

Introduction to Behavioral Sciences

Sadia Awan

Behavioral Sciences

- Behavioral sciences refer to a multidisciplinary field that explores human behavior, emotions, cognition, and social interactions. It incorporates knowledge from psychology, sociology, anthropology, and communication studies to understand how individuals think, feel, and act in various contexts.

- The primary objective of behavioral and social sciences is to identify, describe, and explain behavioral and social phenomena using scientific principles and methodologies.
- Both behavioral science and social science study human behavior; however, they differ in scope, subject, and methodology. While the terms are often used interchangeably, social science primarily focuses on the broader social context, exploring social processes, organizations, and institutions. In contrast, behavioral science is concerned with understanding individual behavior, particularly decision-making and communication patterns.
- Behavioral science applies principles from psychology and sociology to study how emotions, environmental factors, and social influences shape human behavior. It seeks to understand why people behave in certain ways and often aims to generalize human behavior in relation to society.
- Unlike social scientists, behavioral scientists rely on empirical data and experimental methods, including controlled testing and manipulated environments, to analyze human behavior systematically.

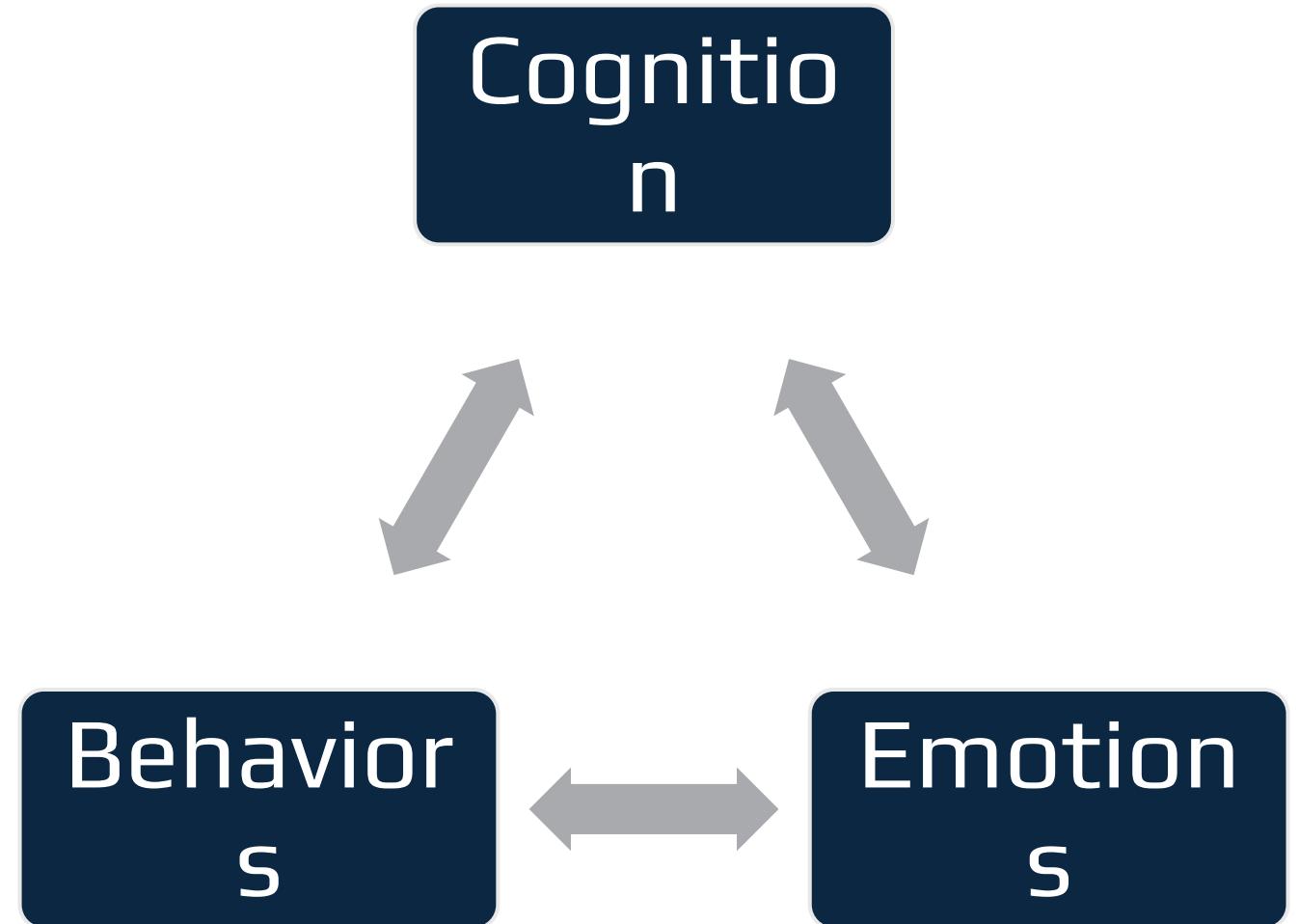




What's Psychology

- Psychology is the scientific study of behavior and mental processes. (APA, 2013)

Fundamental Attributions



The Deeper Understanding

- Psychology, as the scientific study of human thoughts, emotions, and behaviors, provides an intricate framework for understanding how we perceive the world, interact with others, and shape our inner realities.
- At a deeper level, psychology is not just about observable behaviors or conscious thoughts; it is profoundly interwoven with our core beliefs, cognitive schemas, and cultural influences. These elements collectively determine how we interpret experiences, regulate emotions, and make decisions in our daily lives.
- Cognition refers to the mental processes that allow individuals to acquire knowledge, process information, and apply it in their interactions with the world. It includes perception, attention, memory, learning, and decision-making. Cognitive psychology explores how individuals filter, interpret, and respond to their environments based on these processes.
- One of the fundamental aspects of *cognition is perception*, which is the way we interpret sensory information.

- **Memory**, another crucial aspect of cognition, plays a significant role in shaping beliefs and behaviors.
- **Decision-making** is also deeply tied to cognition. The way people evaluate risks, rewards, and consequences depends on their cognitive biases, such as confirmation bias (favoring information that aligns with preexisting beliefs) or the availability heuristic (relying on immediate examples rather than objective analysis).
- **Emotional Regulation and behaviors**
- Culture profoundly influences cognition, emotion, and behavior by shaping core beliefs and social norms. **Cultural background** determines what is considered normal or acceptable in emotional expression, decision-making, and interpersonal relationships.

Question

What is the significance of behavioral
sciences in your domain ???



The social context
of dental
practices



Effective Patient
Communication



Managing
patients' anxiety
and pain



Psychosocial
factors in dental
health



Ethical and
Professional
Development



The Link Between
Oral and
Emotional
Well-Being



Stress
management

1

Sarah has maintained relatively good oral health due to her regular dental visits, proper oral hygiene practices, and early intervention in case of minor dental issues. Her dentist detected early-stage cavities during a routine check-up and provided fluoride treatment and minor fillings, preventing the progression of decay. Additionally, she underwent professional teeth cleaning every six months, reducing her risk of gum disease.

2

Ayesha, on the other hand, developed severe dental caries due to her high sugar intake, irregular oral hygiene routine, and lack of regular dental care. She ignored mild tooth pain due to financial constraints and eventually developed a severe tooth infection. Without proper access to preventive care, she had to visit an emergency dental clinic when the pain became unbearable. The infection had progressed to the point that her dentist recommended tooth extraction instead of restorative treatment.

- Sarah (Upper-Middle Class, White-Collar Professional)
- Income Level: High
- Education: University graduate
- Occupation: Corporate executive
- Health Insurance: Private dental insurance with comprehensive coverage
- Oral Health Behaviors: Regular dental check-ups every six months, daily flossing and brushing, access to fluoride-based toothpaste and mouthwash
- Diet and Lifestyle: Balanced diet with minimal sugar intake, easy access to organic and nutrient-rich food
- Awareness and Health Literacy: High level of awareness about the importance of oral hygiene and the long-term effects of poor dental care

- Income Level: Low
- Education: High school graduate
- Occupation: Factory worker with physically demanding job
- Health Insurance: No dental insurance, relies on government clinics or emergency care
- Oral Health Behaviors: Irregular dental visits due to cost, uses cheaper oral hygiene products, brushes only once a day, no access to professional dental cleanings
- Diet and Lifestyle: High consumption of processed and sugary foods due to affordability, limited access to healthy food options
- Awareness and Health Literacy: Limited awareness about preventive dental care, primarily seeks treatment only in cases of pain or infection

Access to Dental Care and Insurance

- Sarah's employer-provided insurance allowed her to seek regular and preventive dental care.
- Ayesha, lacking dental coverage, avoided check-ups and only sought treatment when in severe pain, leading to more invasive and costly procedures.

Health Literacy and Preventive Practices

- Sarah's educational background made her more aware of the importance of oral hygiene and dietary choices.
- Ayesha, with limited health education, did not fully understand the impact of sugar consumption and irregular brushing on her oral health.

Workplace Environment and Occupational Factors

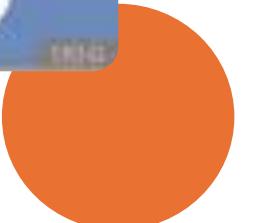
- Sarah worked in an environment with flexible working hours, allowing her to schedule dental visits easily.
- Ayesha's job was physically demanding, with long shifts, making it difficult for her to prioritize dental visits. Additionally, a lack of employer support for healthcare benefits contributed to neglecting preventive care.

Diet and Socioeconomic Constraints

- Sarah could afford a nutrient-rich diet with minimal processed foods, reducing her risk of cavities.
- Ayesha relied on inexpensive, high-sugar, and processed foods, which increased her susceptibility to dental decay and gum disease.

Long-Term Consequences

- Sarah's oral health remained intact, preserving her self-confidence and overall well-being.
- Ayesha's untreated oral health problems led to tooth loss, affecting her speech, self-esteem, and quality of life. Additionally, poor oral health could contribute to systemic issues like cardiovascular disease and diabetes.



Patient's Belief

- Believes about the health.
- Believes about taking therapies/ treatment/ help.
- Cultural attitudes towards the care
- Family or self-norms.

Cultural, Religious, Family Norms, Individual Norms.

Effective patient dealing



SOCIAL CLASS



OCCUPATION



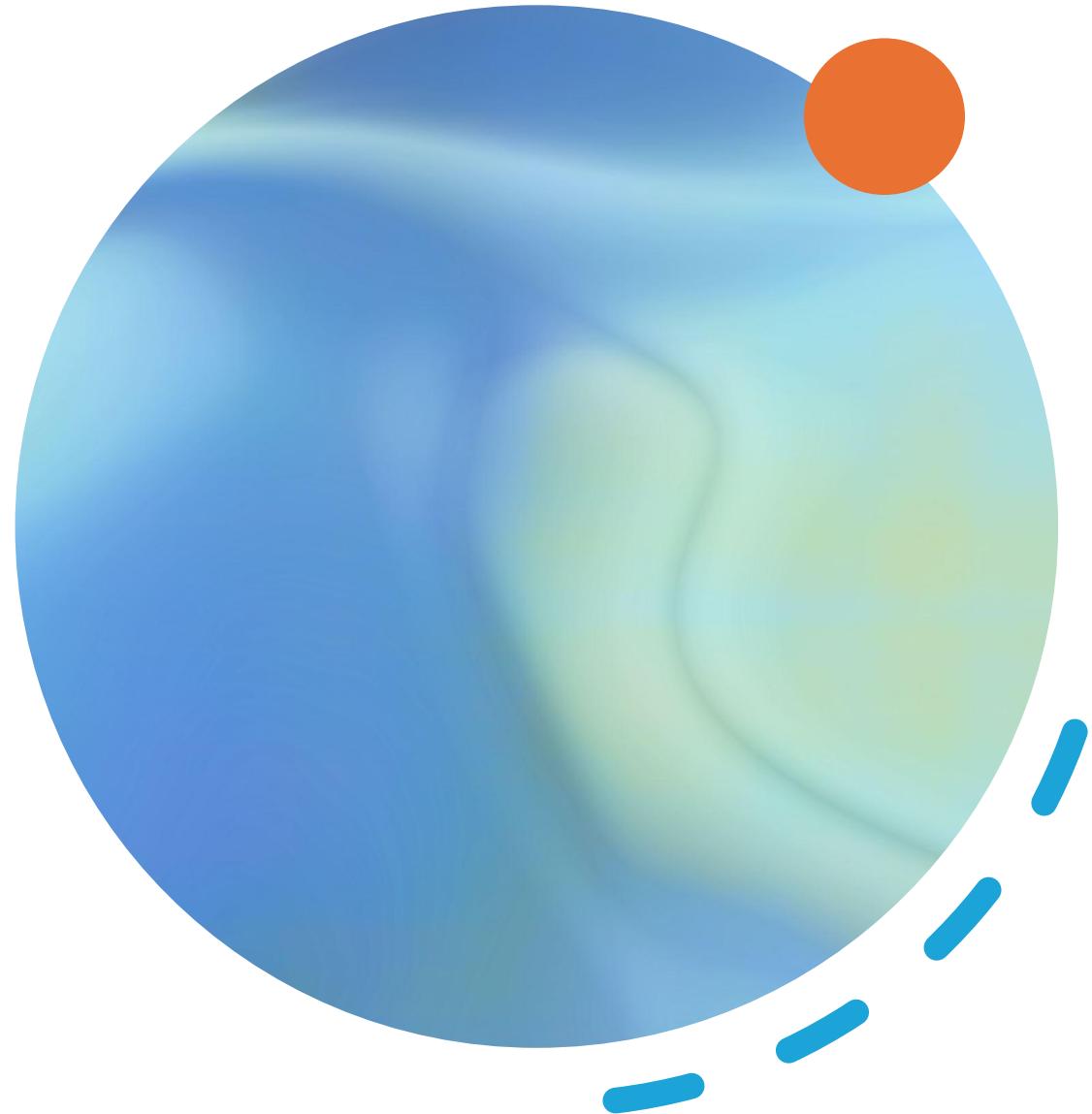
CULTURE

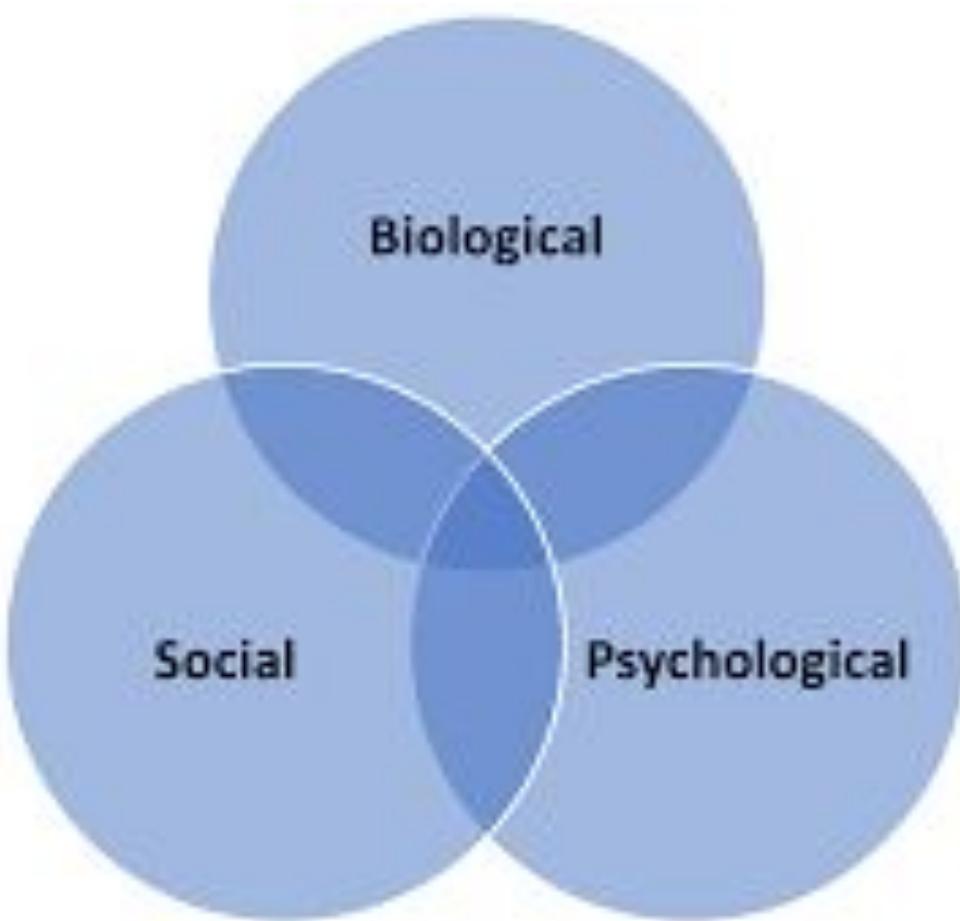


RELIGION



THE PATIENTS
OWN HEALTH
BELIEF





The BIO-PSYC HO-SOCIA L Model of Health

(Drs. George Engel
& John
Romano, 1980)

FACTORS ???

FACTORS

Genetic factors •
Medications •
Environmental and
ecological factors

Coping skills, personality
styles, self-esteem, the
person's thoughts,
feelings, behaviour

Socioeconomic status
(SES), relationships,
school, work • Societal
factors including racism,
systemic oppression,
colonialism • Spirituality,
the need to see beyond
yourself, and to see how
you are interconnected
to others, your
community, the world
and beyond

- The biopsychosocial approach systematically considers biological, psychological, and social factors in terms of considering health.
 - Recognize that relationships are central to providing health care
 - Use self-awareness as a diagnostic and therapeutic tool
 - Elicit the patient's history in the context of life circumstances
 - Decide which aspects of biological, psychological, and social domains are most important to understanding and promoting the patient's health
 - Provide multidimensional treatment

CASE STUDY

Mr. Ahmed, a 38-year-old married male, visited the dental OPD with a chief complaint of pain in the lower right molar region for the past five days. He described the pain as sharp and intermittent, especially while chewing or drinking cold water. The pain intensity was rated 7/10. He reported taking over-the-counter painkillers for relief, which provided only temporary comfort. Mr. Ahmed had not visited a dentist in over two years due to fear of dental procedures and financial concerns. His dental hygiene routine included brushing once daily with a standard toothbrush and toothpaste, with no use of floss or mouthwash. He mentioned consuming sweet tea multiple times a day and occasionally chewing betel nut (supari), a habit he picked up during his late teens.

Medically, Mr. Ahmed is hypertensive and takes antihypertensive medication regularly. He has no known allergies, but he reported that his father had diabetes and gum disease. He has not undergone any major surgeries in the past. Psychologically, Mr. Ahmed expressed a high level of dental anxiety, citing childhood experiences with painful extractions as a cause. He admitted that he postpones dental visits out of fear, which often leads to worsening symptoms. He also reported poor sleep over the past few weeks due to work-related stress, often clenching his jaw unconsciously at night. He expressed concern about his appearance, mentioning that he avoids smiling in public due to visible tooth discoloration and missing teeth.

Socially, Mr. Ahmed lives in a joint family system with his wife and two children. He works as a mechanic and supports his household on a limited monthly income. Due to his work hours, he finds it difficult to take time off for dental appointments. He also mentioned that in his community, many people rely on home remedies like clove oil or saltwater for toothaches and avoid professional care unless the pain becomes unbearable. Mr. Ahmed reported feeling embarrassed about his oral health and admitted that he avoids social events due to bad breath and missing front teeth.

On general examination, he appeared tired and showed signs of neglect, with poor oral hygiene and stained teeth. Intraoral examination revealed deep caries in the lower right molar, moderate generalized plaque and calculus, and signs of early periodontitis. Multiple posterior teeth were missing. Based on this, a provisional diagnosis of chronic irreversible pulpitis and poor oral hygiene with early periodontal involvement was made. The treatment plan included pain management, oral prophylaxis, caries control, and long-term restorative options, along with counseling for oral hygiene and behavioral management for dental anxiety.



Thank
You