



## “Effect Of Behavioral Pattern On Reaction Time Of Sportsmen”

QUADRI SYED JAVEED

Associate Professor in Psychology, M.S.S. Art's Commerce & Science College,  
Jalna – 431203 (M.S.) India.  
Email : [jsquadri@rediffmail.com](mailto:jsquadri@rediffmail.com)

### Abstract:

*The present study was undertaken to the effect of behavioral Pattern on reaction time of sportsmen. Sample of the study 200 sportsmen. Hypothesis of the study 1. There will be significant difference in between A Type behavioral pattern and B Type behavioral pattern Dimension of visual reaction time. 2. There will be significant difference in between A Type behavioral pattern and B Type behavioral pattern Dimension of audio reaction time. Upindhar Dhar & Manisha Jain Type A/B Behavioral Pattern Scale was used the study and reaction time apparatus was used. Besides these, a PDS was used to get the other necessary information relating to the respondents. It was conclusion that 1. A Type behavioral pattern sportsman have significantly high visual reaction time than the B Type behavioral pattern.*

2. A Type behavioral pattern sportsman has significantly high audio reaction time than the B Type behavioral pattern.

### INTRODUCTION:

Reaction time (RT) is a measure of the time from the arrival of a suddenly presented signal to the beginning of the response to it. It is a psychomotor variable and there are three types of RT, i.e. namely, simple reaction time, choice reaction time and discrimination reaction time. Simple reaction time is the time taken for reacting to a stimulus. Choice reaction time is the time taken for reacting to more than one stimulus, and discrimination reaction time is the time taken for reacting to all the stimuli given with appropriate responses.

RT is one of the required components of skill-related fitness, besides endurance and speed. RT can be divided to 3 main phases, i.e., stimulus detecting, stimulus interpreting and response programming. It is influenced by reaction delay and this kind of delay is mainly because of the time consumed for one to make a decision before initiating an action, where afferent nerve needs some time to send an impulse to Central Nervous System to be interpreted, and the brain needs time to decide what to do during response programming phase. RT varies from one to the other. There are many factors affecting RT, ranging from the nature of the stimulus information to the type of movement being performed. According to Kosinski (2000), these factors are such as number of stimulus-response alternatives, stimulus-response compatibility, arousal, age, and gender, type of stimulus, exercise, fasting and stimulant drugs.

Please cite this Article as : QUADRI SYED JAVEED , “Effect Of Behavioral Pattern On Reaction Time Of Sportsmen” :  
Golden Research Thoughts (July; 2012)



RT measures are common in many sport settings. For examples, the interval between the starter's gun and the first movement in a swimming race. RT measures are also studied extensively in the laboratory as measures of information-processing speed. These RT measures are very common in research on skills because RT measures are components of real-life events, eg., sprint starts. In addition, RT presumably measures the time taken for mental events, such as stimulus processing, decision making and movement programming. In other words, RT allows the researchers to understand the types of mental processes. RT is inherent but many studies showed that overall response time can be improved by practice. It is because practice enriches practical experience. The amount of practice is one of the most powerful variables that can overcome the many disadvantages that affect RT. In sports, the coach and the sportsperson analyses the type of skill and the requirements of the appropriate sport before deciding where overall response gains can be made. With sufficient and efficient practice, the sportsperson can form or build a more accurate and effective anticipation in a shorter time. It also means one is able to minimize such a delay and has a significant advantage, especially in speed-oriented events like sprints, racquet/combat games.

As a conclusion, RT is also one of the requirements to win in sports and is as vital as other components like endurance and speed (in speed-oriented events specially). It is true that the fastest starter may not necessary to be the winner in the sprint running race, but he has the advantage because he already has the edge from the start. Furthermore, if the runners have the same ability (in terms of physical, physiological and perhaps mental), their RTs might be the deciding factor of their performance outcome. RT is just like vitamins. Although it does not contribute any energy to the body, it has its own function whereby it is irreplaceable by other components, such as carbohydrates and fats.

Noriyuki Kida, Shingo Oda, Michikazu Matsumura (February 2005) [Intensive baseball practice improves the Go/Nogo reaction time, but not the simple reaction time](#). Baseball hitters are required to make decisions whether to swing or not as quickly as possible. Therefore, we can assume that skilled baseball players have a quicker response. To verify this hypothesis, we assessed the effect of baseball experience or skill levels on simple reaction times and Go/Nogo reaction times in 82 university students (22 baseball players, 22 tennis players, and 38 non-athletes) and 17 professional baseball players. Also, to clarify whether this ability was innate or acquired, we examined the effects of long-term practice for baseball hitting in 94 senior high school students (26 baseball players and 68 non-baseball players). There were no differences in simple reaction time either for sports experience or for skill levels. On the contrary, the Go/Nogo reaction time for baseball players was significantly shorter than that of the tennis players and non-athletes. The Go/Nogo reaction time of higher-skill baseball players was significantly shorter than that of lower-skill players, while that of the professional baseball players was the shortest. The professional players showed the highest (almost linear) correlation between the Go/Nogo reaction time and simple reaction time. A longitudinal study showed that 2 years of hitting practice improved the Go/Nogo reaction time, while the simple reaction time remained constant. A cross-sectional study of high school non-baseball players showed no differences either in the simple or Go/Nogo reaction times in relation to school year. In conclusion, intensive practice, including Go or Nogo decision making, improved the Go/Nogo reaction time, but not the simple reaction time.

#### **OBJECTIVE OF THE STUDY:**

1. To examine the effect of behavioral Pattern on reaction time of sportsmen.

#### **HYPOTHESIS:**

1. There will be significant difference in between A Type behavioral pattern sportsmen and B Type behavioral pattern sportsmen Dimension of visual reaction time.
2. There will be significant difference in between A Type behavioral pattern sportsmen and B Type behavioral pattern sportsmen Dimension of audio reaction time.

#### **SAMPLE:**

For the present study 200 Sample were selected from Aurangabad town. The effective sample consisted of 200 sportsmen, A scrutiny test was administered for deciding the behavioural pattern. 100 type A behavioral pattern sportsmen and 100 type B behavioral pattern. The age range of subjects was 18 to 25 years. And Non- probability accidental and purposive sampling was used.



**TOOLS**

**1. TYPE A/B BEHAVIORAL PATTERN SCALE:**

Upindhar Dhar & Manisha Jain was used for measuring Type A/B Behavioral Pattern. This test is developed and standardized by Upindhar Dhar & Manisha Jain the 34 items. This is well known test having high reliability and validity coefficients.

**2. REACTION TIME APPARATUS:**

Visual Reaction time and Audio reaction time.

**PROCEDURES OF DATA COLLECTION**

For data collection first permission has been taken from respective sources than the despondence has been selected for data collection. Personal data sheet (PDS) has been given to collect the preliminary information with respect to subject's related variables then standardized test administer to the subjects.

Before that rapport was established with subjects. And they have been told that their responses were kept confidential and the information is used for research purpose only.

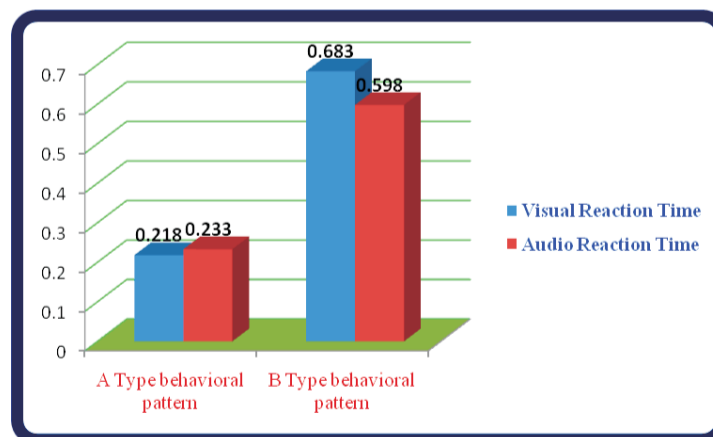
**VARIABLE:**

Independent variable- Sportsmen  
 Dependent Variable 1. Visual Reaction Time  
 2. Audio Reaction Time

**STATISTICAL ANALYSIS AND DISCUSSION**

Type of Reaction time	A Type behavioral pattern (N=100)		B Type behavioral pattern (N=100)		t- ratio	df	p
	Mean	SD	Mean	SD			
Visual Reaction Time	.218	90	.683	140	27.94**	198	< .01
Audio Reaction Time	.233	104	.598	160	19.13**	198	< .01

(Reactin time measure in miliseconds)



The results related to the hypothesis have been recorded. Mean of visual reaction time score of the A Type behavioral pattern sportsmen Mean is .218 and that of the B Type behavioral pattern sportsmen Mean is .683 The difference between the two mean is highly significant ( $t=27.94$ ,  $df=198$ ,  $P < 0.01$ ). Graph it was found that the A Type behavioral pattern sportsmen have significantly high visual reaction time the B Type behavioral pattern sportsmen.

The results related to the hypothesis have been recorded. Mean of audio reaction time score of the A Type behavioral pattern sportsmen Mean is .233 and that of the B Type behavioral pattern sportsmen Mean is .598 The difference between the two mean is highly significant ( $t=19.13$ ,  $df=198$ ,  $P < 0.01$ ). Graph it was found that the A Type behavioral pattern sportsmen have significantly high audio reaction time the B Type behavioral pattern sportsmen.

#### CONCLUSIONS:

1. A Type behavioral pattern sportsmen has significantly high visual reaction time the B Type behavioral pattern sportsmen.
2. A Type behavioral pattern sportsmen has significantly high audio reaction time the B Type behavioral pattern sportsmen.

#### REFERENCES

- Kosinski, R. J. (2008). A literature review on reaction time, Clemson University.
- Whelan, R. (2008). Effective analysis of reaction time data. *The Psychological Record*, 58, 475-482.
- Shepard, R.N.; Metzler, J. (1971). "Mental rotation of three-dimensional objects". *Science* 171 (3972): 701–703.
- Cooper, L. A., & Shepard, R. N. (1973). *Chronometric studies of the rotation of mental images*. New York: Academic Press.
- Collins, A. M.; Quillian, M. R. (1969). "Retrieval time from semantic memory". *Journal of Verbal Learning and Verbal Behavior* 8: 240–247.
- Posner, M. I. (1978). *Chronometric explorations of mind*. Hillsdale, NJ: Erlbaum, 1978.

