

International Multidisciplinary  
Research Journal

Golden Research  
Thoughts

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RNI MAHMUL/2011/38595

ISSN No.2231-5063

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## "A COMPARATIVE STUDY OF REACTION TIME AMONG INDOOR AND OUTDOOR GAME PLAYERS"



Quadri Syed Javeed

### INTRODUCTION

Reaction time is defined as interval of time between presentation of stimulus and appearance of appropriate voluntary response in subject. Reaction time has physiological significance and is a simple and non-invasive test for peripheral as well as central neural structures. Reaction time measurement is an indirect index of processing capability of central nervous system. Reaction time measurement helps in determining sensory motor association and performance of an individual. It determines the alertness of a person because how quickly a person responds to a stimulus depends on his reaction time. Various factors influencing human reaction time are age, sex, left or right hand, central versus peripheral vision, practice, fatigue, fasting, breathing cycle, personality types, exercise, and intelligence of the subject. Out of these various factors, in this study we had

### Abstract

*Aim of the study to explore the reaction time among indoor and outdoor game players. Hypotheses: There will be no significant difference between indoor and outdoor game players dimension on visual reaction time. Second hypothesis: There will be no significant difference between indoor and outdoor game players dimension on auditory reaction time. Sample: For the present study 100 Sample were belongings to Jalna and Aurangabad, 100 players among them 50 indoor game players and 50 outdoor game players. The age range of subjects was 18-25 years. Tools: 1) Chronoscope measure for visual reaction time. Results: outdoor game players had significantly faster visual reaction time than the indoor. Outdoor game players had significantly faster auditory reaction time than the indoor.*

**Keywords :** Comparative Study , Indoor and Outdoor Game Players.

### Short Profile

Quadri Syed Javeed is working as an Head and Associate Professor in Psychology at M.S.S. Art's Commerce & Science College, Jalna (M.S.) India.

studied the time taken between application of visual stimulus and response obtained and comparison of the response in boys and girls volunteer. Age. An early study (Galton, 1899) reported that for teenagers (15-19) mean reaction times were 187 msec for light stimuli and 158 ms for sound stimuli. Reaction times may be getting more gradual, because we scarcely ever visually perceive a Clemson freshman (or pedagoga) who is that expeditious. Simple reaction time minimizes from infancy into the tardy 20s, then increases gradually until the 50s and 60s, and then lengthens more expeditious as the person gets into his 70s and beyond (Welford, 1977) In other words, contrary to their fervent credence, adolescents will probably have more gradual reaction times than adults (Riddervold et al., 2008; Van Damme and Crombez, 2009).

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Der and Deary (2006) concurred. Reaction time withal becomes more variable with age (Hultsch et al., 2002; Gorus et al., 2008) and with Alzheimer's disease (Gorus et al., 2008). MacDonald et al. (2008) found that reaction time variability in older adults was conventionally associated with more gradual reaction times and worse apperception of stimuli, and suggested that variability might be a utilizable measure of general neural integrity. Welford (1980) notionally theorizes on the reason for slowing reaction time with age. It is not just simple mechanical factors like the speed of nervous conduction. It may be the proclivity of older people to be more punctilious and monitor their replications more exhaustively (Botwinick, 1966). When troubled by a diversion, older people additionally incline to devote their exclusive attention to one stimulus, and ignore another stimulus, more exhaustively than younger people (Redfern et al., 2002). Older people withal seem to be more preponderant than younger ones at reacting to targets obnubilated by visual diversion because they probe for kened features of the targets (Whiting et al., 2013). If the targets' features are capricious, this effect vanishes.

#### Aim of the study:

1) To explore the reaction time among indoor and outdoor game players.

#### Hypotheses:

1) There will be no significant difference between indoor and outdoor game players dimension on visual reaction time.

2) There will be no significant difference between indoor and outdoor game players dimension on auditory reaction time.

#### Methods:

##### Sample:

For the present study 100 Sample were belongings to Jalna and Aurangabad, 100 players among them 50 indoor game players and 50 outdoor game players. The age range of subjects

was 18-25 years. Tools: 1) Chronoscope measure for visual reaction time.

#### Tools

##### Reaction Time Chronoscope

To Measure the disjunctive RT of the team and Individual Game Players a specially designed instrument called as electronic chronoscope which measure both Visual and Auditory RT was used. It consists of four different types of sound for Authority RT. It is very sophisticated apparatus which measures RT up to 1/1000 of sounds; time taken by the subject in giving response to the stimulus is recorded with a digital timer in mile-second.

#### Procedure of Data Collection

The data were collected during the matches for measuring RT first of all they were given instruction in a group of 4 – 6 players about the use of electronic chronoscope apparatus. Then each one was called made to sit comfortably before the apparatus, before the start of the Experiment, the following instruction are given.

'Here I am measuring your quick responses to light and sounds you find that there are four seconds of different colors and four sounds of different types. I will switch on one the light and you are to switch off the same light with the four finger of your right hand as fast as you can. You cannot use all the fingers. Similarly, I shall give you a sound and you are to press the button of the same sound. Will give you many trials, both lights as well as for songs and on each trial. I will give you ready signal. Before final experiment work, first of all a few practice trials were given in order to make them acquainted with the working of the apparatus and also to make them adopted with the different types of sounds. When it was ensured that the subject had understand the what procedure take trials for both Visual and Auditory the time as recorded on the digital timer was noted down for each trials, the

average of then trials was considered as the reaction time of team and Individual Game players.

**Variable**

**Independent variable-**

- i)Players
- a)Indoor
- b)Outdoor

**Dependent Variable**

- 1)Visual Reaction time
- 2)Auditory Reaction time

**Statistical Analysis and Discussion**

Mean SD and t value among Indoor and outdoor game players on dimension reaction time

	Indoor Game players			Outdoor Game players			DF	‘t’
	Mean	SD	SE	Mean	SD	SE		
Visual RT	<b>852.36</b>	30.38	4.29	<b>594.25</b>	34.63	4.89	98	<b>39.62</b>
Auditory RT	<b>715.50</b>	57.59	8.14	<b>504.45</b>	51.35	7.26	98	<b>19.34</b>

Result showed that the Mean of indoor game players on dimension visual reaction time was 852.36 and mean of outdoor game players mean was 594.25, the difference between the two mean was highly significant  $t(98) = 39.62$ ,  $p < .01$ . Research Null hypothesis had been rejecting there was no significant difference between indoor and outdoor game players with respect to visual reaction time. And alternative hypothesis was accepted outdoor game players had significantly high leadership than the indoor game players.

Second Result showed that the Mean of indoor game players on dimension visual reaction time was 715.50 and mean of outdoor game players mean was 504.45, the difference between the two mean was highly significant  $t(98) = 19.34$ ,  $p < .01$ . It concluded that outdoor game players had significantly high leadership than the indoor game players.

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