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Visual And Auditory Reaction Time Between Left And Right Dominants

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Abstract: The aim of this study was to compare the visual and auditory reaction time between left and right hand dominance. To achieve the purpose sixty men students from Annamalai University aged between 18 – 24 years were selected as subject. The subjects were divided into two groups: Group – I Right Hand dominants and Group – II Left Hand Dominants both the group were tested Auditory reaction time and Visual reaction time by using Chronometer the data was collected and tested by using correlated "t" Ratio. It was found that there was significant difference in visual and auditory reaction time on both groups. The Left hand dominance has better auditory and visual reaction when compare with right dominance.

Keywords: Auditory Reaction, Visual Reaction, Hand Dominance.

INTRODUCTION

Human's ability to cope with the environmental changes for the maintenance of homoeostasis depends on the integrity of cell communication and responses given by the various systems in terms of sensory perception and motor response. Time response is supposed to be the best factor for the management of homoeostasis. The above fact gave us an impetus to investigate the reaction time tasks for Auditory and Visual stimuli in Right and Left Hand Dominance on Reaction Time tasks.

[1]Physical education contributes to the development of emotional control, since play periods are filled with emotionally charge situations. Games are filled with emotionally whether or not there is an emphasis on competition. Dance and gymnastic performance is exciting in them and different anxieties are built up. Both winning and losing produce anger, disappointment and elation of joy. Learning to control these emotions can only come about through experience and guidance.

Activities such as archery, batting, catching spiking, tennis serving involve coordination of eye with hands. It involves neuromuscular coordination. Success in these games after depends upon adequate eye- hand co-ordination. The basis of eye-hand co-ordination is the acting together of visual information and the muscle groups to more the hands in a coordinated Manuel.

Reaction time relates to movement time, but is different form of reflex time, and response time. It is the interval between a stimulus and the initiation of movement.

2Faster reaction time involves the ability to concentrate upon the work at hand. Reaction time represents an important consideration in an individual's performance in physical education and sports but also in daily life. Reaction time is one of the determinates of the caliber performance in physical activity and in many cases it may spell the difference between success and failure or even life and death in emergency

When a player wants to become efficient in a game should have a faster reaction time along with all other necessary skills in the particular game of sports. Games only require intelligence but also quick visual and auditory power. In addition optimum physical fitness, speed of movement is absolute necessity for the players.

METHODOLOGY

The sample of sixty men students from Annamalai University, Chidambaram, Tamilnadu, were randomly selected as subjects. Their age range between 18 to 24 years. The subjects were randomly assigned equally on one of the two groups in which Group – I (n=30) Right hand dominance Group – II (n=30) Left hand Dominance. The subjects of right and left hand dominance were tested for auditory reaction time and visual reaction time with the help of Chronometer .The data were collected from the two groups on selected reaction time variables. The auditory and visual reaction time was statistically examined by employing correlated "t" Radio to find out the significant difference, level of confidence was fixed at 0.05.

RESULT

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Table- I
Mean, Stranded Deviation and "t" Radio of Left and Right Dominant on Visual and Auditory Reaction Time

Group	Left Dominants × ± σ	Right Dominants × ± σ	"t" Ratio
Visual Reaction Time	0.136 ± 0.148	0.148 ± 0.0002	2.72*
Auditory Reaction Time	0.135 ± .0133	0.146 ± 0.0141	4.18*

(The Table value required for significance at 0.05 level of confidence with df 1 and 58 was 2.00)

The obtained 't' ratio value on Visual and Auditory Reaction Time is greater than the required table value 2.00 for df 1 and 58 at 0.05 level of confidence.

The result of the study shows that there was significant difference on right and left hand dominance on visual and auditory reaction time

DISCUSSION

3The right and left eyes have slightly different fields of vision. Each field is split in to a right and left side. When light rays reach the retinas, they are transposed and inverted. These rays travel down the optic nerves to the optic chiasma, where a cross over takes place. All the information from left side of each eye travels down the optic track through the lateral geniculation body and the optic radiation to the right visual cortex and vice versa. Lateral the angles are combined and interpreted by the brain. These basic physical components such as speed, neuron muscular co-ordination, agility, endurance, muscular strength, accuracy, power, flexibility and muscular power etc contribute much to the development of faster reaction time. But at the same time it is in practice that basic physical components are developed and improved significantly by ones regular and intensive participation of games and sports.

[4]Reflex time a shortened reaction time where in the thought or decision making phase in eliminated. In a reflex the impulses travel through the sensory nerves, across the reflex arc, and through motor nerves to the muscles. There are two kinds of flexes, innate and conditioned. An innate reflex is a predictable response to a given stimulus which is accomplished below the level of conscious control. Such reflexes must originate in the afferent (sensory) system and the efferent (motor) response will often occur simultaneous to the time the person became consciously aware for the stimulus. If the person is aware of the stimulus, the reflex response may occur without interference, or intensified learned reflex (not innate) are called conditioned reflexes. If the performer learns to respond automatically in the same manner to the same stimulus, this is a conditioned reflex. A conscious movement can be superimposed on a conditioned reflex the same as on innate reflex.

[5]The Influence of handedness on the visual and auditory reaction time by tested using an Electronic Response Timer Unit and concludes that visual reaction time did not show any significant change between right and left dominance and was not influenced by sex or age. The auditory reaction time was little faster than the visual reaction time hence the left and right hander having same level of auditory reaction ability.

CONCLUSION

On the Whole it was concluded that the left hand dominance have better Auditory and Visual reaction ability when compared with right hand dominance

IMPLICATION

The right hand dominance have improve the reaction ability of both Auditory and visual stimuli by undergo some training and simple minor games, since it improves the reaction time and we will found same reaction time ability between right and left dominance.

REFERENCES

I.Gordon Jackson. "Fitness and Exercise". (London: Salamander books limited, 1985). p8.
II.Edwin Garrigeher and Heriveri Sydney."Foundation of Psychology" (London wiley and sons, 1984).p 61.
III.Starkes J, Helsen W, Elliott D. A ménage à trois: the eye, the hand and on-line processing, Department of Kinesiology, McMaster University. Hamilton. Ontario.Canada. 2002 Mar; 20(3):217-24.
IV.Tripp."How fast can you react?" Science Digest 57:50 (1995). 240.
V.Sathiamoorthy A et al. Influence of handedness on the visual and auditory reaction time. Indian Journal of Physiol Pharmaco, Department of Physiology, Kasturba Medical College, Manipal. 1994 Oct; 38(4):297-9.

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