

Introduction:

The word “Attention” derives from Latin word (attention) that means observation.

Attention is a topic that has been studied often by cognitive psychologists. It refers to focusing and processing information from our surroundings. While it involves our concentrations to a particular object of our environment, the nature of our attention can vary from event to event.

Attention is a human brain function that allocates cognitive processing resources to focus on information or stimuli. It deals with how we mentally process specific information present in our environment that we are experiencing through our five senses.

Attention is a complex cognitive function which is essential for human behavior. Attention is a selection process for an external (sound, image, smell) or internal (thoughts) event which has to be maintained at a certain level of awareness. It is not a stable but rather a fluctuating skill. It is not continuously sustained and is often unconsciously.

Definition

- In Psychology “Attention” is an element or State of Mind. (**Higher Mental Process**)
- Attention means the ability to keep the mind on something or to concentration and focus of consciousness upon particular thing.
- Attention is defined as a state of focused awareness presented by central nervous system. It is the readiness to respond to stimulation.

Attention is a basic part of the cognitive system.

Attention is a basic component of our biology, present even at birth. Our orienting reflexes help us determine which events in our environment need to be attended to, a process that aids in our ability to survive. Newborns attend to environmental stimuli such as loud noises. A touch against the cheek triggers the rooting reflex, causing the infant to turn his or her head to nurse and receive nourishment. These orienting reflexes continue to benefit us throughout life. The sound of a horn might alert us about an oncoming car. The smell of a smoke alarm might warn you that something is burning. All of these stimuli attract our attention and respond to our environment.

The brain receives lots of sensory information and must choose what to focus on and what to ignore. Many neurological disorders can create problem in attention process including schizophrenia, autism, and attention deficit disorder involve problems concentrating.

It seems that two lobes of the brain are primarily involved in concentration: the so-called executive center in the front of the brain "frontal lobe and "parietal lobe" (toward the back of the brain).

- According to **White**, attention is a process that involves collection of information as well as contribution on the part of the brain and body.
- According to **Robertson** attention as “the flow of consciousness” the individual’s field of consciousness get fully involved in it and tries to gather information.
- According to **Morgan** and **King** they think that attention is a process in which important information is gathered with the help of senses and personal experiences.

Types of Attention

There are many types of attention that we use in our daily lives.

Involuntary / Passive Attention**Voluntary / Active Attention****Secondary Passive / Habitual Attention****Continuous Attention****Sustained Attention****Selective Attention****Alternating Attention****Divided Attention**

Involuntary / Passive Attention

The stimuli attract the individual's attention because of their qualities; it does not involve the individual's willingness and intention. The factors that influence attention in this type are objective. The stimuli are so powerful that they dominate the individual and capture his attention by forcefully.

Example; If a loud sound is suddenly heard, the light goes off, a poisonous insect bites or we are injured. We pay fully attention on it.

Voluntary / Active Attention

When we consciously give attention on something, it is called voluntary/active attention. This type of attention has subjective causes.

Example; Focusing attention on writing in the examination hall, keeping an eye on the football player in a match, reading an uninteresting story or watching a boring movie are all examples of voluntary attention.

Secondary Passive / Habitual Attention

Initially, every task involves voluntary attention. However, with practice and repetition, it becomes a habit with us. If the individual has to be prepared for response to stimuli related to specific thing or event, it is called habitual attention.

Example; When an individual begins to acquire interest and proficiency, the nature of attention also undergoes a change, it changes from voluntary to habitual attention.

Continuous Attention

It involves conscious observation of an event or stimulus over a long period. Such attention entails strong will-power. Since we cannot focus attention on a thing for long, (i.e reading book, listening lecture, boring travel). Continuous attention can cause boredom and fatigue.

There are several types of attention that you use during the course of your daily activities. The type of attention you use will vary depending on your need and circumstances.

Sustained attention

The ability to focus on one specific task for a continuous amount of time without being distracted. Sustained attention is used when you need to focus on one specific task or activity for a long period of time (e.g., playing a video game).

Sustained attention is probably what you think of when you hear the words “attention”, “focus”, “concentration”, or “vigilance.” You use sustained attention when you continuously maintain focus on one task or concentrate on an activity for a prolonged period of time without getting distracted.

Examples of sustained attention may include listening to lecture, reading a book, playing a video, or fixing a car. It can be challenging to maintain this type of attention for a significant amount of time without becoming distracted. Therefore, your level of sustained attention will often vary. You may be intensely focused one minute and then your attention may begin to lapse. However, a key aspect of sustained attention is the ability to re-focus on the task after a distraction arises.

Selective attention

The ability to select from many factors or stimuli and to focus on only the one that you want while filter out other distractions. Selective attention is used to focus on one activity in the midst of many activities (e.g., listening to a friend at a loud party).

The other two types of attention (alternating and divided) are needed when a person has to focus on multiple things at once.

Selective attention is the ability to select from the various factors or stimuli that are present and to focus on only the one that you want. Every day, you are constantly exposed to a number of environmental factors or stimuli, but your brain naturally responds by selecting a particular aspect or factor to focus on. Selective attention basically allows you to be able to “select” what you want to pay attention to. You may need to use selective attention when attending a loud party and you are focusing on one person's voice, or if you are trying to study in a noisy room.

When employing selective attention you are able to avoid distractions from both external (e.g. noise) and internal (e.g. thoughts) influences. If you are good at selective attention, you are good at ignoring distractions. You are able to maintain a specified level of performance in the presence of distracting stimuli.

Alternating attention

The ability to switch your focus back and forth between tasks that require different cognitive demands. Alternating attention is used to alternate back and forth between tasks or activities (e.g., reading a recipe and preparing a meal).

Alternating attention is the ability of mental flexibility that allows you to shift your focus of attention and move between tasks having different cognitive requirements. It is alternating your attention back and forth between two different tasks that require the use of different areas your brain.

You probably use alternating attention almost all the time. You constantly need to make sudden changes on your activities or actions which require your attention to shift. You may use alternating attention when reading a recipe (learning) and then performing the tasks of recipe (doing). It could also be alternating between unrelated tasks such as cooking while helping your child with her homework.

Divided attention

The ability to process two or more responses or react to two or more different demands simultaneously. Divided attention is often referred to as multi-tasking. Divided attention is used to complete two or more tasks simultaneously (e.g., talking on the phone while surfing the web)

Examples of divided attention include checking email while listening in a meeting, talking with friends while making dinner, or talking on the phone while getting dressed

Basically it's dividing your attention between two or more tasks. Unlike alternating attention, when you are using divided attention, you do not change from one task to another completely different task. Instead, you attempt to perform them at the same time. So you are really splitting your attention, instead of alternating it. Therefore, you are only really focusing part of attention on each task.

Although divided attention is thought of as the ability to focus on two or more stimuli or activities at the same time, it is humanly impossible to concentrate on two different tasks simultaneously. Your brain can only process one task at a time. So you are really not "focused" on one task at a time, you are really continuously alternating your attention between tasks. That is why it is so difficult and dangerous to text and drive or talk and drive.

You are able to use divided attention successfully because of muscle memory and/or habit. It allows you to perform two or more tasks seemingly simultaneously such as reading music and playing an instrument, talking to a person while typing, or driving your car while listening to the radio. However, you are really not focusing on hand positions when playing the instrument or concentrating on the individual acts of driving. You are able to do the task without conscious effort or actually paying attention.

Distraction and Fluctuation of Attention

In experimental psychology, we measure numerous problems of attention such as fluctuation, distraction, division, shifting, etc. Shifting among of attention is called distraction of attention.

This usually happens when we focus attention on a small point. For Example, if we listen to the tick of a watch for a long time or look at a point or sign fixedly then fluctuation of attention sets in and the stimulus no longer continuously remains the focus of our attention, it rather begins to shift to or away from the center of attention. There are physiological causes behind this.

Our receptors get tired by being focused on one spot, and cease functioning. For a moment, our attention fades. During the shortest moment when our attention sags, receptors recover their strength and attention is re-focused. If this process continues for 2 to 5 minutes, attention also keeps fluctuation.

Span / Duration of Attention

Attention brings an object into consciousness. How many objects can be brought into consciousness at a time, the number of them is called span of attention. We cannot attend more than five to six objects at one time. The extent or limit of the ability of a person to attend to a concentrate on something the length of time during which a reader can concentrate on what he is reading without thinking of anything else, varies with age, physical mental and emotional condition and the nature of material read.

We cannot fix attention on any stimulus for more than a few seconds. Distraction and fluctuation of attention are its clear proof

Factors Influencing Attention

The factors of attention are the factors which stimulate the organism so that the individual is forced to give attention to those particular things. These factors are of two types.

1. Subjective Factors
2. Objective Factors

Subjective/Internal Conditions of Attention

The subjective factors are related to the individual's self. These factors are involved in voluntary attention. These are related to the individual's qualities. For Example, the individual makes conscious effort to direct attention to specific stimulus because of freshness, interest, motives, curiosity, expectation, need, emotion, behavior or physical and mental health, past experience, goal, etc. which help in focus the attention.

Freshness

When the individual is fresh, he is better able to focus attention on a thing. If he feels tired or sleepy, it is difficult for him to be attentive.

Interest

Interest means a tendency to pay attention to something. Interest means to be ready to pay attention. Interest is latent attention. Interest is regarded as an inner condition of the mind.

Motive

The force by which organism satisfies his needs. Motives make the individual to archive his desires. They can be of many types. So motive is an important cause of attention. Examples, Hunger, thirst, or power determines our attention.

Curiosity

The natural urge to obtain information about various things in the environment is termed curiosity. That makes the children and adults pay attention to different things. The intensity of curiosity for different things varies from person to person.

Mental and Physical Health

If the individual is mentally or physically healthy, he will be more able to pay attention than sick or ill.

Past Experience

Our past experiences are the foundations of our attention. When one lesson has been learnt in the class, the next lesson should be based upon the knowledge imparted by the first lesson. If this principle is neglected, the individual's attention does not focus itself upon the new lesson being taught.

Goal

Every object connected with a goal desired by the individual attracts his attention. During examinations, students fix their attention upon the questions asked by the teacher, because those questions are at the moment, a means to their goal of succeeding in examination.

Objective/External Conditions of Attention

These factors are located in the external environment. They are related to stimuli, such factors influence the individual because of their attraction and power. Since the individual's willingness or wish is not included in this type of attention, they are called objective factors.

These factors are as follows:

Nature

Our attention is directed towards an object only when a stimulus arises. Infants focus their attention on books or magazines containing colorful pictures. The focus of attention depends upon the nature of the stimulus. This concentration will be greater, if the stimulus is more intense, and less if the stimulus is weak.

Intensity

Powerful and intense stimuli attract our attention more powerfully than do weak stimuli. Any bright and strong light or a bright colour attracts our attention more effectively than does a soft light or a light colour. So they catch our attention easily.

Colour

Colourful stimuli are more attractive than the simple one. Different beautiful colours are used in advertisements just to catch our attention.

Extensivity/ Size

Like intensive, extensive objects will also capture our attention. Bigger stimulus is more striking than the little one. Examples, large billboards full page advertisement on newspaper is more likely to be noticed than a small one. Teachers, too, often make use of maps, models and letters of large size to focus the attention of children upon them more effectively.

Movement

Moving objects are more attractive than the static one. Movement is the fundamental objective condition of attention. Examples, A moving train, a flying aeroplane, or kite falling from the sky easily attracts the child's attention. The teacher, too, can focus the attention of his students more effectively by using moving films, animated models and cartoons.

Duration

If duration of stimulation is longer, then it will catch our attention. Short termed or stimuli having minimum duration will no attract us.

Contrast

Contrast has a very important place in the focusing of attention. Wherever there is a contrast, it strikes us and our attention is drawn towards it. People's attention is automatically drawn to two persons, if one of them is fair and the other dark, or if one of them is very tall and the other very short.

Change or Variety

Whenever there is a change in the stimulus, the change itself draws the observer's attention towards itself. The sudden bursting out of noise in a quiet and peaceful environment draws one's attention, and it is only natural for a person to try to find out, at once, the cause of the noise.

Examples, Alarm, Phone Ring, Knocking and sudden change in environment catches our attention.

Repetition

When any object is repeatedly observed or a lesson is repeatedly learnt or revised, it attracts attention towards itself. For this reason teachers are always advised to revise the lessons in class. But there is a limit for repetition. Sometimes, we become fed up with repetition also.

Example, TV, News, advertisement agencies give their message repeatedly to catch attention.

Uniqueness

We are easily attracted to unique and novel things or stimuli. Strange sounds, odd fashions and wiggly designs catch our attention.

Importance of Attention

- Without attention you cannot understand.
- You cannot do anything.
- Unable to give feedback.
- It improves your performance.

Attention disorders

Attention deficit disorders, which are often diagnosed in children, can also be found in adults. Someone suffering from such disorders (with or without hyperactivity i.e. ADHD) will find it extremely difficult to focus on something; will get constantly distracted by external or internal events, and present compulsive behaviors and difficulties to stand still. These are neurological disorders which are influenced heredity or environment. ADHD is often found in children, especially boys, and can explain certain behaviors resulting from a lack of attention in their early school years. However, the diagnosis should be done by a professional as the above described behaviors may often turn out to be completely normal.

If a child has trouble paying attention in class and shows no other problems in other areas, the problem is not with the child, but rather with the teaching style.

A child might have concentration problems if:

- They have trouble paying attention in class
- They're not able to focus on their homework
- It seems like the "zone out" when you talk to them
- They can't concentrate on a TV show or movie
- They have a hard time focusing on a fun or interesting activity
- They are unorganized in their play.

A child with all of these symptoms likely has a serious attention or concentration problem and might have ADHD.