

PSYCHOLOGY *for* NURSES

Psychology for Nurses is a comprehensive book written for those taking diploma and degree programmes in nursing. It is also for the registered nurses (RN) who would like to enrich their nursing practice. Psychology as a subject must provide adequate insight for those who are embarking into the nursing profession, a healthcare profession which requires adjustment to the behaviour of the patients and those around them; understanding the patients' anxiety, fear or pain; and self-acceptance by the nursing care givers in order to function independently within the areas of their responsibility.

This book is unique in that the author who is a psychologist and a mental health nurse practitioner has introduced new concepts that are relevant to the nursing practice. Among these concepts are psychology of nursing care; psychological interventions, like the therapeutic smile; and the therapeutic use of self or presence. The basic concepts of psychology are also presented in this book since, as the author views it, it is very important that all nurses know and understand the origin and the development of psychology as a science.

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PSYCHOLOGY for NURSES

• Arnel Banaga Salgado •



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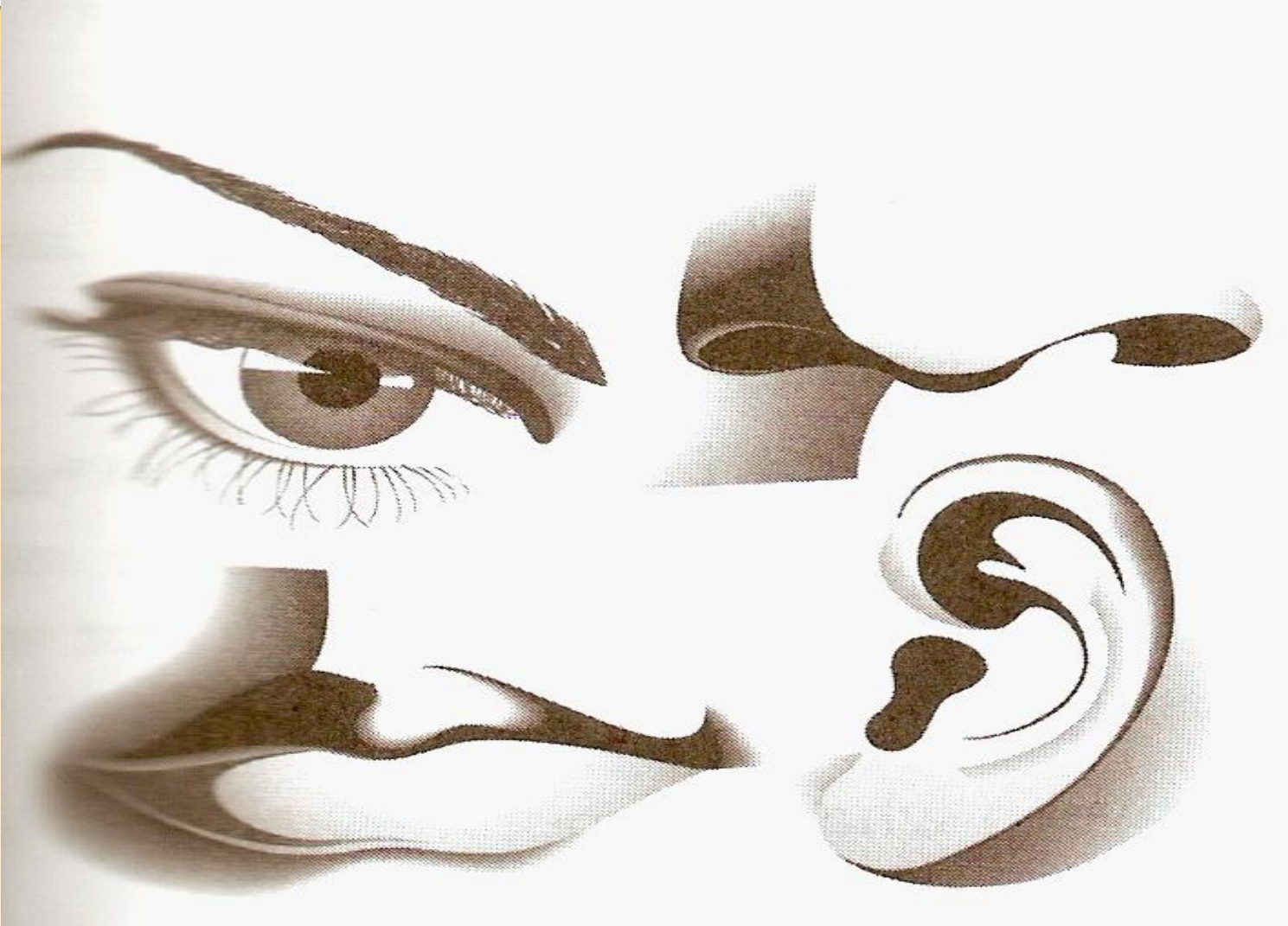


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Chapter 5

Sensation and Perception



EXPECTED LEARNING OUTCOMES

After studying this chapter, you are expected to:

1. indicate the differences between sensation and perception;
2. describe the cognitive functions of sensation;
3. identify the different thresholds;
4. describe theories related to sensation and perception;
5. describe the different parts of sense organs and the process of
6. sensation; and
7. define the different perceptual organizations.

Introduction

- In nursing, the examination of sensation and perception is a part of health assessment for nurses to identify nursing problems if there is any, and to design nursing care plans appropriate for these identified nursing problems.

- The sensation and perception denote the neurological functioning which can be attributed as a part of vital signs. It is when the client loses all his senses and perceiving capability that he can be declared as dead.

WHAT IS THE DIFFERENCE BETWEEN SENSATION AND PERCEPTION?

1. Sensation is the stimulation of sensory receptors and the transmission of sensory information to the central nervous system while perception is the process by which sensations are organized into an inner representation of the world.

2. To sense something has to have a certain level. Absolute threshold is the minimum amount of sensory stimulation that can be noticed 50% of the time. Difference threshold is the smallest

3. Sensation is the detection of stimuli from the body or environment while perception is the act of interpreting sensory input as signaling a particular object or event.

4. Sensation is the passive process of bringing information from the outside world into the body and to the brain while perception is the active process of selecting, organizing and interpreting information brought to the brain by the senses.

How do we know what information is important and should be focused on?

- 1. Selective Attention.** It is the process of discriminating between what is important and not important and is affected by motivation.
- 2. Perceptual Expectancy.** It is how we perceive the world, a function of our previous culture, biological make-up and experiences.

Vision

- The human eye is essentially an energy detector. The eye can distinguish between some types of electromagnetic energy.

HEARING

- Our sense of hearing is affected by the stimuli—sound waves. They are fast changes in air pressure which are caused by a vibrating object. Sound waves vary in 3 ways and each has a distinct sensory effect.
- **Frequency** is the number of cycles of sound pressure per second measured in hertz which determines the pitch we hear.

- **Amplitude** or intensity is the height of the sound wave peak just like with the visual wave. The higher the amplitude, the louder the sound.
- **Timbre** is the mixture of sound waves that determines the tonal qualities of what we hear.

SKIN SENSATION

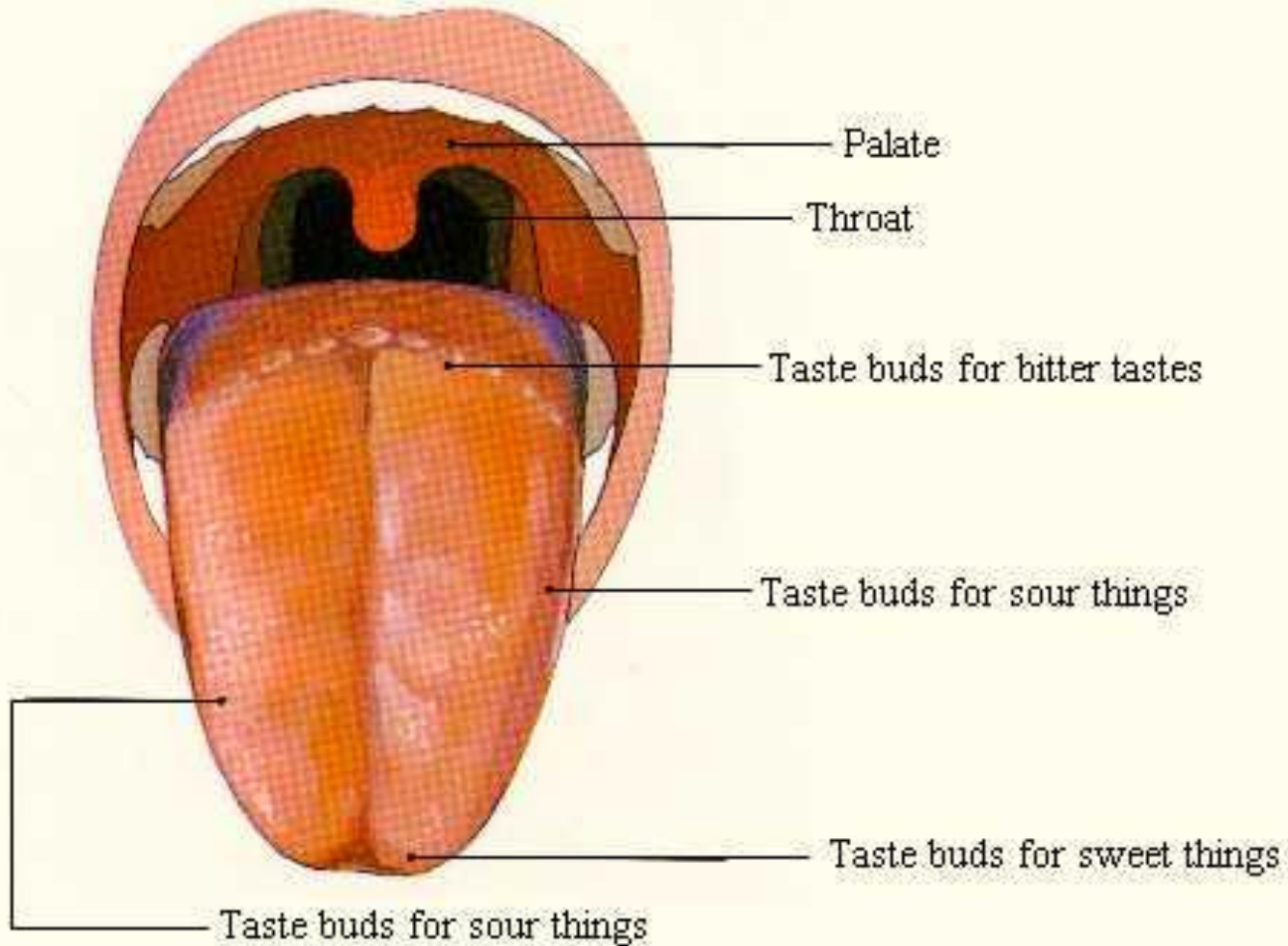
- 1. Touch is perceived through the sensory receptors in the skin.** Our sensitivity varies depending on the part of our body. Some areas of the body have receptors. Fingers and mouth are the most sensitive.
- 2. Pain has no specific receptors.** This is caused by damage to bodily tissues which give out chemical substances that stimulate pain neurons.

3. Warmth and Cold. Your skin temperature is physiological zero. If you touch something of this temperature, you shall feel no temperature. There are warmth and cold receptors. Hot is perceived by simultaneous activation of warmth and cold receptors.

Sensation of Pain

- Pain as an unwelcome and undesirable experience, emotionally as well as physiologically

Chemical Senses (Taste And Smell)



- The smell and taste senses are closely related senses.
- The principal function of smell is to warn you about potentially toxic substances.

- When you smell, molecules enter the nose and are dissolved in nasal tissue. This brings them into contact with receptor cells which send information to the brain.

GESTALT PSYCHOLOGY THEORY OF PERCEPTUAL ORGANIZATION

- The Gestalt Psychologists presented the idea of figure and ground to help formulate the theory about human perceptual system.
- The figure is the perceived object in front of an illustration or display while the ground is the background that the figure (perceived object) stands out.

- **Closure.** The closure is the tendency to group stimuli according to certain principles.
- **Continuity.** Continuity is the principle of perceiving a line as continuing on its course. A horizontal or vertical line of the same length when crossed together will be labeled and will form a plus, addition or multiplication signs.

- **Proximity.** Proximity is the principle in which stimuli next to one another perceived a line as continuing on its course. It is the grouping of elements perceived to belong together. For example, two people who are friends in reality, often seen together are misinterpreted as lovers.

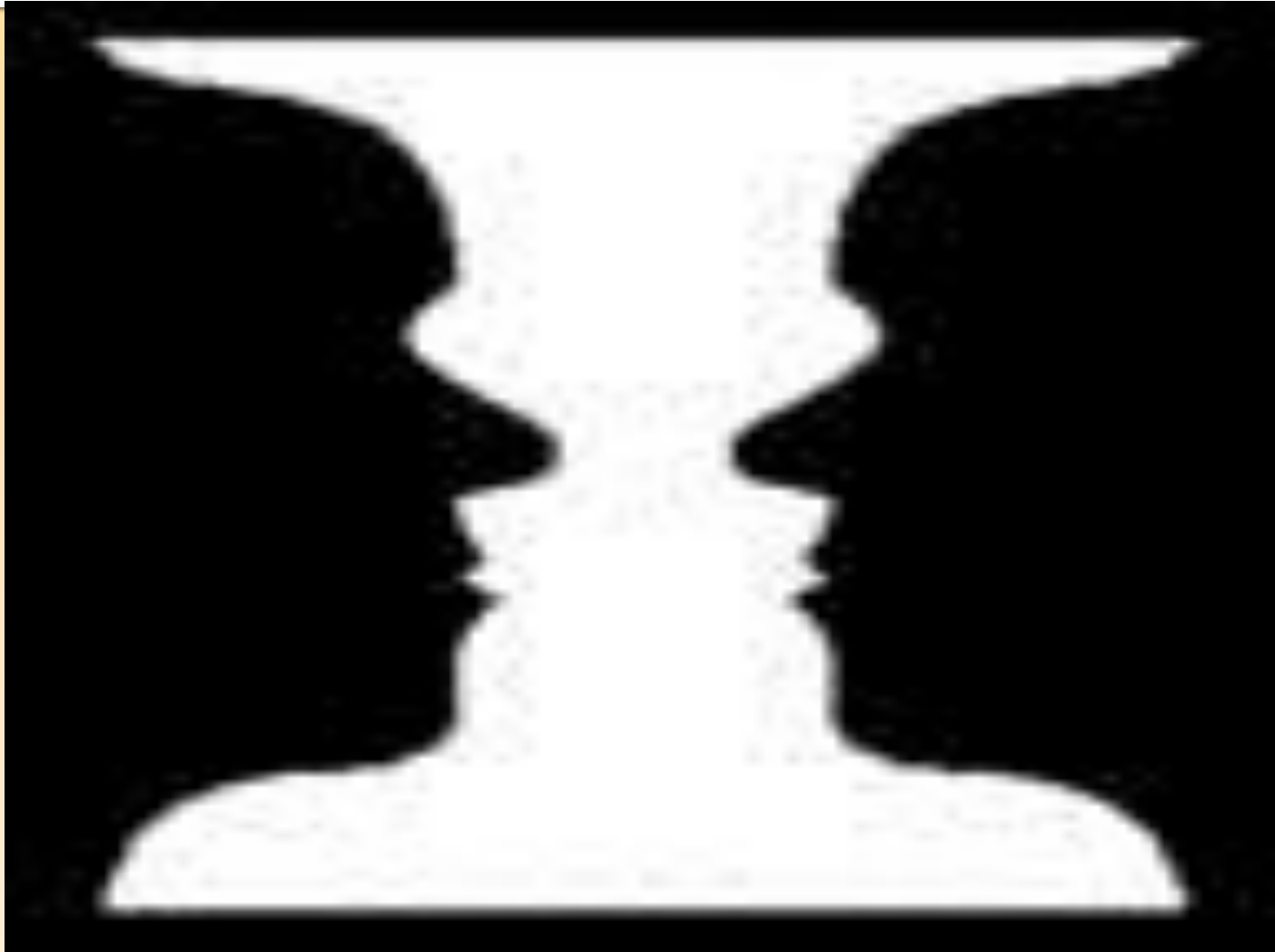
- **Similarity.** Similarity is the principle of perceiving in which the group of the same elements belong to a group. For example, the wearing of uniform tells us to what team or association the groups belong.
- **Simplicity.** Simplicity states that we group elements that make a good form. However, the idea of good form is a little indistinct and subjective. Most psychologists think that **good form is the easiest or most simple.**

- **Common Fate.** Common fate illustrates the elements that move together tend to group together. For example, when we see geese flying south for the winter, they appear to be in “V” shape.

- **Perceptual Constancy.** This is our tendency to perceive objects as having constant or unchanging properties. Example, a man does not seem to shrink as he walks away.

- **Illusions.** Sometimes our perceptions give false interpretations of physical reality. An illusion is an incorrect perception that occurs when sensation is distorted.

- **Reversible figures** – the ambiguous sensory information that creates more than one good form. For example, the picture of two faces looking toward each other that is also a vase. See Figure Ground.
- **Impossible figures** – the objects that can be represented in 2-dimensional pictures but cannot exist in 3-dimensional space despite our perceptions. For example, the hands drawing each other, waterfall goes down and stays level at the same time.



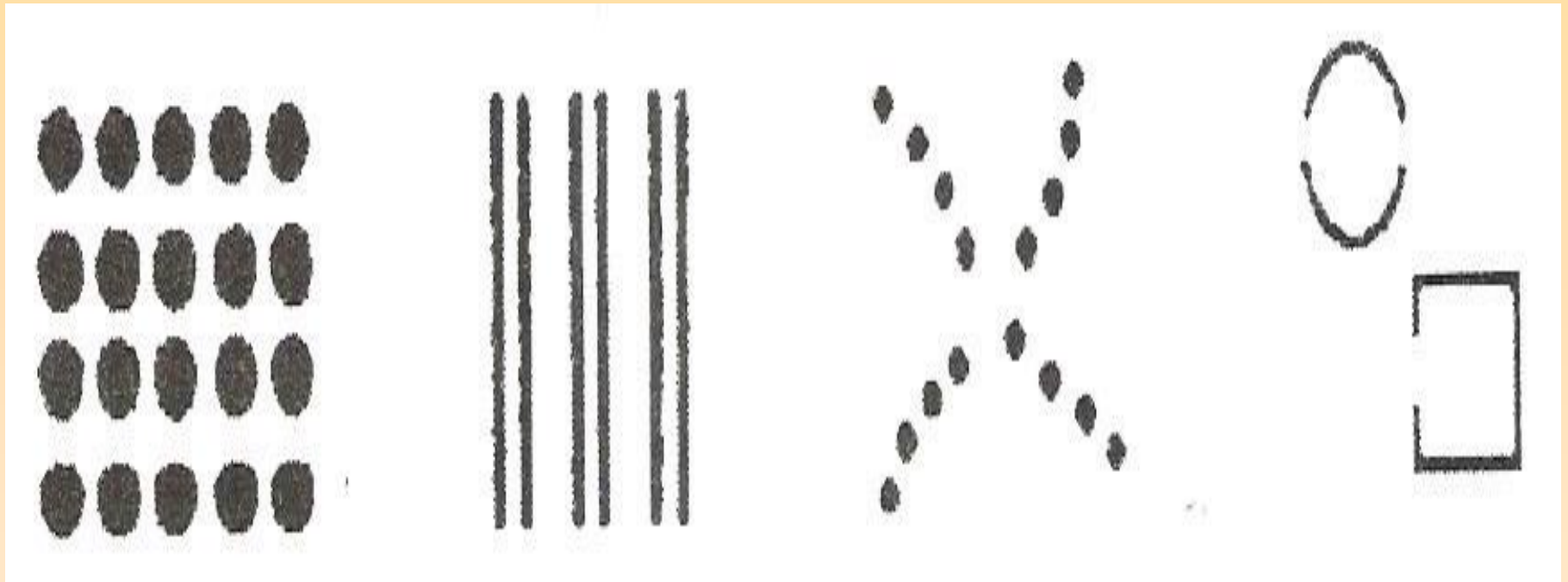
Depth Perception

- Depth perception originated from binocular disparity, the brain is used in a little degree of differences in interpreting data received from each eye to perceive depth.
- The motion parallax is the difference in the relative motion of retinal images that happen when we change position. The objects that appear closer seem to move faster.
- Interposition is when one object particularly abstracts the sight of another object producing the perception that the second object is farther than the first.

- **Linear Perspective** is the apparent merging of two parallel lines at a distance.
- **Relative Size** is the relationship between the size of an object projected on the retina and the distance of the object from the observer. The bigger the retinal image, the closer the object appears.
- **Texture Gradient** is the nearer an object is to you, the more texture you can see. As the object gets farther, the object appears smoother.

THE PERCEPTUAL PROCESS

- A sensory screening process that allows one to sort out and mentally process only certain details in one's surroundings.
- Each of us is constantly bombarded by environmental stimuli, all competing for our attention.
- These stimuli may be verbal or written messages, noises, lights, symbols, signs or the nonverbal behaviors of others. We would literally go mad if we did not have some mental faculty for sorting out and screening these competing stimuli.



1. **Absolute Threshold of Activation.** It is believed that all sense organs have absolute thresholds of activation; thus many stimuli go unnoticed by individuals because they are not strong, bright or loud enough to activate our senses.
2. **Sensory Adaptation.** It is a process by which individuals tune out certain object or stimuli after continued exposure. For instance, the ticking of a clock, it may appear to be very loud for a person who has focused attention on the sound, but another person may not even hear the sound because the senses have adapted to it.

Physical Properties

- 1. Size.** Generally, larger objects receive more attention than smaller ones.
- 2. Intensity.** Brighter, louder, more colorful objects tend to attract more attention than objects of less intensity.

3. **Contrast.** Objects that contrast strongly with the background against which they are observed tend to receive more attention than less contrasting objects.
4. **Novelty or Unfamiliarity.** The unique or unexpected seen in a familiar setting or the familiar seen in an incongruous setting will receive attention.

Dynamic Properties

- **Motion.** We tend to pay attention to objects that move against a relatively static background. This principle has long been recognized by advertisers who often use signs with moving lights or moving objects to attract attention
- **Repetition.** A stimulus that is repeated has better chance of catching us during one of the periods when our attention to a task is waning.

- **Order.** Order in which the objects or stimuli are presented. There are two kinds of ordering effects: *Primary effects* occur when the first stimulus or piece of information received from an object received the greatest weight and colors subsequent information. *Recency effect* occurs when the last, or most recent stimulus received the greatest attention.

Personal Influences

- 1. Response Salience.** This is the tendency to focus an object that relate to our immediate needs or wants.
- 2. Response Disposition.** This is the tendency to recognize familiar objects more quickly than unfamiliar ones.
- 3. Attitudes and Feelings Toward an Object or Person.** The way people feel toward a particular object or person can also have a marked influence on how the object or person is perceived.

Perceptual Organization

- 1. Grouping.** We normally group words line by line; duplication in wording between 2 lines tends to be overlooked. So too, managers may overlook subtle individual differences by grouping people.
- 2. Figure-Ground.** What you saw depended on what you perceived as the background. In the same manner, people often reverse figure-background relationships in their surroundings.

- 1. Closure.** Means mentally filling in the blanks of an incomplete whole. We are all familiar with the tendency of people to fill in the blanks when they hear only part of a story. Rumors are started this way. But closure can be extremely helpful when one is trying to identify and solve a complex problem with only limited information.
- 2. Constancy.** States that despite changes that occur in stimulation, we have a

Barriers to Accurate Perception of Others

1. **Stereotyping.** A tendency to assign attributes to people solely on the basis of their class or category.
2. **Halo Effects.** A tendency to allow the traits exhibited by people to influence our impressions of their other traits.
3. **Implicit Personality Theory.** A tendency to have an *a priori* picture of what other people are like that colors how we see them.

4. **Selective Perception.** A process by which we systematically screen or discredit information we do not wish to hear and focus instead on more salient information.
5. **Projections.** A tendency to ascribe to others those negative characteristics or feelings we have about ourselves.
6. **Temporal Extension.** A tendency to distort or ignore information that is either personally threatening or culturally unacceptable.

KEY POINTS

- Sensation is the passive process of bringing information from the outside world into the body and to the brain.
- Perception is the active process of receiving, organizing, and interpreting information brought to the brain by the senses.
- The chemical senses are the smell and taste.
- The four basic tastes are sweet, sour, salty, and bitter.
- Perceptual organization occurs in different ways: closure, continuity, proximity, similarity, simplicity, common fate, perceptual constancy, illusions, and depth.