

Concentration

- Athletes and psychologists agree that attentional processes such as the ability to concentrate effectively are essential for optimal performance in sport.
- In cognitive sport psychology, 'concentration', the ability to focus mental effort on the task at hand while ignoring distractions.

Parts of concentration

- a) **Focusing on relevant cues** (selective attention) and Eliminating environmental cues.
 - For example, athlete focuses on his performance and tries not to pay attention to disturbing environment (crowd etc.)

- b) **Maintaining attentional focus over time**
 - Can be difficult because median length of time during which thought content remains on target is approximately 5 seconds
 - For example, long periods of focus are needed in golf and shooting . Athletes exercise focus maintaining

c) Having awareness of the situation and performance error


- Athlete's ability to understand what is going around him. This ability allows players to size up game situations, opponents and competitions and make appropriate decisions (often under acute pressure and time demands)

d) **Shifting attentional focus when necessary**

- Ability to alter the scope and focus of attention as demanded by the situation. For example, ice hockey player sitting on a penalty box must focus on happenings on ice, the coach and the clock as well. After he gets to ice he shifts his focus on game itself.
- For example, a goalkeeper may be focusing on the irrelevant cues like the crowd and the attacker who keeps bumping into him rather than the relevant cues-like where the ball is and the position of his defenders. This needs to be shifted as the irrelevant cues aren't beneficial and need to be ignored whereas the relevant cues are extremely important

Attention

- Attention is the cognitive process of selectively concentrating on one aspect of the environment while ignoring other things. (John R. Anderson)
- Attention is the process of getting an object of thought clearly before the mind. (Ross)
- Attention is the concentration of consciousness upon one object rather than others. (Dumvile)

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- The construct of ‘attention’ refers to three different cognitive processes – selectivity of perception (that is, selective attention), the ability to coordinate two or more actions at the same time (divided attention) and concentration or ‘effortful’ awareness.
 - The three dimensions of attention may be explained as follows

- The first dimension of ‘attention’ denotes a **perceptual skill**, which enables a sports performer to ‘zoom in’ selectively on task-relevant stimulus information while ignoring distractions.
- For example. a goalkeeper who is preparing to defend a corner kick must be able to ‘track’ the flight of the ball while simultaneously ignoring the jostling and sudden movements of players who are crowded in the penalty area

- The *second dimension* of attention refers to a type of mental ‘time sharing’ ability in which an athlete has learned, through extensive practice, to perform two or more concurrent skills equally well. In other words, she or he has learned to divide his or her attention effectively.
- For example, a proficient basketball player can dribble with the ball while simultaneously looking around for an opportunity to pass the ball to a better-placed teammate.

- The *third dimension* of attention is ‘concentration’ or the ability to exert deliberate mental effort when focusing on what is most important in any given situation.
- For example, a hockey player tries to ‘concentrate’ when paying attention to coaching instructions delivered before an important match. In this case, concentration can be described as the conscious experience of investing mental effort in a task.

- Attentional focus can be viewed in two dimensions. This is the width dimension and the direct dimension.
- 1. ***Width dimension*** is the split into broad attentional focus and narrow attentional focus.
- Broad attentional focus means that you take in and process a lot of information
- Narrow attentional focus when you have a small amount of information to take in.



2. ***Direct dimension.*** This is also split into two , external attentional focus and internal attentional focus.

- External attentional focus means that you take in external relevant cues such as crowd noises and thing like bottles being thrown.
- internal attention focus occurs when you take in your thoughts and feelings or personal skills

Characteristics of attention

- It is a selective mental activity
- It constantly shifts from one object to another or from one aspect to another.
- Attention is focus of the consciousness on one particular object.
- Attention is the state of preparedness or alertness
- Attention requires some motor and sensory adjustments on the part of the person being attentive.

Types or varieties of attention

Voluntary attention

- Requires conscious effort on the part of the person.
- Eg: problem solving, answering in the examination.

Further types

- 1. Implicit volitional attention
- 2. Explicit volitional attention

Implicit volitional attention

- A single act of will is responsible for arousing attention.
- E.g. home work given by teacher and the fear of punishment may arouse attention in the student to complete the given tasks.

Explicit volitional attention

- Attention is obtained by repeated acts of will.
- One has to struggle hard for keeping oneself attentive. It requires strong will power and motivation to keep the attention focused.
- Eg: during the preparatory days of the examination

Involuntary attention

- This type of attention is aroused without the conscious effort .
- Eg: bright lights, loud noise and strong odours, pain etc.
- This type of attention can be aroused by instincts called enforced non volitional attention.
- Attention given due to preformed sentiments , to people objects and things.

Uses

- It provides strength and ability to continue the task despite the obstacles present in the environment.
- Helps in better organization of the perceptual field for maximum clarity and understanding.
- It helps by providing the deeper concentration by focusing ones consciousness upon required object or idea.
- Helps in bringing mental alertness and preparedness.

Methods for arousing attention

- Certain factors produce and control the condition of the attention in the person

It can be two types

1. External factors
2. Internal factors

External factors

- Nature of the stimuli: The attributes of the stimuli are more likely to arouse attention and allow concentration
- Shape , color , beauty, oddity,
- Pictures are more likely to attract attention than that of the text.

Intensity of the stimuli

- The strength of the stimuli determines the attention it receives . Like a loudness of sound the brightness of colors etc.

Size of the stimulus

- General rule is that the bigger the stimuli the more attention it attracts and if the item or object is unlikely in an environment then that is also more likely attract attention.

Contrast of the stimuli

- Change and contrast usually attract more of attention, we do not notice the ticking of the watch usually but when it stops we notice it
- Novelty or newness attracts attention.

Location of the stimulus

- The area where the stimulus is located is also important for attracting the attention as
- advertisements on the upper-half or on the front page attracts more attention than being located elsewhere.

Repetition of the stimulus :

- A repeated stimulus attracts our attention.
- A mis-spelt word in the same paragraph for more than 2 times tends to get noticed more often. But the excessive repetition of the stimulus can also diminish the attention.
- Eg: people working in a factory with loud noise become adjusted to that environment.

Definite form of the object

- A sharply defined object attracts more attention than a vaguely defined object.

Isolation of the stimulus

- Isolation is an important determinant of the attention. A black dot in a middle of a white page attracts more attention than , a dot in a written page.

Motion of the object

- The moving stimulus attracts more attention than the stagnant one

Internal factors of attention

Interest and attention

- Interest is a very helpful factor in securing attention.
- People tend to pay more attention to the items and ideas which they are more interested.

Motives

- The basic drives and urges of the individual are more important in securing his attention.
- Hunger , thirst , curiosity and sex are some motives.

Mental set up

- A person always attends to one subject which the mind has a set. ☐ During exam any talk about it attracts the attention.

Past experience

- Learning and previous experience facilitate attention. ☐ If we find that certain thing has been beneficial in the past we give more attention to it in the present.

Emotion

- The emotional state of the individual determines the attention the person will put to any certain stimuli.

Habits

- Habit is also an important determinant of attention.
- A person develops a habit of attending to important things and a habit of not attending to the unimportant things.

Aims

- The personal Aims of the person also guides his ability to attend to certain stimuli.

Attention span

- The amount of time a person can concentrate on a single activity
- The ability to focus one's mental or other efforts on an object is generally considered to be of prime importance to the achievement of goals.
- People usually have a longer attention span when they are doing something that they enjoy.

Length of span

- Attention span varies with age, with older children capable of longer periods of attention than younger children
- Attention span range from 3 to 5 minutes per year of age in young children, to a maximum of around 20 minutes in adults
- Continuous attention span without any lapse at all, is very brief about 8 seconds

Visual attention

- The visual attention span is very less the time of exposure is very short ranging from $1/100$ to $1/5$ of a second.
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- The mind can attend to only 4 or 5 separate units if the items are not grouped together.
- But if the items are combined into meaningful wholes, for instance words, a large number of items can be perceived at once.

Span of auditory attention

- The number of auditory impressions perceived at a single instance is slightly greater.
- An adult can perceive eight sounds given rapidly in succession . But when sounds are given a rhythm, a much larger number of sounds can be perceived.

Effects of temperament

- Child with longer attention span, has less behavioral variables (temper frequency, temper intensity, irritability, crying, and demanding attention)

Detrimental Effect

- Early exposure to television (around age two) is associated with attention problems at age seven.
- Internet browsing may have a similar effect because it enables rapid viewing.

AETIOLOGY OF ATTENTION

The Spotlight Theory

- Attention is like a movable spotlight that is directed towards intended targets focusing on each target in a serial manner.
- When information is illuminated by the spotlight, hence attended, processing proceeds in a more efficient manner.
- However, when a shift of spatial attention occurs, the spotlight is turned off while attention shifts to the next attended location