechsler scales, have replaced the ratio IQ with a deviation IQ. This score is calculated by comparing an individual's performance to the average performance of a large, representative standardization sample of their same-age peers. The scores are statistically transformed to fit a normal distribution, or "bell curve," with a pre-set mean of 100 and a standard deviation of 15.

This allows for a standardized interpretation of scores across all age groups.

**The table below shows the standard classification of IQ scores used in most modern tests.**

| IQ Score Range | Classification |
|---|---|
| 130 and above | Very Superior (Gifted) |
| 120–129 | Superior |
| 110–119 | High Average |
| IQ Score Range | Classification |
| 90–109 | Average |
| 80–89 | Low Average |
| 70–79 | Borderline |
| Below 70 | Extremely Low / Intellectual Disability |

(Source: Adapted from )

**Introducing EQ (Emotional Quotient)**

In recent decades, the concept of Emotional Quotient (EQ), also known as Emotional Intelligence (EI), has gained widespread prominence as a vital complement to traditional cognitive intelligence. Popularized by science journalist and psychologist Daniel Goleman in his 1995 book, EQ is defined as the ability to perceive, understand, manage, and utilize emotions effectively in oneself and in relationships with others.

Goleman's model proposes five key components of emotional intelligence :

1.Self-Awareness: The ability to recognize and understand one's own moods, emotions, and drives, as well as their effect on others.

2.Self-Regulation: The ability to control or redirect disruptive impulses and moods and to think before acting.

3.Motivation: A passion to work for reasons that go beyond money or status; a propensity to pursue goals with energy and persistence.

4.Empathy: The ability to understand the emotional makeup of other people and to treat people according to their emotional reactions.

5.Social Skills: Proficiency in managing relationships, building networks, and finding common ground.

While IQ is often seen as a predictor of academic success and technical proficiency, EQ is increasingly recognized as a critical factor in life success, leadership effectiveness, and overall well-being. It governs our ability to navigate complex social landscapes, build strong relationships, and manage the pressures of life with resilience and grace.

**VARNA SYSTEM AND HUMAN TAXAMONY**

The culture has been followed and transferred to our generation in the form of VEDAS, by Aryans. We are Aryans. Vedas is one of the oldest forms of methodology to follow in Indian culture. The Vedic culture is considered to be the basic foundation of cultures in India. People have been classified based on their physical, spiritual, way of living and color. One of the popular epics all over the world where Indian cultures have been portrayed is Ramayana, Mahabharata, and Panchatantra., The Vedas are broadly classified into three names, the rig Veda, Sama Veda, and Yajur Veda in short, they are termed GURUS. The people who follow the Vedic culture are termed Brahmins. Brahmins are treated with Vedas in school and education. the four Varna's of Indian cultures are

**Brahmins**-They are considered to be the intellectual leaders, teachers, priests in the temple where the god lives , people who learn Vedas, teach Vedas and follow the sacred rules based on Manu smriti with the goal of transferring the sacred knowledge to brahmins from one generations to another specifically

**Aryans**. Their day today activities will be towards serving god and human kind and help everyone to attain the highest form of living known as moksha the liberation from human kind and attaining god by following the vedic rules and doing karmic actions. They use their mind in each task and perform the work smartly and they seem be intelligent by birth that has been transferred to then through blood and genes from ancestors.

**Kshatriyas**-They are treated a the most powerful persons in the societies where they do take up the most influencing positions and leadership positions to implement the various dharmas to human kind by being highly authoritative they do have occupations such as social leaders, politicians, the protectors of brahmins etc, they usually do the activities using hands

**Vaishyas**- they are people who do have the activities such as agriculture and Labouré activities such as mining, carving etc. these are the people who work with stomach and legs and reasons for providing food to entire society that includes farmers and potters

**Sudras** – people who serve the other three caste listed above are treated as shudras and any one who are not skilled with any talent and those who cleans the toilets are considered to be shudras

**Dalits**: Any person's who doesn't belong to any of the caste above is considered to be Dalits and anyone who does actions against the vedic laws from the varna system are thrown out called as Dalits, any outcaste and religions other than Hinduism is termed as Dalits who are impure by birth and actionsManu seems to be a book that has been the foundation to Law drafted by brahma and transferred that knowledge to 7 Rishi namely, **Kashyapa, Atri, vashista, Vishwamitra, Gautama, Bharadvaja, Jamadagni.**

**Manu smriti** -a holy guideline book of laws that need to be followed by all human beings in Hinduism - created by brahma Brahma god is creator of all humankind, the god who distinguished the set of rules and regulations the human of Hinduism should follow and abide it where the concerned punishment will be awarded if not following it.

Determination of western related human classification could help us to develop a sense of how the culture of human resource management has been derived and adopted In order to develop a strategy of ethics towards employee behaviour in improving efficiency in work based on global professional environment. In brief we could state that its always a group of humans who represent the culture foundation in the city or country that denotes the basic functionality of the government and law-making policy in that concerned country, people in the country represent the state and culture of human resource.The basic eastern system of classification of humans are explained in terms of Taxonomy of humans that can be explained in terms of origin of humans from animals and evolution of animals.

**The hierarchy of human's evolution in eastern culture includes**

- Domain
- Kingdom animalia
- Phylum
- Class
- Order
- Family
- Genus
- Species-Homo sapiens
- IN western human resource culture, they do follow Christianity, and the human taxonomy do follow the aspect of origin of humans from animals and the current state of humans includes homosapiens and emergence of human to adhere the principle and methodology of Jesus and follow bible Thus, the important aspect to consider both eastern and western management system

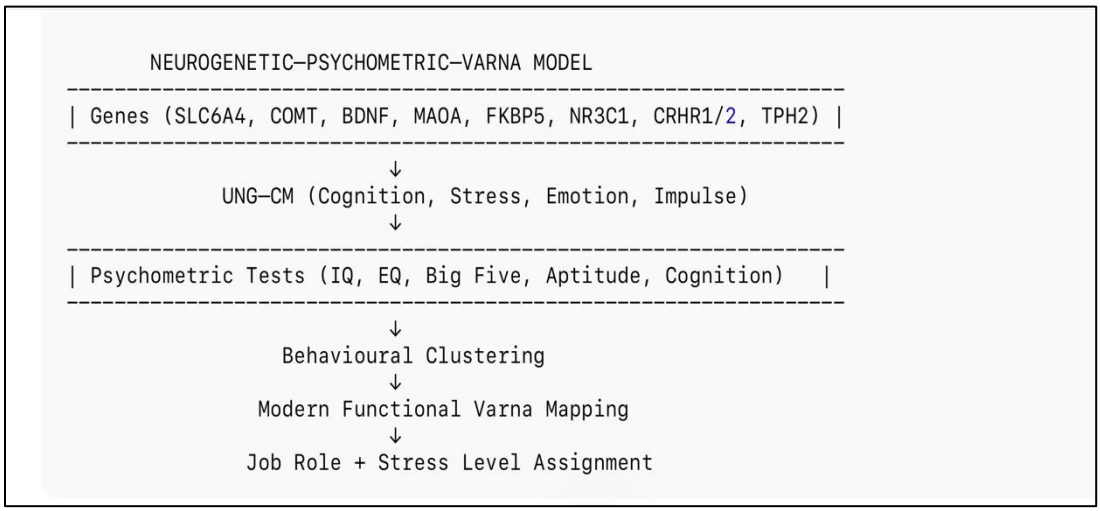
is the ethics and aspect of the way human tradition and culture follows and exile in their respective religion and culture

## RESEARCH METHODOLOGY

1)**Conceptual theory analysis and neuro genetic varna personality traits model**
RESEARCH METHODOLOGY AND FRAMEWORK

**NEUROGENETIC–PSYCHOMETRIC–VARNA MODEL**

**The below flow chart provides the basic sketch model for the process to evaluate stress genes in order to analyse the tailoring job specifications for employees masked on their Neurogenetic varna personality traits model in corporate seatings**




**Neurogenetic intelligence framework With SEETHA FRAMEWORK**
1.Stress Genes = ENTIRE GENOME SEQUENCING SLC6A4,COMT,MAOA,BDNF,TPH2,FKBP5,NR3C1,SLC6A4,HTTLPR INFLUENCE ON BRAIN ADAPTABILITY AND TOLERANCE TOWARDS ENVIRONMENT
2.THE INTELLIGENCE SCALE MEASURABILITY USING WAIS, WISC SCALE
3.THE INGCPT=NEUROGENETIC PROFILING MATRIX +INTELLIGENCE SCALE
SEETHA-Safety through legal regulations to ascertain the privacy of data and ethically transforming the framework to be utilised by the management for employees health and personality well being and equity accessible of this framework to employees self assessment with tranquility in data that are managed to tailor the job description and assigning the job based on cognitive status with making aware of benefits in utilising the INGCPT cognitive model.

**The General Factor and Its Challengers: Spearman vs. Thurstone**

The scientific study of intelligence began in earnest with a fundamental debate about its very structure. Is intelligence a single, unified ability that a person possesses to a greater or lesser degree? Or is it a collection of separate, independent talents? This question sparked one of the most important theoretical dialogues in the history of psychometrics, pitting the pioneering work of Charles Spearman against the multifactorial model of Louis L. Thurstone.

**Spearman's Two-Factor Theory**

At the dawn of the 20th century, British psychologist Charles Spearman made a groundbreaking observation. Using the newly developed statistical technique of factor analysis, he analyzed the scores of schoolchildren on a variety of seemingly unrelated cognitive tests, such as distinguishing pitch, judging weights, and solving math problems. He discovered a striking pattern: the scores were all positively correlated. A child who performed well on one test tended to perform well on all the others. Spearman called this phenomenon the "positive manifold".

To explain this, Spearman proposed his Two-Factor Theory of Intelligence in 1904. He theorized that every intellectual activity is determined by two types of factors :

1. The g-factor (General Intelligence): A single, pervasive cognitive ability that influences performance on all mental tasks. Spearman metaphorically described g as a form of "mental energy" that individuals possess in varying amounts. He believed it was innate and the primary engine of intellectual achievement.
2. The s-factors (Specific Abilities): A multitude of specific abilities that are unique to a particular task. For example, performance on a math test would be influenced by g as well as a specific s-factor for mathematical reasoning.

An effective analogy for this theory is to consider an athlete's overall physical prowess. An athlete's general fitness—their strength, stamina, and coordination—can be seen as their g-factor. This general fitness will influence their performance across a wide range of sports. However, to excel at a specific sport like basketball, they also need highly developed s-factors, such as shooting accuracy and dribbling skills. Similarly, a computer's central processing unit (CPU) can be likened to g—its raw processing power affects everything it does—while its specific software programs are like s-factors, designed for particular tasks.

**Thurstone's Theory of Primary Mental Abilities**

In the 1930s, American psychologist Louis L. Thurstone mounted a significant challenge to Spearman's concept of a dominant g-factor. Using a more advanced form of factor analysis on a large battery of 56 different tests, Thurstone argued that the positive

correlations Spearman observed were not due to a single general intelligence. Instead, he proposed that intelligence is a composite of several distinct, independent abilities, which he termed Primary Mental Abilities (PMAs).

Thurstone initially identified seven PMAs, arguing that an individual's intellectual profile was better described by their unique combination of these abilities rather than a single IQ score :

1. Verbal Comprehension: The ability to understand and use language, concepts, and ideas. (e.g., understanding a complex text).
2. Word Fluency: The ability to generate words rapidly. (e.g., thinking of as many words as possible that start with the letter 'B').
3. Number Facility: The ability to perform mathematical operations quickly and accurately. (e.g., solving arithmetic problems mentally).
4. Spatial Visualization: The ability to visualize and manipulate objects in two or three dimensions. (e.g., imagining how a flat piece of paper would look when folded into a box).
5. Associative Memory: The ability to memorize and recall information. (e.g., remembering pairs of words).
6. Perceptual Speed: The ability to quickly perceive details and identify similarities and differences in visual stimuli. (e.g., finding the two identical pictures in a row of similar images).
7. Reasoning: The ability to find rules and draw logical conclusions from information. (e.g., solving a logic puzzle).

Thurstone's model celebrated the diversity of human intellect, suggesting that a person could be gifted in some areas (like spatial visualization) while being average in others (like number facility).

**The Synthesis: Hierarchical Models**

For a time, the theories of Spearman and Thurstone were seen as being in direct opposition. However, the debate was largely resolved by Thurstone himself and later psychometricians through the development of hierarchical models of intelligence. When Thurstone analyzed the scores on his own PMA tests, he found that the seven abilities, while distinct, were also positively correlated with each other. This suggested that there was, in fact, a higher-order factor influencing all of them—something very much like Spearman's g.

This led to the modern consensus view, best exemplified by the Cattell-Horn-Carroll (CHC) theory, which structures intelligence as a pyramid. At the apex is the g-factor, representing overall intelligence. Below it are several broad abilities (similar to Thurstone's PMAs), and at the base are many narrow, specific skills. This hierarchical model elegantly synthesizes the views of both Spearman and Thurstone, acknowledging both a general intellectual capacity and a profile of distinct cognitive strengths.

**The Tension Between Predictive Power and Diagnostic Utility**

The historical debate between Spearman and Thurstone illuminates a fundamental and ongoing tension within psychometrics: the trade-off between the efficiency of a single, powerful predictor and the richness of a multi-faceted diagnostic profile.

On one hand, Spearman's g-factor has proven to be one of the most robust predictors in all of psychology. A single g score, or a closely related Full-Scale IQ score, is strongly correlated with a vast array of important life outcomes, including academic success, job performance, income, and even physical health and longevity. From a purely predictive standpoint, g is remarkably efficient. It provides a powerful, if blunt, answer to the question, "How likely is this person to succeed in cognitively demanding environments?"

However, this predictive power comes at the cost of diagnostic utility. A single score offers little guidance for intervention or improvement. Telling a parent that their child has a low IQ score is disheartening and unhelpful; it identifies a problem without offering a solution.

This is where Thurstone's model of Primary Mental Abilities demonstrates its value. A profile of scores across different abilities has immense diagnostic and prescriptive power. It moves beyond the question of how smart a person is to how a person is smart. For a school psychologist, knowing that a student has high Verbal Comprehension but struggles with Perceptual Speed provides a clear and actionable insight. It points directly to the need for specific interventions, such as providing extended time on tests or using assistive technology for written tasks. This detailed profile allows for targeted educational and therapeutic support tailored to the individual's unique cognitive landscape.

This very tension is re-enacted every time a modern intelligence test, like a Wechsler scale, is administered and interpreted. The Full-Scale IQ (FSIQ) serves as the best single predictor of general outcomes, functioning much like Spearman's g. Yet, clinicians and educators spend most of their time analyzing the index scores—Verbal Comprehension, Perceptual Reasoning, Working Memory, and Processing Speed—which function like Thurstone's PMAs. It is this pattern of strengths and weaknesses across the indices that allows them to diagnose learning disabilities, understand the cognitive effects of a brain injury, and design effective interventions. Thus, the century-old debate between a single general factor and multiple primary abilities is not just a historical footnote; it is a living dialogue that defines the practical application of intelligence testing today.

**Broadening the Horizon - Modern Theories of Intelligence**

While the hierarchical models provided a powerful synthesis of early psychometric research, some 20th-century theorists argued that even these expanded frameworks were too narrow. They contended that traditional intelligence tests, with their focus on academic and analytical skills, failed to capture the full spectrum of human intellect. This critique gave rise to modern theories that sought to broaden the definition of intelligence to include the diverse ways people solve problems, create, and navigate the complexities of the real world. Two of the most influential of these theories came from Howard Gardner and Robert Sternberg.

**Gardner's Theory of Multiple Intelligences**

In his seminal 1983 book, Frames of Mind, Harvard psychologist Howard Gardner proposed a radical reconceptualization of intelligence. He argued against the idea of a single, quantifiable intellect and instead posited that there are multiple, relatively independent "intelligences."

Gardner's definition of an intelligence is distinctively practical and culturally grounded: it is the "ability to solve problems or create products that are valued within one or more cultural settings".

Based on a wide range of criteria, including evidence from brain damage studies, developmental psychology, and cross-cultural research, Gardner initially identified seven intelligences, later expanding the list to nine. His theory posits that every individual possesses a unique blend of these intelligences, with strengths in some areas and weaknesses in others.

The nine intelligences are:

1.Linguistic Intelligence ("Word Smart"): The capacity to use language effectively, both orally and in writing. This is the intelligence of poets, writers, orators, and lawyers. In the classroom, this can be nurtured through debates, creative writing, and storytelling.
2.Logical-Mathematical Intelligence ("Number/Reasoning Smart"): The ability to think logically, analyze problems, and carry out mathematical operations. This is the domain of scientists, mathematicians, and computer programmers. Classroom activities include logic puzzles, scientific experiments, and coding exercises.
3.Spatial Intelligence ("Picture Smart"): The ability to perceive the visual-spatial world accurately and to perform transformations on one's initial perceptions. Architects, artists, sailors, and surgeons rely heavily on this intelligence. It can be developed through drawing, mind-mapping, and working with 3D models.
4.Bodily-Kinesthetic Intelligence ("Body Smart"): The potential of using one's whole body or parts of the body to solve problems or create products. This is evident in dancers, athletes, actors, and craftspeople. Learning activities include role-playing, hands-on building, and physical movement.
5.Musical Intelligence ("Music Smart"): Skill in the performance, composition, and appreciation of musical patterns. This is the intelligence of composers, musicians, and conductors. It can be engaged by creating songs about academic content or using rhythm to memorize information.
6.Interpersonal Intelligence ("People Smart"): The capacity to understand the intentions, motivations, and desires of other people and, consequently, to work effectively with others. This is a key strength for teachers, therapists, salespeople, and political leaders. Group projects, peer tutoring, and collaborative problem-solving nurture this intelligence.
7.Intrapersonal Intelligence ("Self Smart"): The capacity to understand oneself, to have an effective working model of oneself—including one's own desires, fears, and capacities—and to use such information effectively in regulating one's own life. Philosophers, psychologists, and spiritual leaders often exhibit high intrapersonal intelligence. Journaling, goal-setting, and mindfulness exercises are ways to cultivate it.
8.Naturalistic Intelligence ("Nature Smart"): Expertise in the recognition and classification of the numerous species—the flora and fauna—of one's environment. This was a later addition to the theory and is evident in biologists, conservationists, and farmers. It can be fostered through nature walks, caring for classroom plants or animals, and ecological projects.
9.Existential Intelligence ("Life Smart"): A sensitivity and capacity to tackle deep questions about human existence, such as the meaning of life, why we die, and how we got here. This intelligence is explored by philosophers and theologians.

**Sternberg's Triarchic Theory of Intelligence**

Another powerful modern framework is Robert Sternberg's Triarchic Theory of Intelligence. Sternberg was interested in what he called "successful intelligence," which he defined as the ability to achieve success in life according to one's personal standards, within one's sociocultural context. He argued that traditional IQ tests measure only a fraction of the abilities needed for real-world success. His theory proposes three distinct but interrelated types of intelligence that work together :

1. Analytical Intelligence ("Book Smarts"): This is the component most closely aligned with traditional IQ tests. It involves the ability to analyze, evaluate, judge, compare, and contrast information. It is crucial for academic problem-solving and critical thinking. An example would be a student dissecting a literary text to identify its central themes or a scientist evaluating the validity of an experiment.
2. Creative Intelligence ("Inventive Smarts"): This is the ability to go beyond what is given to generate novel and interesting ideas. It involves dealing effectively with new situations and finding unique solutions to problems. This is the intelligence that allows an artist to create an original painting or an entrepreneur to devise a new business model.
3. Practical Intelligence ("Street Smarts"): This is the ability to use, apply, and implement ideas in the real world. It involves adapting to, shaping, and selecting one's environment. People strong in practical intelligence are adept at navigating everyday challenges, understanding social dynamics, and getting things done. An example would be a manager who knows how to motivate a diverse team to meet a deadline or a person who can effectively negotiate the price of a car.

Sternberg's theory emphasizes that successful intelligence requires a balance of all three. A person might be analytically brilliant but lack the practical skills to implement their ideas, or be highly creative but unable to critically evaluate the quality of their own work.

**The "Relevance vs. Rigor" Dilemma**

The immense and enduring popularity of Gardner's and Sternberg's theories, particularly within the applied fields of education and business, reveals a fascinating tension in the world of psychometrics. While these models have been embraced by teachers and managers for their intuitive appeal and practical relevance, they have often been met with skepticism from the psychometric community due to a perceived lack of empirical rigor. This highlights a significant "relevance vs. rigor" gap between what practitioners find useful and what scientists find defensible.

Gardner's theory of multiple intelligences, for example, has had a profound impact on education.

It provides teachers with a powerful and optimistic framework for recognizing and nurturing the diverse talents of every student in their classroom. It validates the idea that a child who struggles with algebra might be a gifted artist or a natural leader, shifting the focus from deficits to strengths. Similarly, Sternberg's theory resonates deeply in the corporate world because it provides a language to explain a common observation: the straight-A student with a high IQ does not always become the most successful leader, while individuals with "street smarts" often rise to the top. These theories feel relevant because they align with real-world experiences.

From a strict psychometric standpoint, however, these models present significant challenges. Critics of Gardner's theory argue that many of his "intelligences" (such as musical or bodily-kinesthetic) are better classified as special talents or skills rather than broad intellectual capacities. Furthermore, they are notoriously difficult to measure with the same reliability and validity as traditional cognitive abilities, and there is limited empirical evidence showing that the intelligences are truly independent of one another. Sternberg's concepts of creative and practical intelligence have faced similar measurement hurdles, proving difficult to assess with standardized, objective tools.

This creates a dilemma. Psychometricians, as scientists, prioritize rigor: they demand that any construct be measurable in a reliable, valid, and empirically verifiable way. Practitioners, on the other hand, prioritize relevance: they need concepts and tools that are

intuitive, applicable, and useful in their day-to-day work of teaching students or managing employees. The widespread adoption of these less psychometrically rigorous theories is a powerful signal that the field of traditional intelligence testing has, at times, failed to meet the practical needs of its end-users. It suggests a deep societal hunger for a more holistic, inclusive, and practically grounded understanding of intelligence—one that values the full range of human capabilities, even those that are difficult to capture with a number.

**The research objective:**

1.To ideate the general principles of psychometrics in terms of neurogenetics
2.Can neurogenetic cognitive psychological traits model can hep in determining the psychological dimension of human traits in professional model
3.What are the psychometrics indices involved to categorise employees based on their neuro genome sequencing
4.Can neurogenetic testing can visualise the personality traits of employees
5.What are the different types of personality traits based on stress genes evaluation in neurogenetics
6.Can neurogenetics report can help in providing acute qualities of employees to ascertain roles of cognition and professional dimension and matrix.

**The research questions:**

1.Does INGCPT framework can significantly influence to define the personality AND INTELLIGENCE of employees
2.Does stress genes in brain can significantly impact in tailoring job architecture to employees based on the neurogenetics profiling and intelligence
3.Does neurogenetic profiling has direct significance in determine the health related concerns in corporate settings
4.Can INGCPT model,big 5 model and varna system can significantly impact on the personality of employees behaviour and skills
5.Does neurogenetic profiling in employees ca be utilised to tailor the health insurance preference to employees by management

## DISCUSSIONS AND HYPOTHESIS GENERATIONS

**The Architecture of Intelligence Testing through neurogenetic testing**

The measurement of intelligence, as we know it today, is a product of over a century of scientific innovation, refinement, and debate. The development of standardized intelligence tests marked a pivotal moment in psychology, providing the first objective tools to quantify cognitive abilities. This chapter traces the historical evolution of these instruments, focusing on the two most influential and widely used test batteries: the Stanford-Binet and the Wechsler scales.

**INGCPT NEUROGENETIC COGNITIVE MODEL**

**Core Neurogenic Factors Derived**

Across the MedGenome reports attached in appendix and your Neurogenetic papers, the following stress/neuro-behaviour genes are consistently analysed:

- CRHR1, CRHR2 (HPA axis, cortisol regulation)
- NR3C1 (glucocorticoid receptor; resilience modulation)
- FKBP5 (regulates stress adaptation)
- SLC6A4 (5-HTTLPR) (serotonin transporter; emotional reactivity, anxiety)
- MAOA (emotion control, aggression modulation)
- BDNF (neuroplasticity, cognitive flexibility)
- COMT (dopamine regulation; executive function, stress cognition)
- TPH2 (serotonin synthesis; emotional stability)

**Universal Neurogenic Trait Dimensions**

**Based on gene functions Neurogenic Trait Axes:**

| Neurogenic Axis | Dominant Genes | Behavioural Meaning |
|---|---|---|
| Stress Reactivity (SR) | CRHR1/2, FKBP5, NR3C1 | How quickly one becomes stressed; resilience |
| Emotional Stability (ES) | SLC6A4, MAOA, TPH2 | Mood balance, anxiety threshold, emotional recovery |
| Cognitive Flexibility (CF) | BDNF, COMT | Adaptability, reasoning, problem-solving |
| Impulse–Control Regulation (IC) | MAOA, COMT | Anger management, self-control |
| Social–Empathy Spectrum (SE) | SLC6A4, BDNF | Empathy, rapport formation |
| Motivational Drive (MD) | Dopamine pathways (COMT-related) | Ambition, initiative, perseverance |

**Mapping Neurogenic Traits ↔ Big Five**

| Neurogenic Axis | Big Five Mapping |
|---|---|
| Stress Reactivity (SR) | ↔ Neuroticism (inverse) |
| Emotional Stability (ES) | ↔ Neuroticism, Agreeableness |

| | |
|---|---|
| Cognitive Flexibility (CF) | ↔ Openness, Conscientiousness |
| Impulse Control (IC) | ↔ Conscientiousness |
| Social–Empathy (SE) | ↔ Agreeableness, Extraversion |
| Motivational Drive (MD) | ↔ Extraversion, Conscientiousness |

Mapping Neurogenic Traits ↔ Varna / Guna System

**Your INGCPT paper emphasises the combination of genes, cognition, and Gunas (Sattva–Rajas–Tamas).**

| Neurogenic Axis | Dominant Guna | Corresponding Varna |
|---|---|---|
| Cognitive Flexibility (CF) | Sattva | Brahmana (knowledge roles) |
| Motivational Drive (MD) | Rajas | Kshatriya/Vaishya (leadership, business) |
| Stress Reactivity (SR) | Low Sattva or high Tamas | — |
| Impulse Control (IC) | Sattva–Tamas balance | Kshatriya |
| Social Empathy (SE) | Sattva | Brahmana / Vaishya |
| Emotional Stability (ES) | Sattva | All Varnas |

**Generalised Neurogenic Job-Style Assignment Matrix (Based on Gene Pattern → Behaviour → Role)**

A. High Cognitive Flexibility (BDNF↑, COMT Balanced)
● High Openness
● Sattvika cognition
● Suited for:
Policy-making, Research, Law, Academia, Forensics, Negotiation, Strategy
B. High Emotional Stability (SLC6A4 stable, NR3C1 balanced)
✓ Calm under pressure
✓ Low Neuroticism
✓ Suited for:
HRM, Counselling, Mediation, Healthcare leadership
C. High Motivational Drive (COMT fast, dopamine-responsive)
✓ Rajas-dominant
✓ Suited for:
Entrepreneurship, Corporate leadership, Marketing, Operations, Crisis roles
D. High Impulse Control (MAOA balanced, COMT stable)
✓ High Conscientiousness
✓ Suited for:
Compliance, Legal drafting, Judiciary training, Audit roles, Ethics monitoring
E. High Social Empathy (SLC6A4 robust + BDNF stable)
✓ Agreeableness
✓ Suited for:
Teaching, Team leadership, HR, Client-facing roles, Welfare committees
6. **Individual Neurogenic Matrix (from uploaded reports)APPENDIX 1**
Clinical reports show:
No pathogenic variants in CRHR1, CRHR2, NR3C1, FKBP5, MAOA, COMT, BDNF, SLC6A4, TPH2 for all 4 persons (Dr. Asha, Surya S, Girija, Dr. Meenakshi).
This means:
Normal genetic baseline
Behavioural differences come from epigenetics, personality, upbringing (as your paper states)

7. **Historical Foundations: Binet's Practical Mission**
The story of modern intelligence testing begins not in a research laboratory, but in the schools of early 20th-century Paris. The French government, having mandated universal education, was faced with a practical challenge: how to identify children who were unlikely to benefit from a standard curriculum and who required special educational support. In 1905, psychologist Alfred Binet and his colleague Théodore Simon were commissioned to develop a tool to address this need.
Their creation, the Binet-Simon Scale, was revolutionary. Rather than measuring learned information like a typical school exam, it assessed skills related to abstract reasoning, memory, and judgment. Crucially, Binet introduced the concept of Mental Age (MA), a score representing a child's level of intellectual functioning. A child's MA was determined by the age level of the most difficult items they could successfully answer. This allowed for a direct comparison between a child's intellectual development and their chronological age, providing a clear, practical indicator of their educational needs.
**The Stanford-Binet Intelligence Scales**
Binet's work quickly caught the attention of psychologists internationally. In the United States, Lewis Terman, a professor at Stanford University, saw the potential of the scale and undertook a major revision and standardization. In 1916, he published the Stanford-Binet Intelligence Scale, adapting the items for an American audience and developing norms based on a large sample of American children.

Terman's most significant contribution was the popularization of the Intelligence Quotient (IQ), a concept originally suggested by William Stern. By using the ratio of mental age to chronological age, the Stanford-Binet provided a single, easily interpretable score that became synonymous with intelligence itself.

The Stanford-Binet has been revised multiple times over the decades to incorporate advances in psychometric theory and to update its norms. The current version, the Stanford-Binet 5 (SB-5), is a highly sophisticated instrument that reflects the modern hierarchical understanding of intelligence. It is grounded in the Cattell-Horn-Carroll (CHC) theory and assesses five core cognitive factors :

1. Fluid Reasoning: The ability to solve novel problems.
2. Knowledge: Accumulated information (crystallized intelligence).
3. Quantitative Reasoning: Mathematical problem-solving.
4. Visual-Spatial Processing: The ability to analyze and manipulate visual information.
5. Working Memory: The ability to hold and manipulate information in short-term memory. A key feature of the SB-5 is that each of these five factors is measured through both verbal and nonverbal subtests, resulting in ten core subtests. This dual-modality approach allows for a more comprehensive assessment and is particularly useful for individuals with language difficulties or from diverse linguistic backgrounds.

**The Wechsler Intelligence Scales**

While the Stanford-Binet was initially designed for children, psychologist David Wechsler recognized the need for a robust intelligence test specifically designed for adults. In 1939, he developed the Wechsler-Bellevue Intelligence Scale, which would later evolve into the Wechsler Adult Intelligence Scale (WAIS). Wechsler later developed parallel versions for children, the Wechsler Intelligence Scale for Children (WISC), and for young children, the Wechsler Preschool and Primary Scale of Intelligence (WPPSI).

Wechsler's tests introduced several key innovations. First, he conceptualized intelligence not just as a single number but as a "global capacity" composed of multiple, interrelated abilities. His tests were therefore organized into subtests that were grouped into two broad categories: Verbal and Performance (nonverbal). This provided not only an overall IQ score but also separate scores that could reveal important patterns of cognitive strengths and weaknesses. Second, Wechsler abandoned the MA/CA ratio for calculating IQ. He pioneered the use of the deviation IQ, a standard score that compares an individual's performance to the average performance of their age-based norm group. This method, based on the statistical properties of the bell curve with a mean of 100 and a standard deviation of 15, provided a more stable and meaningful measure of intelligence, especially for adults.

The modern Wechsler scales (e.g., WAIS-V, WISC-V) have evolved to align with current CHC theory. They are structured around several index scores that provide a detailed cognitive profile

- Verbal Comprehension Index (VCI): Measures verbal reasoning, concept formation, and knowledge acquired from one's environment.
- Perceptual Reasoning Index (PRI) / Visual-Spatial Index (VSI): Measures nonverbal fluid reasoning, spatial processing, and visual-motor integration.
- Working Memory Index (WMI): Measures the ability to attend to, hold, and manipulate information in immediate awareness.
- Processing Speed Index (PSI): Measures the speed and accuracy of visual scanning and mental processing.

These indices, along with the Full-Scale IQ (FSIQ), make the Wechsler scales powerful tools for both general ability assessment and detailed clinical and neuropsychological diagnosis.

**Other Measurement Techniques**

**Beyond the Stanford-Binet and Wechsler scales,** which are administered individually, a variety of other intelligence testing formats exist :

- Group vs. Individual Tests: Individual tests (like the WAIS) allow for detailed behavioral observation but are time-consuming. Group tests (like the Army Alpha and Beta tests developed during WWI) are more efficient for large-scale screening.
- Verbal vs. Nonverbal (Performance) Tests: Verbal tests rely heavily on language, while nonverbal or performance tests use visual puzzles, mazes, or block designs. This distinction is crucial for fairly assessing individuals with hearing impairments, language disorders, or non-native language backgrounds.
- Culture-Fair Tests: In an effort to reduce the cultural bias inherent in many traditional tests, some instruments are designed to be "culture-fair." Raven's Progressive Matrices, for example, is a nonverbal test that requires examinees to identify the missing piece in a series of abstract patterns. It minimizes the influence of language and academic knowledge, aiming to measure pure fluid reasoning.

**Intelligence in Action - Applied Case Studies**

The true value of intelligence testing lies not in the scores themselves, but in how they are used to understand individuals and guide meaningful interventions. A well-interpreted cognitive profile can provide a roadmap for educators, a diagnostic key for clinicians, and a foundation for personal growth. The following hypothetical case studies illustrate how modern intelligence tests, such as the WISC-V and WAIS-IV, are applied in real-world settings to answer critical questions and improve lives.

**Case Study 1: Educational Assessment - Identifying a Specific Learning Disorder with the WISC-V**

Scenario: Leo is a bright and articulate 10-year-old boy in the fifth grade. His teacher reports that he is a star participant in class discussions, demonstrating a sophisticated vocabulary and a deep understanding of complex topics. However, his academic performance is inconsistent. He struggles significantly with reading fluency, spelling, and written assignments, which are often incomplete and filled with errors. Concerned about this discrepancy between his verbal ability and his written output, the school's student support team refers Leo for a psychoeducational evaluation to investigate a possible Specific Learning Disorder.

Assessment Process: A school psychologist administers a battery of tests, with the centerpiece being the Wechsler Intelligence Scale for Children, Fifth Edition (WISC-V). The WISC-V is chosen for its ability to provide a detailed profile of a child's cognitive abilities across different domains, which is essential for identifying patterns of strengths and weaknesses associated with learning disorders.

Data Interpretation: Leo's WISC-V results reveal a striking pattern. His fictional scores are as follows:

- Full-Scale IQ (FSIQ): 112 (High Average)
- Verbal Comprehension Index (VCI): 125 (Superior)
- Visual-Spatial Index (VSI): 110 (High Average)
- Fluid Reasoning Index (FRI): 115 (High Average)
- Working Memory Index (WMI): 88 (Low Average)
- Processing Speed Index (PSI): 85 (Low Average)

The psychologist notes several critical findings. First, Leo's overall intellectual ability (FSIQ) is in the High Average range, confirming his teacher's observation that he is a capable student. His VCI score is in the Superior range, highlighting his exceptional verbal reasoning and knowledge. However, there is a statistically significant and clinically meaningful discrepancy between his high VCI and his Low Average scores on the WMI and PSI.

This specific cognitive profile—high verbal ability combined with weaknesses in working memory and processing speed—is a classic indicator of a Specific Learning Disorder in Reading, commonly known as dyslexia. The psychologist explains that Leo's brain is highly adept at understanding and reasoning with ideas (VCI), but it struggles with the lower-level cognitive processes required for efficient reading and writing. His weak working memory makes it difficult to hold sounds and letters in mind to decode words, and his slow processing speed makes the act of reading and writing a laborious, mentally taxing process. This explains why he can talk about complex ideas but cannot easily get them down on paper.

Outcome: Based on the WISC-V profile and supplementary academic testing, Leo is diagnosed with a Specific Learning Disorder with impairment in reading. This diagnosis is not a label of limitation but a key to unlocking support. The assessment results are used to develop an Individualized Education Program (IEP). Leo's IEP includes specific, evidence-based interventions and accommodations, such as:

- Extended time on tests and written assignments.
- Access to text-to-speech and speech-to-text software.
- Multisensory, structured literacy instruction to build his decoding skills.

The WISC-V did not just provide a score; it provided an explanation. It gave Leo, his parents, and his teachers a clear understanding of his unique learning profile and a data-driven plan to help him succeed.

**Case Study 2: Clinical Assessment - Evaluating Cognitive Functioning Post-TBI with the WAIS-IV**

Scenario: Maria is a 30-year-old accountant who was involved in a serious car accident six months ago, resulting in a moderate traumatic brain injury (TBI). While she has made a good physical recovery, she is struggling upon returning to work. She reports difficulty concentrating during long meetings, forgetting important details from client calls, and feeling that her thinking is "slower" than before the accident. Her employer has suggested a neuropsychological evaluation to better understand her current cognitive functioning and to determine appropriate workplace accommodations.

Assessment Process: A clinical neuropsychologist conducts a comprehensive evaluation that includes the Wechsler Adult Intelligence Scale, Fourth Edition (WAIS-IV). The WAIS-IV is selected because its index structure is highly sensitive to the cognitive deficits commonly associated with TBI, particularly in the areas of working memory and processing speed.

Data Interpretation: Maria's WAIS-IV results provide a nuanced picture of her cognitive state.

Her fictional scores are:

- Full-Scale IQ (FSIQ): 105 (Average)
- Verbal Comprehension Index (VCI): 115 (High Average)
- Perceptual Reasoning Index (PRI): 108 (Average)
- Working Memory Index (WMI): 87 (Low Average)
- Processing Speed Index (PSI): 82 (Low Average)

The neuropsychologist interprets these scores in the context of Maria's high-level profession and estimated pre-injury functioning. Her FSIQ falls in the Average range, which might seem unremarkable. However, the significant "scatter" or variability between her index scores is clinically significant. Her VCI score is in the High Average range, suggesting that her crystallized verbal knowledge and long-term memory are well-preserved. This is a common finding after TBI, as these abilities are more resilient to injury.

In contrast, her scores on the WMI and PSI are significantly lower, falling in the Low Average range. This pattern is highly consistent with the known cognitive sequelae of TBI, which often disrupts attention, mental control, and the speed of information processing. Her subjective complaints of "slowness" and memory problems are objectively validated by these scores. Her difficulty in meetings is likely due to a reduced capacity to hold and manipulate auditory information (WMI), while her overall feeling of being slower is captured by the PSI. Outcome: The WAIS-IV profile is instrumental in several ways. First, it provides objective, quantifiable evidence of Maria's cognitive deficits, which is crucial for her disability claim and for securing workplace accommodations under the Americans with Disabilities Act (ADA). Second, it informs the development of a targeted cognitive rehabilitation plan. The plan focuses on strategies to compensate for her weaknesses, such as using memory aids, breaking down complex tasks into smaller steps, and practicing attention-enhancing exercises. Finally, the results help Maria and her family understand that her struggles are a real consequence of her brain injury, not a lack of effort, which reduces her frustration and self-blame. The assessment provides a clear path forward for her recovery and professional readjustment.

**The Scientific Assessment of Personality**

While intelligence pertains to our cognitive abilities—what we can do—personality speaks to our characteristic patterns of thinking, feeling, and behaving—who we are. It is the enduring and organized set of traits that makes each individual unique. The scientific assessment of personality is one of the most complex and fascinating areas of psychometrics, seeking to map the intricate landscape of the human self. This section explores the major theories that have attempted to explain the structure of personality and the diverse

array of tools, from objective questionnaires to projective techniques, designed to measure it. Through applied case studies, we will see how personality assessment provides critical insights in clinical, organizational, and forensic contexts.

**Mapping the Self - An Introduction to Personality**

Personality is a term used in everyday life to describe the essence of a person, but in psychology, it has a more formal and scientific meaning. One of the most influential definitions was provided by Gordon Allport, who described personality as "the dynamic organisation within the individual of those psychophysical systems that determine his unique adjustment to his environment". This definition captures several core tenets of the construct.

**Key Characteristics of Personality**

Allport's definition and subsequent theories highlight several fundamental characteristics of personality :

- Psychophysical System: Personality is not purely mental or purely biological; it is an integrated system of mind and body.
- Dynamic Organization: Personality is not a static collection of traits but an active, organized system that is constantly evolving and adapting.
- Consistency: While dynamic, personality also exhibits consistency. There are enduring patterns to how an individual behaves across different situations and over time. This predictability is what allows us to describe someone as, for example, "generally outgoing" or "typically cautious."
- Uniqueness: Each individual's personality is a unique configuration of traits and patterns. Even though we may share common traits, the specific combination and expression of those traits are unique to each person.
- Developmental Nature: Personality is not fixed at birth but develops over the lifespan through a complex interplay of genetic predispositions and environmental experiences.

**Core Dimensions of Personality**

To make the vast concept of personality scientifically manageable, psychologists have sought to identify its most fundamental dimensions. These are broad, overarching traits that can be used to describe the basic structure of personality across different individuals. Some of the most foundational dimensions include :

- Introversion–Extraversion: This dimension describes an individual's orientation toward the internal world of thoughts and feelings (introversion) versus the external world of people and activities (extraversion). Extraverts are typically sociable, assertive, and outgoing, while introverts are more reserved, thoughtful, and introspective.
- Neuroticism–Emotional Stability: This dimension relates to an individual's tendency to experience negative emotions. Those high in neuroticism are more prone to anxiety, worry, moodiness, and stress. In contrast, those high in emotional stability are generally calm, resilient, and even-tempered.
- Locus of Control: This refers to an individual's beliefs about the extent to which they can control the events that affect them. Individuals with an internal locus of control believe they are in charge of their own destiny, while those with an external locus of control believe that their lives are governed by outside forces like luck or fate.

These core dimensions serve as a basic vocabulary for understanding the structure of personality and provide the foundation for the more complex trait theories discussed in the following chapters.

**Probing the Unconscious - Psychoanalytic Perspectives**

Long before personality was measured with questionnaires and statistics, it was explored through the deep, often turbulent waters of the unconscious mind. The psychoanalytic perspective, pioneered by Sigmund Freud, was the first comprehensive theory of personality. It proposed that our behavior, thoughts, and emotions are powerfully shaped by unconscious motives, internal conflicts, and the lingering effects of early childhood experiences.

**Universal Neuro-Genetic Matrix (INGCPT-SETEHA Compatible)**

This model basically can be defined as neurogenetic varna personality traits psychometric model that can be utilised in corporate setting to cluster employees based on their stress predispositions and the reactant values in calculating the stress with variable formulas, thus the below universal neurogenic axis can ideally be provided to address and cluster employeees to assign the work based on their neurogenetic profiling and and the step by step process has been explained below to foresee the entire process for company having more employees around 1 lakhs.

This is your standardised matrix usable globally:

| NEUROGENIC AXIS | LOW EXPRESSION | MODERATE EXPRESSION | HIGH EXPRESSION | JOB STYLE | BIG FIVE | GUNA/VARRNA |
|---|---|---|---|---|---|---|
| Stress Reactivity | High anxiety | Stable with support | Calm, resilient | Crisis management, law enforcement | Neuroticism ↓ | Sattva/Kshatriya |
| Emotional Stability | Mood fluctuations | Average | Strong emotional balance | HR, counselling | Neuroticism ↓ Agreeableness ↑ | Sattva |
| Cognitive Flexibility | Rigid thinking | Average reasoning | Creative, strategic | Research, judiciary, policy | Openness ↑ | Sattva/Brahmana |
| Impulse Control | Impulsive | Controlled | Highly disciplined | Compliance, audit, legal drafting | Conscientiousness ↑ | Tamas–Sattva |
| Social Empathy | Low empathy | Team-capable | High empathy | Teaching, HR, leadership | Agreeableness ↑ | Sattva/Brahmana |

| | | | | | | |
|---|---|---|---|---|---|---|
| Motivation/Drive | Passive | Consistent | High ambition | Entrepreneurship, management | Extraversion ↑ | Rajas/Kshatriya –Vaishya |

**Decision rules — how a single Varna is assigned from genetics + Big-5**
**(Use WSGI (Weighted Stress Gene Index) and HSCI (HPA-Serotonergic Composite Index) from your model plus Big-5 dominance.)**
Thresholds (based on the scoring system
- Very Low: WSGI ≤ 0.10 and HSCI ≤ 0.05
- Low: WSGI 0.11–0.40 and HSCI 0.051–0.20
- Moderate: WSGI 0.41–1.00 and HSCI 0.201–0.40
- High: WSGI 1.01–2.00 and HSCI 0.401–0.70
- Very High: WSGI > 2.00 or HSCI > 0.70

**Single-Varna mapping rules (deterministic, single label — no hybrids):**
- Brahmin (Knowledge / Strategy)

Assigned when stress predisposition is Very Low (WSGI ≤0.10 & HSCI ≤0.05) AND Big-5 shows high Conscientiousness and/or high Openness (suits research/strategy). Genetics: no stress variants; high BDNF/COMT adaptive profile.
- Vaishya (Commerce / Management)

Assigned when Low stress predisposition AND Big-5 shows high Conscientiousness and Agreeableness or moderate Extraversion. Genetics: balanced stress genes, fast recovery.
- Kshatriya (Execution / Operations / Crisis-response)

Assigned when Moderate → High stress predisposition but fast recovery (NR3C1 low-sensitivity / low HSCI) or COMT pattern favouring quick decision under pressure. Big-5: higher Extraversion and moderate Neuroticism accepted. This varna is for people who can operate under pressure.
- Shudra (Support / Service / Skilled-execution)

Assigned when Moderate → High stress predisposition with slower recovery (higher NR3C1 sensitivity or elevated HSCI) and Big-5 shows lower Openness but higher Agreeableness. Suited for steady, structured service roles rather than high-pressure leadership.

Note: If genetic indices and Big-5 conflict, the decision rule gives priority to WSGI/HSCI (genetic stress tolerance) for varna assignment, then breaks ties with Big-5.
2) Enterprise tabulation schema & pipeline (how to apply this for 100,000 employees)

A. **Data model (one row per employee)**
Columns to collect & store (recommended canonical names):
1.employee_id
2.sample_id / genetic_report_id (link to raw report).
3.consent_flag (Y/N) — documented, timestamped
4.WSGI (numeric) — per your scoring algorithm.
5.WSGI_category (Very Low/Low/Moderate/High/Very High)
6.HSCI (numeric) — per your scoring algorithm.
7.HSCI_category
8.Genes: CRHR1_status, CRHR2_status, NR3C1_status, FKBP5_status, SLC6A4_status, MAOA_status, BDNF_status, COMT_status, TPH2_status (values: NoVariant / Benign / VUS / Pathogenic). (Pull directly from MedGenome structured fields).
9.NR3C1_note (e.g., p.Ala49Val — benign) (if present).
10. Big5_O, Big5_C, Big5_E, Big5_A, Big5_N (0–100 or 0–1 scale)
11. Dominant_Big5 (e.g., High_C)
12. Assigned_Varna (Brahmin / Vaishya / Kshatriya / Shudra)
13. Recommended_Role_Tier (examples: Strategy / Leadership / Ops / Service / Creative)
14. Counselling_flag (Y/N) (if BRM or high genetic sensitivity)
15. Notes (clinical incidental variants e.g., HTRA1 finding)
16. Timestamp / analyst_id

B. **Processing pipeline (high level)**
1.Consent & legal check — every record must have documented informed consent for genetic use in workplace profiling. (Mandatory.)
2.Ingest raw MedGenome structured outputs (JSON/CSV) to a secure staging database. (Use SFTP or secure API).
3.QC & coverage check — confirm gene coverage % and no missing key genes (exclude or flag if coverage <95%). (Reports show 99%+ coverage in your samples — good).
4.Calculate WSGI & HSCI using the scoring algorithm from your neurogenetic paper. (Same formulas used to derive WSGI for Girija etc.).
5.Map gene variants into status fields (Benign / VUS / Pathogenic). Use ACMG rules. (Reports already applied ACMG classification.)
6.Survey / psychometrics — collect Big-5 scores and feed them into mapping rule.
7.Apply decision rules (section 1) to produce Assigned_Varna & Recommended_Role_Tier.
8.Flag counselling needs and incidental pathogenic variants. (E.g., HTRA1 in Girija flagged for clinical correlation).

9.Output role-recommendation report (encrypted) + aggregate dashboards (anonymized) for workforce planning.
10. Human review for borderline cases, appeals & HR compliance.

C. **Scalability & technology**

- Use a distributed ETL (Airflow/Prefect) + secure data lake (S3 with server-side encryption) + role-based access.
- Run WSGI/HSCI calculations in batch (Spark or Python) — can process 100k rows easily.
- Provide HR dashboards (aggregates only) — never expose individual genetic details to line managers.

3) **Applied matrix — your 4 participants (single varna each) — source & reasoning**

Data summary (sources: clinical reports + neurogenetic paper).

| Person | Key genetic / WSGI & HSCI | Big-5 (summary) | Assigned single Varna | Rationale & Recommended Job Specialisation |
|---|---|---|---|---|
| Prof Dr. Asha Sundaram | No stress pathogenic variants; WSGI = 0.000; HSCI = 0.000 (Very Low). | Very high Conscientiousness, high Agreeableness, low Neuroticism (leadership profile noted earlier). | Kshatriya | Very Low genetic stress predisposition + high C → suited to Strategy / Policy / Legal-Governance / Executive roles. (Recommend: Senior leadership, legal policy, governance.) |
| Dr. Meenakshi N | No pathogenic variants; WSGI = 0.000; HSCI = 0.000 (Very Low). | Moderate Openness, high Agreeableness. | Vaishya | Low stress predisposition plus social/coordination Big-5 → suited to Management / HR / Training & Development / Program management. (Recommend: Team-lead, program manager, training.) |
| Surya S. | No pathogenic variants; WSGI = 0.000; HSCI = 0.000 (Very Low). | High Openness, high Conscientiousness, low Extraversion, low Neuroticism (analytical). | Brahmin | Very Low genetic stress risk + analytic Big-5 → Research / Strategy / Data / Legal analysis. (Recommend: Research lead, policy analyst, R&D.) |
| Girija Anil Kumar | NR3C1 p.Ala49Val (benign); HTRA1 heterozygous nonsense (incidental); WSGI = 0.136 (Low); HSCI = 0.050 (Low). | Moderate OCEAN mix; slight sensitivity noted by analysis. | Shudra | Low but non-zero WSGI and NR3C1 benign variant + incidental HTRA1 → assign to Support / Service / Structured roles where workload is steady and clinical follow-up recommended. (Recommend: Operations support, documentation, admin). Counsel recommended for HTRA1 clinical correlation. |

Notes / citations: The WSGI/HSCI numbers and the single-varna logic used above derive from the analysis file summarizing the four MedGenome reports and the WSGI/HSCI thresholds. See combined analysis (VER journal / neurogenetic paper) for the numeric values and how the scores were derived. The four clinical reports confirm the lack of pathogenic stress-gene variants in three participants and the NR3C1 p.Ala49Val (benign, high MAF) + HTRA1 incidental in Girija.

4) **Special/clinical flags (must be actioned before HR decisions)**

- Girija: incidental heterozygous nonsense variant in HTRA1 (c.1120G>T, p.Gly374Ter) — clinical correlation advised (not a stress gene per se). Do not use incidental medical variants for role allocation — instead route to clinical genetic counselling.
- NR3C1 p.Ala49Val in Girija is reported as benign / high MAF — noted in reports but not a pathological finding; used only as mild modifier in WSGI.

5) **Legal / ethical safeguards (must be implemented if you roll out to ~100k employees)**

1.Explicit written consent for: genetic testing, use-case (wellness/role-fit), retention & sharing rules. (Mandatory.)
2.Prohibit use of genetic data for hiring, firing, promotion, pay decisions, or punishment (to avoid discrimination). Use only for voluntary wellness/role-fit guidance and accommodations.
3.Data minimisation & encryption — store only derived indices (WSGI/HSCI/assigned varna) in HR systems; raw VCF/clinical reports in separate, highly restricted clinical vault.
4.Clinical pathway — any incidental pathogenic variant requires clinical counselling & opt-out from HR profiling until clearance. (e.g., Girija's HTRA1).
5.Independent ethics review & legal counsel before deployment (labour law / privacy law, India and other jurisdictions).
6.Aggregate reporting only to HR leaders (no personal genetic details).
7.Appeals and human review for every assignment.

**Conclusion**: This model is framework/heuristic — genetics can influence tendencies but do not deterministically define behaviour, capability, or worth. Use this model for voluntary wellness, training, and role-fit guidance only, combined with psychometrics and performance data — and always with lawful, documented consent. The assignments above are based on the reports and the WSGI/HSCI system in your analysis files.

I. **FOUNDATIONAL MODEL: EXTENDING UNG-CM TO VĀRṆA + NEUROGENETICS**

**UNG-CM Traits**

- Stress = SR + AR (Stress Reactivity + Adaptation Response)

- Emotion = ES + $ER_t$
- Cognition = CF + NP
- Impulse = IC
- Empathy = ES + NP

**Now we integrate Genetic Stress Markers:**

| Gene | Function (from your paper) | Influence on UNG-CM |
|---|---|---|
| CRHR1 / CRHR2 | HPA Axis, cortisol reactivity | ↑ SR (Stress Reactivity) |
| NR3C1 | Glucocorticoid receptor sensitivity | ↑/↓ AR (Adaptation) |
| FKBP5 | Stress adaptation, trauma susceptibility | ↓ AR if dysregulated |
| SLC6A4 (5-HTTLPR) | Serotonin transport, anxiety | ↑ SR, ↓ ES stability |
| MAOA | Emotional regulation & aggression | Affects IC + ES |
| COMT | Dopamine metabolism & executive performance | Influences CF |
| BDNF | Neuroplasticity, resilience | ↑ AR + NP |
| TPH2 | Serotonin synthesis | Affects ES, mood regulation |

II. **CREATE STRESS-GENE SCORE (SGS) FROM REPORTS**

All three MedGenome reports show no pathogenic variants, meaning no high-risk genetic dysfunction.However, for organisational clustering we assume:
SGS = (HPA Axis Reactivity + Serotonin Stability + Dopamine Stability + Neuroplasticity Index)
Each gene contributes:

- CRHR1/2 → 25%
- SLC6A4 → 20%
- MAOA → 15%
- COMT → 15%
- NR3C1 → 10%
- FKBP5 → 10%
- BDNF/TPH2 → 5%

Score range: 1–5 (Low to High Stress Sensitivity)
III. **CLUSTERING FOR 1 LAKH EMPLOYEES (MAIN OUTPUT)**

Using SGS, UNG-CM, Big Five and Varna Model → we form 6 major clusters.
CLUSTER 1: "SATTVA–RESILIENT LEADERS"
SGS: 1–2 (Low Stress Sensitivity)
UNG-CM: High AR, High CF, High NP
Traits: Calm, strategic, strong decision-making
Genes: Stable CRHR1/2, COMT, BDNF pathways
Job Varna
**BRAHMANA–KSHATRIYA**

- Policy advisors
- Legal research
- Strategy leadership
- Compliance & risk management

Counselling Need:
Low. Annual evaluation only.

**CLUSTER 2: "RAJAS–PERFORMERS"**
SGS: 2–3 (Moderate Stress Sensitivity)
UNG-CM: High CF, high ES
Traits: Fast execution, goal-driven
Genes: Normal serotonin regulation; moderate SLC6A4 variability
Job Varna:
KSHATRIYA

- Operations
- Sales
- Management roles
- Crisis handling

Counselling Need:
Quarterly performance-stress balance sessions.

**CLUSTER 3: "RAJAS–TAMAS BALANCED THINKERS"**
SGS: 3 (Moderate)

UNG-CM: Moderate SR, High empathy
Traits: Good at communication, people-facing roles
Genes: SLC6A4 mild sensitivity, MAOA moderate
Job Varna:
VAISHYA–BRAHMANA
- HR
- Customer relations
- Training
- Negotiation & mediation

Counselling Need:
Monthly emotional fitness coaching.

**CLUSTER 4: "TAMAS–SENSITIVE EMPATHS"**
SGS: 3.5–4 (Moderately High)
UNG-CM: High ES, high IC
Traits: Emotional, creative, sensitive to stress
Genes: High SLC6A4 sensitivity, lower NR3C1 adaptation
Job Varna:
SHUDRA–CREATIVE DIVISION
- Creative design
- Arts
- Support functions
- Assisted-project tasks

Counselling Need:
Bi-weekly mindfulness, stress-modulation therapy.

**CLUSTER 5: "HIGH-STRESS REACTIVE GROUP"**
SGS: 4–4.5
UNG-CM: High SR, low AR
Traits: Quick burnout risk
Genes: CRHR1/2 high activity, FKBP5 dysregulation tendency
Job Varna:
SHUDRA (Structured, repetitive tasks)
- Back-end operations
- Data entry
- Fixed-process roles

Counselling Need:
Weekly neurocognitive resilience sessions.
Workload capping mandatory.

**CLUSTER 6: "CRISIS-RISK GROUP (RED ZONE)"**
SGS: 4.5–5
UNG-CM: High SR + High IC
Traits: Prone to conflict, aggression, emotional overload
Genes: MAOA variability + serotonin instability
Job Varna:
Protected roles only
- Non-stress, non-customer-facing
- Wellness monitored operations
- Support functions

Counselling Need:
Weekly counselling + psychometric monitoring.
Direct manager training required.

IV. **ASSIGNING JOB VARNA FROM NEUROGENETICS**

| UNG-CM Trait | Gene Influence | Varna Mapping |
|---|---|---|
| High cognition (CF+NP) | COMT, BDNF | Brahmana |
| High courage/drive (SR low + AR high) | CRHR1/2, NR3C1 | Kshatriya |
| High social-emotional (ES + empathy) | SLC6A4, TPH2 | Vaishya |
| High impulse/creativity | MAOA, SLC6A4 | Shudra |

Formula:
**Varna Index = (Cognition×0.4) + (Stress Adaptation×0.3) + (Empathy×0.2) + (Impulse Control×0.1)**

**The Building Blocks of Identity - Trait Theories**

While psychoanalytic theories delved into the hidden depths of the unconscious, another major school of thought in personality psychology took a more direct and empirical approach. Trait theory is focused on identifying, describing, and measuring the stable

and enduring characteristics—or traits—that are the fundamental building blocks of personality. A trait is a relatively consistent pattern of thought, feeling, and behavior that a person exhibits across a variety of situations. This perspective assumes that by measuring these core traits, we can understand individual differences and predict future behavior.

**Allport's Trait Hierarchy**

One of the earliest pioneers of this approach was Gordon Allport. He began his work with a lexical hypothesis—the idea that all important personality traits would eventually become encoded in a culture's language. By meticulously combing through an English dictionary, he and his colleagues identified over 4,500 words describing personality traits. To bring order to this vast list, Allport organized traits into a hierarchy of three levels :

1. Cardinal Traits: These are rare but extremely dominant traits that shape a person's entire life and behavior. A person with a cardinal trait is so known for it that their name might become synonymous with that quality (e.g., Machiavellian, Christ-like).
2. Central Traits: These are the 5 to 10 major characteristics that form the core of an individual's personality. They are the traits you would likely use to describe a close friend, such as "intelligent," "honest," "shy," or "anxious."
3. Secondary Traits: These are more specific attitudes or preferences that appear only in certain situations or under particular circumstances. For example, a person might become anxious when speaking in public, even if they are not a generally anxious person.

**Cattell's 16 Personality Factors (16PF)**

Psychologist Raymond Cattell brought a new level of scientific rigor to trait theory. He believed that a truly scientific model of personality must be grounded in empirical data. Using the statistical technique of factor analysis, Cattell analyzed vast amounts of data from different sources (including self-reports and observations) to identify the underlying dimensions of personality.

His research led him to distinguish between two levels of traits :

- Surface Traits: Observable patterns of behavior that are the superficial expression of personality (e.g., being sociable at a party).
- Source Traits: The fundamental, underlying dimensions of personality that give rise to surface traits. Cattell believed these were the true building blocks of personality.

Through extensive factor analysis, Cattell identified 16 key source traits. He developed the Sixteen Personality Factor Questionnaire (16PF) to measure these dimensions, providing a detailed, nuanced profile of an individual's personality. The table below outlines these 16 factors.

Table 2: Cattell's 16 Personality Factors (16PF)

| | Low Score Descriptors | High Score Descriptors |
|---|---|---|
| Warmth (A) | Impersonal, Reserved, Distant | Warm, Outgoing, Attentive to Others |
| Reasoning (B) | Concrete-Thinking, Less Intelligent | Abstract-Thinking, More Intelligent |
| Emotional Stability (C) | Reactive, Emotionally Less Stable | Emotionally Stable, Adaptive, Calm |
| Dominance (E) | Deferential, Cooperative, Submissive | Dominant, Forceful, Assertive |
| Liveliness (F) | Serious, Restrained, Prudent | Lively, Animated, Spontaneous |
| Rule-Consciousness (G) | Expedient, Nonconforming | Rule-Conscious, Dutiful, Conforming |
| Social Boldness (H) | Shy, Timid, Threat-Sensitive | Socially Bold, Venturesome, Uninhibited |
| Sensitivity (I) | Utilitarian, Tough-Minded | Sensitive, Tender-Minded, Intuitive |
| Vigilance (L) | Trusting, Unsuspecting, Accepting | Vigilant, Suspicious, Skeptical |
| Abstractedness (M) | Grounded, Practical, Conventional | Abstract, Imaginative, Impractical |
| Privateness (N) | Forthright, Open, Genuine | Private, Discreet, Nondisclosing |
| Apprehension (O) | Self-Assured, Confident, Secure | Apprehensive, Self-Doubting, Worried |

| | | |
|---|---|---|
| Openness to Change (Q1) | Traditional, Conservative | Open to Change, Experimental, |
| Primary Factor | Low Score Descriptors | High Score Descriptors |
| | | Liberal |
| Self-Reliance (Q2) | Group-Oriented, Follower | Self-Reliant, Solitary, Individualistic |
| Perfectionism (Q3) | Tolerates Disorder, Undisciplined | Perfectionistic, Organized, Self-Disciplined |
| Tension (Q4) | Relaxed, Placid, Patient | Tense, High-Energy, Impatient |

(Source: Adapted from )

**Eysenck's PEN Model**

While Cattell identified 16 factors, psychologist Hans Eysenck argued for a more parsimonious model. Using a higher-order factor analysis, he proposed that personality could be understood in terms of just three broad, biologically-based "superfactors". His PEN model includes:

1. Psychoticism vs. Socialisation (P): This dimension is not about psychosis in the clinical sense. Rather, individuals high in psychoticism tend to be independent thinkers, cold, nonconformist, impulsive, antisocial, and hostile. Those low on this dimension are more altruistic, empathetic, and conventional. Eysenck linked this dimension to hormonal levels, particularly testosterone.
2. Extraversion vs. Introversion (E): This dimension describes sociability, assertiveness, and sensation-seeking. Eysenck theorized that this trait is linked to an individual's baseline level of cortical arousal. Extraverts have low baseline arousal and thus seek out external stimulation, while introverts have high baseline arousal and tend to avoid intense stimulation.
3. Neuroticism vs. Emotional Stability (N): This dimension reflects emotional instability and a tendency to experience negative emotions like anxiety and depression. Eysenck linked neuroticism to the reactivity of the autonomic nervous system. Individuals high in neuroticism have a more reactive nervous system and are more susceptible to stress. Eysenck's model was influential for its strong emphasis on the biological and genetic underpinnings of personality, providing a bridge between psychology and physiology.

**Case Study 3: Forensic Setting - Assessing Competency to Stand Trial**

Scenario: Mr. Jones, a 45-year-old man with a history of homelessness and untreated mental illness, is arrested for a felony assault. During his initial court appearances, he is non-communicative, exhibits disorganized speech, and makes bizarre statements about being monitored by government agencies. His public defender raises a doubt about his competency to stand trial (CST), and the court orders a forensic psychological evaluation.

Assessment Process: A forensic psychologist is appointed to evaluate Mr. Jones. The legal standard for competency, established in the U.S. Supreme Court case Dusky v. United States, is twofold: the defendant must have (1) a rational as well as factual understanding of the legal proceedings against them, and (2) the ability to consult with their lawyer with a reasonable degree of rational understanding.

The assessment is a multi-method process, including:

- A thorough review of legal and medical records.
- A semi-structured clinical interview focused on the specific legal abilities outlined in the Dusky standard.
- Administration of a competency assessment instrument (e.g., the MacArthur Competence Assessment Tool).
- Potentially, personality testing (like the MMPI-2) to clarify underlying psychopathology.

Data Interpretation: During the evaluation, the psychologist makes several key findings. While Mr. Jones has a factual understanding of the roles of the judge and prosecutor (he can identify them correctly), his understanding is distorted by severe paranoid delusions. He believes his defense attorney is secretly working for the government agencies that are "monitoring" him. He is therefore unwilling to share any information about the alleged crime, as he believes his lawyer will use it against him.

His responses reveal a profound impairment in the second prong of the Dusky standard: the ability to rationally assist counsel. His paranoid psychosis prevents him from forming a trusting, working relationship with his attorney, which is essential for mounting a defense.

Outcome: The forensic psychologist concludes in their report to the court that, due to his active psychotic symptoms, Mr. Jones is not currently competent to stand trial. This is not a judgment on his guilt or innocence, nor is it an insanity defense. It is a statement about his present inability to participate meaningfully in the legal process.

Based on this expert opinion, the judge orders that Mr. Jones be committed to a state forensic hospital for competency restoration. There, he will receive psychiatric treatment (including antipsychotic medication) and psychoeducation about the legal system. The goal is to restore him to a state where he can understand the proceedings and rationally assist his attorney. His legal case is put on hold until his competency is restored. This case illustrates how psychological assessment plays a crucial role in safeguarding the due process rights of individuals with severe mental illness within the justice system.

## CONCLUSION:

The Responsible Application of Psychometric Tools

This exploration of the practical applications of psychometrics has journeyed through the intricate landscapes of human intelligence and personality, revealing the profound impact that their measurement has on individuals and institutions. From the classroom to the clinic, the workplace to the courtroom, psychometric tools provide a scientific language to describe and quantify the very

qualities that make us human. We have seen how theories of intelligence have evolved from a singular focus on a general factor (g) to embrace a rich tapestry of multiple cognitive and emotional abilities. Similarly, our understanding of personality has progressed from the hidden depths of the Freudian unconscious to the empirically-derived, stable traits that predict our behavior in the world

**Psychometric Neurogenetic varna cognitive personality traits model**
To address stress predispositions and job specifications based on gene of brains under stress
**COMPLETE 10-STEP PROCESS TO APPLY THIS FOR 1,00,000 EMPLOYEES**

**STEP 1: Consent & Ethical Protection (SETEHA Rules)**
Mandatory privacy and genomic consent.
**STEP 2: Collect Non-invasive Data**
Not genetic.Use questionnaires + UNG-CM psychometrics.
**STEP 3: Create UNG-CM Score for Each Employee**
5 traits → combined vector P = (O,C,E,A,N).
**STEP 4: Run Stress Gene Score (Based on your research model)**

SGS = 1–5 assigned via psychological stress markers.
**STEP 5: Cluster Employees Using K-Means (k=6)**
Clusters defined above.
**STEP 6: Map Each Cluster → Varna Job Category**
**STEP 7: Map Varna → Job Role Dictionary**

Example:
- Brahmana → Knowledge, advisory, R&D
- Kshatriya → Execution, leadership
- Vaishya → Social, negotiation
- Shudra → Process, creative, support

**STEP 8: Assign Counselling Frequency**
**STEP 9: Create Workforce Deployment Matrix**
To ensure:
- Burnout prevention
- Cluster balancing
- Crisis mitigation

**STEP 10: Continuous Re-evaluation Every 6 Months**
**UNG-CM traits update**
**Counselling response update**

VI. **ORGANISATION-WIDE DEPLOYMENT MATRIX**

| Cluster | Size % | Counselling | Core Jobs | Risk |
|---|---|---|---|---|
| 1 | 10% | Annual | Strategy • Legal • R&D | Very Low |
| 2 | 20% | Quarterly | Ops • Sales • Admin | Low |
| 3 | 25% | Monthly | HR • Negotiation | Moderate |
| 4 | 20% | Bi-weekly | Creative • Support | Medium |
| 5 | 15% | Weekly | Backend • Repetitive | High |
| 6 | 10% | Weekly + Intensive | Protected roles | Critical |

VII. **FINAL OUTPUT YOU REQUESTED: "CLUSTER NAMES + VĀRṆA + JOB ASSIGNMENT"**

| Cluster Name | Varna | Jobs |
|---|---|---|
| C1: Sattva-Resilient Leaders | Brahmana–Kshatriya | Leadership, Policy |
| C2: Rajas-Performers | Kshatriya | Operations, Sales |
| C3: Balanced Thinkers | Vaishya–Brahmana | HR, Client-facing |
| C4: Sensitive Empaths | Shudra–Creative | Design, Support |
| C5: Stress-Responsive Workers | Shudra | Backend, BPO |
| C6: Crisis-Risk Protected Group | Special Shudra | Low-stress roles |

**— UNIVERSAL NEUROGENETIC MATRIX (MASTER TABLE)**

| Gene | Neural Function | Formula | Derived Trait | Big Five Mapping |
|---|---|---|---|---|
| CRHR1/2 | HPA stress regulation | SR = \alpha(CRHR1+CRHR2) | Stress Reactivity | Neuroticism |
| NR3C1 | Cortisol receptor | ES = \beta / NR3C1 | Emotional Stability | Neuroticism ↓ |
| FKBP5 | Stress recovery | AR = FKBP5\cdot NR3C1 | Resilience | Emotional Stability |
| SLC6A4 | Serotonin transport | ES = SLC6A4/(1+EM) | Emotional Balance | Agreeableness |

| | | | | |
|---|---|---|---|---|
| MAOA | Breakdown of norepinephrine, dopamine | IC = 1/MAOA | Impulse Control | Conscientiousness |
| COMT | Dopamine metabolism | CF=\lambda \cdot COMT | Executive function | Openness |
| BDNF | Neural plasticity | NP = BDNF(1-EM) | Adaptability, Creativity | Openness |
| TPH2 | Serotonin synthesis | ER_t = \eta \cdot TPH2 | Emotional Patience | Agreeableness |

*(As you shared earlier)*

$$Trait_{Stress} = SR + AR$$

$$Trait_{Emotion} = ES + ER_t$$

$$Trait_{Cognition} = CF + NP$$

$$Trait_{Impulse} = IC$$

$$Trait_{Empathy} = ES + NP$$

**Where the gene reports fit:**

Because no pathogenic variants were found, all employees tested receive:

**GENETIC BASELINE (GB) = 1.0 (Neutral/Normal)**

Meaning:

- No additional stress-risk amplification
- No emotional dysregulation gene loading
- No impulse-control risk allele
- No cognitive deficit gene load

Thus:

$$Stress\ Level = SR + AR + (GB)$$

Where **GB = 1.0** (constant neutral baseline).

The general output that we obtain from medgenome testing could help in deriving the standard NGCPT AND SEETHA framework for job fit prediction and healt evaluation based on their genetic traits and stress predispositions thus the general role of neurogenetic process that can ideally help in clustering employees and making them undergo the suitable fit job based neurogenetic matrix varna model . Complete Universal Matrix

| **Axis** | **Formula** | **Personality Output** | **Big Five** | **Guna** | **Varna** |
|---|---|---|---|---|---|
| Stress Reactivity | SR = \alpha(CRHR1+CRHR2) | Sensitivity | N | Tamas | — |
| Emotional Stability | ES = 1/NR3C1 + SLC6A4 | Calmness | N↓, A↑ | Sattva | All |
| Cognitive Flexibility | CF = COMT + BDNF | Creativity, Logic | O↑ | Sattva | Brahmana |
| Impulse Control | IC=1/MAOA | Discipline | C↑ | Tamas–Sattva | Kshatriya |
| Empathy | SE = SLC6A4 + NP | Warmth | A↑ | Sattva | Brahmana/Vaishya |
| Motivation | MD = COMT {dopamine} | Drive, Leadership | E↑ | Rajas | Kshatriya/Vaishya |

The case studies presented throughout this report underscore a vital message: psychometric instruments are far more than mere academic curiosities. They are powerful tools that, when used correctly, can diagnose a learning disorder and unlock a potential, provide clarity in a complex clinical case, guide an aspiring leader toward self-awareness, and ensure that the rights of the most vulnerable are protected within the legal system. The scores, profiles, and indices generated by these tests provide objective data

that can challenge subjective biases, inform evidence-based interventions, and lead to more effective and equitable decisions. However, this power comes with immense responsibility. The history of psychometrics is not without its controversies, and the potential for misuse remains a constant concern. A single test score, viewed in isolation and without context, can lead to harmful labels and limited opportunities. The insights from this report converge on a set of core principles for the responsible application of these tools:

1. A Holistic, Multi-Method Approach is Essential: No single test can ever capture the full complexity of an individual. A responsible assessment always integrates data from multiple sources—test scores, clinical interviews, behavioral observations, and life history—to form a comprehensive and nuanced understanding.
2. Context is Paramount: Test results are meaningless without context. The assessor must always consider the individual's cultural background, educational history, emotional state, and the specific circumstances of the assessment.
3. Scientific Rigor Must Be Upheld: The use of any psychometric tool must be grounded in the principles of reliability, validity, and standardization. Practitioners have an ethical obligation to use tests that are scientifically sound and appropriate for the population and purpose at hand.
4. The Goal is Understanding, Not Just Labeling: The ultimate purpose of psychological assessment should be to foster understanding, guide support, and empower individuals.

The results should be used to open doors, not to close them.

As the field of psychometrics continues to evolve, the integration of technology, artificial intelligence, and neuroscience promises to make our assessment tools even more precise and insightful. Yet, the fundamental ethical and scientific principles will remain unchanged. The measure of the mind is a delicate and profound task, and its responsible practice will continue to be one of the most important contributions that psychology offers to society.

## Combined Neurogenetic × Big Five × Stress Index Chart

| Person | Neurogenetic Profile | Big Five Summary | Stress Index (WSGI/HSCI) |
|---|---|---|---|
| Surya | Calm Analytical Neurotype | High O, High C, Low E, Low N | 0.000 / 0.000 (Very Low) |
| Asha | Executive Stabiliser Neurotype | Moderate O, Very High C, High A, Low N | 0.000 / 0.000 (Very Low) |
| Meenakshi | Harmoniser Coordinator Neurotype | Moderate O, High A, Low N | 0.000 / 0.000 (Very Low) |
| Girija | Steady Support Neurotype | Moderate OCEAN mix | 0.136 / 0.050 (Low) |

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APPENDIX 1

**MedGenome Labs Ltd.**
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Bangalore South, Karnataka, India, 560100.
Tel : 1800 296 9696, Web: www.medgenome.com

MEDGENOME

## DNA TEST REPORT - MEDGENOME LABS

| | | | |
|---|---|---|---|
| Full Name / Ref No: | **GIRIJA ANIL KUMAR** | Order ID/Sample ID: | **1458644/9415294** |
| Gender: | Female | Sample Type: | Blood |
| Date of Birth / Age: | 51 years | Date of Sample Collection: | 24th September 2025 |
| Referring Clinician: | Dr. Asha Sundaram, Saveetha School of Law, Chennai | Date of Sample Receipt: | 25th September 2025 |
| | | Date of Order Booking: | 25th September 2025 |
| | | Date of Report: | 11th November 2025 |
| **Test Requested:** | **Whole Exome Sequencing** | | |

## CLINICAL DIAGNOSIS / SYMPTOMS / HISTORY

Ms. *Girija Anil Kumar* is suspected to harbour mutations in *CRHR1*, CRHR2, *NR3C1, FKBP5, SLC6A4 (5-HTTLPR), MAOA, BDNF, COMT, TPH2* genes and has been evaluated for pathogenic variations.

## RESULTS

**NO PATHOGENIC OR LIKELY PATHOGENIC VARIANTS CAUSATIVE OF THE REPORTED PHENOTYPE WERE DETECTED**

## VARIANT INTERPRETATION AND CLINICAL CORRELATION

No significant variant(s) for the given clinical indications that warrants to be reported was detected.
**There are no clinically relevant variants in coding region and exon-intron boundaries of in *CRHR1, CRHR2, FKBP5, SLC6A4 (5-HTTLPR), MAOA, BDNF, COMT, TPH2* genes and the genes are 100% covered.**

## ADDITIONAL INFORMATION

- **A heterozygous nonsense variant in the *HTRA1* gene (c.1120G>T, p.Gly374Ter) has been detected in this assay. Kindly correlate clinically.**
- **A heterozygous variant (p.Ala49Val; c.146C>T) in the *NR3C1* gene was also detected in this assay. However, it has high MAF.**
- No significant SNV(s)/INDELS or CNV(s) that warrants to be reported were detected. All the genes covered in this assay have been screened for the given clinical indications. To view the coverage of all genes Click here. NGS test methodology details of this assay are given in the appendix.
- With regard to ACMG recommendations for reporting of incidental findings in clinical exome and genome sequencing (PMID: 35802134; ACMG SF v3.1), we report significant pathogenic and/ or likely pathogenic variants in the recommended genes for the recommended phenotypes, only if informed consent is given by the patient.
- Please write an email to genetic.counseling@medgenome.com in case you need assistance for genetic counselling. For any further technical queries please write an email to techsupport@medgenome.com

## RECOMMENDATIONS

- Genetic counselling is advised.



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COLLEGE of AMERICAN PATHOLOGISTS

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| | | | | |
|---|---|---|---|---|
| 295 | 122.91 | 0.3 | 99.66 | 99.45 |

| | |
|---|---|
| **Total data generated (Gb)** | 11.05 |
| **Total reads aligned (%)** | 99.99 |
| **Reads that passed alignment (%)** | 87.18 |
| **Data ≥Q30 (%)** | 98.50 |

**$The classification of the variants is done based on American College of Medical Genetics as described below [PMID:25741868] and strength based evidence(s). Details will be given upon request.**

| | |
|---|---|
| Variant | A change in a gene. This could be disease causing (pathogenic) or not disease causing (benign). |
| Pathogenic | A disease causing variant in a gene which can explain the patient's symptoms has been detected. This usually means that a suspected disorder for which testing had been requested has been confirmed. |
| Likely Pathogenic | A variant which is very likely to contribute to the development of disease however, the scientific evidence is currently insufficient to prove this conclusively. Additional evidence is expected to confirm this assertion of pathogenicity. |
| Variant of Uncertain Significance | A variant has been detected, but it is difficult to classify it as either pathogenic (disease causing) or benign (non-disease causing) based on current available scientific evidence. Further testing of the patient or family members as recommended by your clinician may be needed. It is probable that their significance can be assessed only with time, subject to availability of scientific evidence. |

#The transcript used for clinical reporting generally represents the canonical transcript (MANE Select), which is usually the longest coding transcript with strong/multiple supporting evidence. However, clinically relevant variants annotated in alternate complete coding transcripts could also be reported.

Variants annotated on incomplete and nonsense mediated decay transcripts will not be reported.

#The *in-silico* predictions are based on Variant Effect Predictor (v109), [SIFT version - 5.2.2; PolyPhen - 2.2.2; LRT version (November, 2009); CADD (v1.6); Splice AI; dbNSFPv4.2] and MutationTaster2 predictions are based on NCBI/Ensembl 66 build (GRCh38 genomic coordinates are converted to hg19 using UCSC LiftOver and mapped to MT2).

Diseases databases used for annotation includes ClinVar (updated on 20250227), OMIM (updated on 20052025), HGMD (v2024.4), LOVD (Nov-18), DECIPHER (population CNV) and SwissVar.

## LIMITATIONS

- Genetic testing is an important part of the diagnostic process. However, genetic tests may not always give a definitive answer. In some cases, testing may not identify a genetic variant even though one exists. This may be due to limitations in current medical knowledge or testing technology. Accurate interpretation of test results may require knowing the true biological relationships in a family. Failing to accurately state the biological relationships in {my/my child's} family may result in incorrect interpretation of results, incorrect diagnoses, and/or inconclusive test results.
- Test results are interpreted in the context of clinical findings, family history and other laboratory data. Only variants in genes potentially related to the proband's medical condition are reported. Rare polymorphisms may lead to false

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- The sensitivity of NGS assay to detect copy number variants (CNV) is 70-75%. We recommend discussing alternative testing methodology options with MedGenome Tech Support (techsupport@medgenome.com) as required. In case clinician is suspecting CNV as an important genetic etiology, alternate tests like microarray/ MLPA or qPCR may be considered after discussing with the MedGenome TechSupport team.

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## APPENDIX

## TEST METHODOLOGY

Targeted gene sequencing: Selective capture and sequencing of the protein coding regions and clinically relevant in the genome is performed. Variants identified in the exonic regions and splice-site are generally actionable compared to variants that occur in non-coding regions. Targeted sequencing represents a cost-effective approach to detect variants present in multiple/large genes in an individual.

DNA extracted from blood was used to perform targeted gene capture using a custom capture kit. The libraries were sequenced to mean depth of >80-100X on Illumina sequencing platform. We follow the GATK best practices framework for identification of germline variants in the sample using Sentieon [Sentieon]. The sequences obtained are aligned to human reference genome (GRCh38) using BWA aligner [Sentieon, PMID:20080505] and analyzed using Sentieon for removing duplicates, recalibration and re-alignment of indels [Sentieon]. Sentieon haplotype caller is then used to identify variants in the sample. The germline variants identified in the sample is deeply annotated using VariMAT pipeline. Gene annotation of the variants is performed using VEP program [PMID: 20562413] against the Ensembl release 104 human gene model [PMID: 34791404]. In addition to SNVs and small Indels, copy number variants (CNVs) are detected from targeted sequence data using the ExomeDepth method [PMID: 22942019]. This algorithm detects CNVs based on comparison of the read-depths in the sample of interest with the matched aggregate reference dataset.

Clinically relevant mutations in both coding and non-coding regions are annotated using published variants in literature and a set of diseases databases : ClinVar, OMIM, HGMD, LOVD, DECIPHER (population CNV) and SwissVar [PMID: 26582918, 18842627, 28349240, 21520333, 19344873, 20106818]. Common variants are filtered based on allele frequency in 1000Genome Phase 3, gnomAD (v3.1 & 2.1.1), dbSNP (GCF_000001405.38), 1000 Japanese Genome, TOPMed (Freeze_8), Genome Asia, and our internal Indian population database (MedVarDb v4.0) [PMID: 26432245, 32461613, 11125122, 26292667, 33568819, 31802016]. Non-synonymous variants effect is calculated using multiple algorithms such as PolyPhen-2, SIFT, MutationTaster2 and LRT. Clinically significant variants are used for interpretation and reporting.

| Average sequencing depth (x) | Average on-target sequencing depth (x) | Percentage target base pairs covered | | |
|---|---|---|---|---|
| | | 0x | ≥5x | ≥20x |
| 277 | 111.21 | 0.3 | 99.65 | 99.37 |

| Total data generated (Gb) | 10.38 |
|---|---|