

## Examrace

# Perspective model approach Part 1: Details on Medical Perspective-Neurotransmitters Endocrine Glands for Competitive Exams

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A paradigm in psychology is a distinct way of describing, observing, understanding, and predicting any given psychological phenomena.

The professionals, as well as students, in order to conceptualize and organize the available information, need a model or paradigm. Also, it is required because it is used to test hypotheses and for conducting research work in order to testify the validity of assumptions.

- Includes assumptions about what drives human behavior, how disorders develop, and treatment prescriptions.

## Biological /Medical Perspective

Based on the assumption of Materialism i.e., all behavior has a physiological basis

- An understanding of biochemical processes will give an understanding of psychological and social phenomena
- Physical structures and hereditary processes determine behavior or behavior potential
- Physical/physiological interventions can alter mental processes and behavior
- Root cause of abnormalities and disorders lies in biology and requires medical intervention

## Historical Background

The historical roots of biological model are very old, dating back to at least the time of Hippocrates. There are a number of great names that contributed to this approach, of which the more important ones will be discussed.

- Hippocrates (460 – 377 B. C)
  - Greek physician/philosopher
  - Regarded as the “Father of Medicine”
  - Talked about basis for medical problems
  - Believed that rational knowledge could serve a path for understanding psychological problems.
- Galen (129 – 199 A. D)

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- Born to Greek parents in Asia Minor
- Great physician with an empirical approach who rejected the old doctrine and relied on his observation and research.
- Correctly identified various parts of the nervous system and had an accurate grasp of how nervous system functions.
- Known for anatomical studies on animals and observations of human body functions
- Charles Darwin: (1809-1882 Ad)
- British scientist
- Author of the revolutionary “The Origin of Species” (1859)
- According to Darwin, variations among individuals of a species would occur by chance, but could in turn be passed on to the future generations
- Gave the concept of “Survival of the Fittest” ;only those variations which helped the individuals survive long enough to breed would sustain, and be passed on

## Neurotransmitters

The synapse of the neuron releases special chemicals called

“Neurotransmitters”

- Existence of neurotransmitters has been known since 1920’s; but the evidence of their relationship with psychological disorders has been found and known since 1950s
- More than 50 neurotransmitters exist in human body
- Neurotransmitters and Their Role
  - Acetylcholine: Learning, Memory and Muscle control
  - Dopamine: Motor activity, Coordination, Emotion and Memory
  - Epinephrine: Emotion, Stress
  - GABA (Gamma-Amino Butyric Acid): Anxiety, Arousal, Learning
  - Serotonin: Sensory Processing, Sleep, Arousal
  - Glutamate: Anxiety, Mood

## Endocrine Glands

These glands form the body’s “slow” chemical communication system; a set of ductless glands that secrete hormones (special chemicals) into the bloodstream

Endocrine Glands and Abnormality

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- Low secretions of the thyroid produce anxiety like symptoms such as irritability and tension
- Low level of pituitary secretions produces depression like symptoms—Fatigue, apathy etc.
- Abnormal secretions of hormones may cause major depression

## **Assumptions of Biological/Medical Model**

- Abnormality is caused by some disease in the “Central Nervous System”(C.N.S).
- Disease in the C.N.S. has some biological or physical origin.
- Physicians are best able to treat diseases of the C.N.S.
- Diseases in the C.N.S. are not currently specific.

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