

A Study on Physiological Variables of Different Level Pistol Shooters

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Introduction - Fitness levels, and the time and effort put into achieving and keeping them, vary greatly as a result of the sports people choose to participate in. In light of this, it is important to do research to determine which socioeconomic group can expect to be the healthiest. Fitness levels and overall health share some correlation. Social class may play a role in disease susceptibility and fitness levels. This research set out to compare the academic and athletic achievements of high- and low-achieving college shooters in India.

Objectives :

1. To Examine Pulse Rate of state and national level pistol shooters.
2. To Examine Lungs Capacity of state and national level pistol shooters.

Hypothesis:

The hypotheses for the present research work are as follows:

1. H_{01} : There will be no significant deference in Pulse Rate of state and national level pistol shooters.
2. H_{01} : There will be no significant deference in Lungs Capacity of state and national level pistol shooters.

Definitions:

Pulse Rate : In the context of the current inquiry, the term "pulse rate" refers to a measurement of the heart rate, which can be thought of as the number of times that the heart beats in one minute. When blood is pumped through the arteries by the heart, the walls of the arteries dilate and constrict in response to the movement of the blood. Taking a person's pulse not only allows one to determine their heart rate, but it also has the potential to reveal the following information: Heart rhythm.

Lungs Capacity : In the current inquiry, the term "lung capacity" (LC) refers to the volume of air that may be drawn into the lungs by exerting the greatest amount of force during inspiration. The average lung capacity of adults who are in good health is approximately 6 liters. The varying ranges of lung capacity that individuals have can be attributed to a number of factors, including age, gender, body composition, and ethnicity.

Review of Literature:

(Mondal et al., 2011) studied Findings from the Suva Anthropimthy& Physiological Profile of the Indian Shooter This investigation involved 50 rifle shooters from several clubs in the Hooghly region of West Bengal, India. The goal of this research is to replicate the original anthropometric and physiological measurements of competitive rifle shooters from the Indian state of West Bengal. Based on the results of a comparison study, it can be concluded that the maximum oxygen consumption (VO_2 max) values of the shooters in the current study are lower than the international standards for VO_2 max of swimmers, runners, footballers, basketball players, and soccer players, but are very close to that of weight lifters, shot putters, discus throwers, and their non-athlete counterparts.

According to (Rotenberg & Boucsein, 1993), the brain monoaminergic influences underpinning psychophysiological reactions, this might be accomplished by quantifying neuro-physiological measures of cortical arousal/activation and alertness. To learn more about how arousal/activation, vigilance, and performance are connected in world-class marksmen, we might test further hypotheses based on the inverted U and the U connections, as proposed by (Mousavi et al., 2017).

Research Design: For this study players were selected who have participated in state level Rajasthan tournament and national level pistol shooting tournament.

Sample Deign

S.	Pistol Shooters	
1.	National level pistol shooters	50
2.	State level pistol shooters	50
	Total	100

Selection of Tools:

Anthropometric			
1	Pulse Rate	oxy meter	1 minute / pulse Rate
2	Lungs Capacity	Breath metre	L / Min.

Analysis and Result:

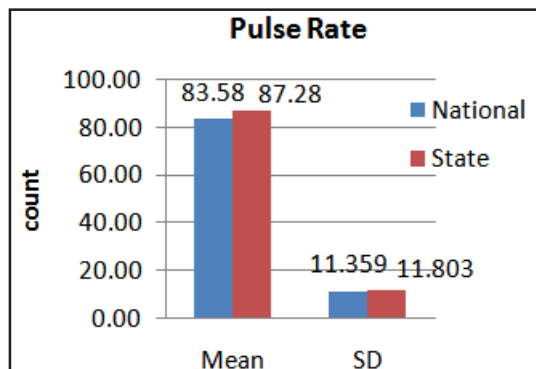
Difference in pulse rate of National and state level pistol shooters

H_0 : There is no significant difference in pulse rate of

National and state level pistol shooters

Table-1 (see below)

Figure-1:- Comparison of Mean Score of Pulse Rate in Pistol Shooters at National and State level



It is evident from table above that P value for pulse rate is found > 0.05. Thus, null hypothesis is accepted and it can be stated that there is no significant difference in pulse rate of National and state level pistol shooters.

Difference in Lungs capacity of National and state level pistol shooters

H0: There is no significant difference in Lungs capacity of

National and state level pistol shooters

Table-2 (see below)

It is evident from table above that P value for breath hold capacity is found > 0.05. Thus, null hypothesis is accepted and it can be stated that there is no significant difference in breath hold capacity of National and state level pistol shooters.

References:-

1. Lakie, M. (2010). The influence of muscle tremor on shooting performance. *Experimental physiology*, 95(3), 441-450.
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3. Peljha, Z., Michaelides, M., & Collins, D. (2018). The relative importance of selected physical fitness parameters in Olympic clay target shooting. *Journal of Human Sport and Exercise*, 13(3), 541-552.
4. Shekhar, A. S., & Mistry, H. M. (2014). Clinical effects of pranayama on performance of rifle shooters. *International Journal of Medical Research & Health Sciences*, 3(3), 580-586.

Table-1:- Comparison of Mean Score of Pulse Rate in Pistol Shooters at National and State level

Pulse Rate								
Level of Pistol Shooters		Mean	SD	Std. Error Mean	t	df	P value	Inference
Pulse Rate	National	83.58	11.359	1.606	1.597	98	0.113	NS
	State	87.28	11.803	1.669				

Table-2:- Comparison of Mean Score of Lungs capacity in Pistol Shooters at National and State level

Lungs capacity								
Level of Pistol Shooter		Mean	SD	Std. Error Mean	t	df	P value	Inference
Positive Breath hold capacity	National	49.76	14.085	1.992	1.449	98	0.151	NS
	State	53.66	12.806	1.811				
Negative Breath hold capacity	National	29.46	9.054	1.280	0.153	98	0.879	NS
	State	29.16	10.626	1.503				
