



## DETERMINATION OF SELECTED PSYCHOLOGICAL, PHYSIOLOGICAL AND ANTHROPOMETRICAL CHARACTERISTICS OF STATE LEVEL POWER LIFTER IN 59KG CATEGORY.

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### ABSTRACT :

*Background; The purpose of the study was to determine selected psychological, physiological and anthropometrical characteristics of(59KgcATEGORY ) state level power lifter.*

*50 state level power lifter were randomly selected as a subject from Uttar Pradesh power lifting championship held at Lucknow 2016. The age range of the subject was between 21 to 35 year .Psychological Variable anxiety, aggression and mental toughness and Physiological variable blood pressure, vital capacity and pulse rate were measured with the help of electronic sphygmomanometer(mm/hg), speedometer(lt.) and anthropometrical variable standing height, body weight, chest circumference, leg length, arm length and palm length were measured with the help of stiff board, weighing machine, flexible steel tape, respectively. The descriptive analysis of State level of power lifters in 59 kg category class, Anxiety, Aggression, Mental Toughness, Systolic BP, Diastolic BP, Vital Capacity, Pulse Rate, Standing Height, Chest Circumference, Body Weight, Leg Length, Arm Length And Palm Length Mean And SD Values Were  $23.4 \pm .54$ ;  $14.2 \pm 4.08$ ;  $20.4 \pm 4.04$ ;  $126 \pm 5.47$ ;  $84 \pm 5.47$ ;  $388 \pm 16.43$ ;  $74.2 \pm 1.64$ ;  $157.4 \pm 1.94$ ;  $88.8 \pm 2.94$ ;  $58.4 \pm .54$ ;  $86.2 \pm 1.30$ ;  $70.8 \pm .83$  and  $17.4 \pm .54$  respectively. The minimum and maximum values of Anxiety, Aggression, Mental Toughness, Systolic BP, Diastolic BP, Vital Capacity, Pulse Rate, Standing Height, Chest Circumference, Body Weight, Leg Length, Arm Length and Palm Length were 23 & 24, 10 & 19, 14 & 25, 120 & 130, 80 & 90, 370 & 400, 72 & 76, 155 & 160, 85 & 93, 58 & 59, 85 & 88, 70 & 72 and 17 & 18 respectively.*

**KEYWORDS :** power-lifter, Anxiety, Aggression, Mental toughness, Blood pressure.

### INTRODUCTION:

Sport performance is determined by a combination of Physiological, psychological and anthropometric factor, technical skill tactical insight and state of mind. All four factors are critical to peak performance. One could argue however that the executive function, as it is the mind which determines whether or not what have been trained in over the past few years, is brought out one the day at that moment when it matters most.



Now a days physiological, psychological and anthropometry plays important role in sports field. The element of competition in sports demands more specialized research and training in psychology. That is how, today, we have "sports psychology," "psychological conditioning," "psychological preparation", "psychological training" etc.

These are now very common concepts and procedures in competitive games and sports. According to Robert N. Singer, "Sports psychology explores one's behaviour in athletics" The idea is to improve the performance of athletes by exploring their 'psychic energy'. Sports psychology, today, is an emerging discipline like industrial psychology, medical psychology, the child psychology, the educational psychology etc. Athletic training is incomplete without mental training of athletes who have to cope with extremely stressful situations on and off the play field. So long as the aim of sport continues to be the "well being" of the individual, psychology will help the coach to devise ways and means to plan his/her programmes accordingly. Every child gets an opportunity to develop himself/herself to the optimal level when it comes to showing excellence in athletics. Sports psychology steps into guide the athlete and the coach. Psychological approach to athletic training plays an important part today.

Physiology is the study of function and is closely related to anatomy which is the study of form. Due to the frequent connection between form and function, physiology and anatomy are intrinsically linked and are studied in tandem as part of a medical curriculum.

The term anthropometric refers to comparative measurements of the body. Anthropometric measurements are used in nutritional assessments. Those that are used to assess growth and development in infants, children, and adolescents include length, height, weight, weight-for-length, and head circumference. anthropometry plays an important role in industrial and clothing designs of power- lifting .

### MATERIAL AND METHOD

**SUBJECTS:** For the purpose of the study 50 state level power lifter were randomly selected as a subject from Uttar Pradesh power lifting championship held at Lucknow 2016. The age range of the subject was between 21 to 35 year.

### VARIABLE AND INSTRUMENTS

To full fill the purpose of the study the following physiological, psychological and anthropometrical variables and their measuring instruments were selected;

#### 1. Psychological Variables

1. Anxiety
2. Aggression
3. Mental toughness

#### 2. Physiological Variables

1. Blood pressure
2. Vital capacity
3. Pulse rate.

#### 3. Anthropometric Variables

1. Standing Height
2. Chest Circumference
3. Body Weight
4. Leg length,
5. Arm length
6. Palm length

### PROCEDURE:

Sports Competition Anxiety scores obtained by using Questionnaire of Renin Marten. The Mental toughness scores were obtained by using Questionnaire of Allen Goldberg .Aggression scores will be obtained by using Questionnaire of Prem Shankar Shukla. Physiological variable Blood pressure and pulse rate was measured by Sphygmomanometer in mm/Hg unit. Vital capacity was measured by Spirometer. Unit of this measurement is litre. Standing Height was measured with the help of stiff hard board .The

subjects were asked to step out and the reading indicated by the hard board was recorded to the nearest half a centimetre, Body Weight was measured with the help of weighting machine .The weight was recorded from the indicator of dial to a nearest half of kilogram , Arm Length was measured with the help of flexible steel tape , Leg Length was taken with the flexible steel tape, Chest circumference was taken with the flexible steel tape, Palm length was taken with the flexible steel tape.

### STATISTICAL PROCEDURE

To determine the selected physiological and Anthropometrical characteristics mean and standard deviation were calculated .

### RESULT

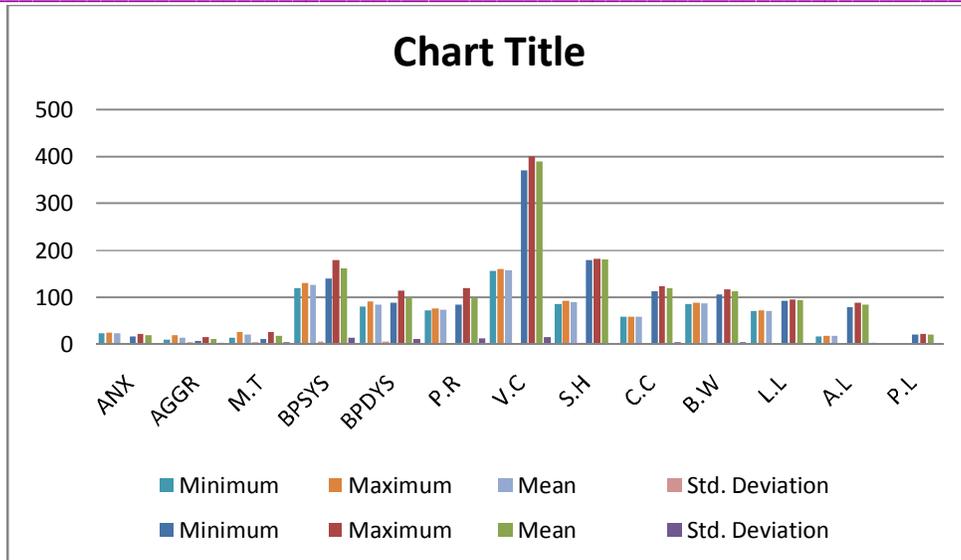
#### Table

**Descriptive Analysis of State Level of Power Lifters in 59 Kg Weight Class**

	Minimum	Maximum	Mean	Std. Deviation
Anxiety	23.00	24.00	23.4	.54
Aggression	10.00	19.00	14.2	4.08
Mental Toughness	14.00	25.00	20.4	4.04
Systolic BP (mgh)	120.00	130.00	126.0	5.47
Diastolic BP (mgh)	80.00	90.00	84.0	5.47
Vital Capacity (Lt)	370.00	400.00	388.0	16.43
Pulse Rate	72.00	76.00	74.2	1.64
Standing Height (cm)	155.00	160.00	157.4	1.94
Chest Circumference (cm)	85.00	93.00	88.8	2.94
Body Weight (kg)	58.00	59.00	58.4	.54
Leg Length (kg)	85.00	88.00	86.2	1.30
Arm Length (kg)	70.00	72.00	70.8	.83
Palm Length (kg)	17.00	18.00	17.4	.54

Table reveals the descriptive analysis of State level of power lifters in 59 kg category class, Anxiety, Aggression, Mental Toughness, Systolic BP, Diastolic BP, Vital Capacity, Pulse Rate, Standing Height, Chest Circumference, Body Weight, Leg Length, Arm Length And Palm Length Mean And SD Values Were  $23.4 \pm .54$ ;  $14.2 \pm 4.08$ ;  $20.4 \pm 4.04$ ;  $126 \pm 5.47$ ;  $84 \pm 5.47$ ;  $388 \pm 16.43$ ;  $74.2 \pm 1.64$ ;  $157.4 \pm 1.94$ ;  $88.8 \pm 2.94$ ;  $58.4 \pm .54$ ;  $86.2 \pm 1.30$ ;  $70.8 \pm .83$  and  $17.4 \pm .54$  respectively. The minimum and maximum values of Anxiety, Aggression, Mental Toughness, Systolic BP, Diastolic BP, Vital Capacity, Pulse Rate, Standing Height, Chest Circumference, Body Weight, Leg Length, Arm Length and Palm Length were 23 & 24, 10 & 19, 14 & 25, 120 & 130, 80 & 90, 370 & 400, 72 & 76, 155 & 160, 85 & 93, 58 & 59, 85 & 88, 70 & 72 and 17 & 18 respectively.

The graphical representation of State Level of Power Lifters in 59 Kg Weight Class has been presented.



### CONCLUSIONS

- The mean of psychological variable (Anxiety) of State level male Power-lifter(59 kg class) was 23.4 with standard division of 0.54.
- The mean of psychological variable (Aggression) of State level male Power-lifter(59 kg class) was 14.2 with standard division of 4.08.
- The mean of psychological variable (Mental toughness) of State level male Power-lifter(59 kg class) was 20.4 with standard division of 4.04.
- The mean of Physiological variable (Systolic Blood Pressure) of State level male Power-lifter(59 kg class) was 126.0 with standard division of 5.47.
- The mean of Physiological variable (Diastolic Blood Pressure) of State level male Power-lifter(59 kg class) was 84.0 with standard division of 5.47.
- The mean of Physiological variable (Vital capacity) of State level male Power-lifter(59 kg class) was 388.0 with standard division of 16.43
- The mean of Physiological variable (Pulse rate) of State level male Power-lifter(59 kg class) was 74.2 with standard division of 1.64
- The mean of Anthropometrical variable (Standing Height) of State level male Power-lifter(59 kg class) was 157.4 with standard division of 1.94
- The mean of Anthropometrical variable (Chest Circumference) of State level male Power-lifter(59 kg class) was 88.8 with standard division of 2.94
- The mean of Anthropometrical variable (Body Weight) of State level male Power-lifter(59 kg class) was 58.4 with standard division of 4.54
- The mean of Anthropometrical variable (Leg Length) of State level male Power-lifter(59 kg class) was 86.2 with standard division of 1.30
- The mean of Anthropometrical variable (Arm Length) of State level male Power-lifter(59 kg class) was 70.8 with standard division of 0.83
- The mean of Anthropometrical variable (Palm Length) of State level male Power-lifter(59 kg class) was 17.4 with standard division of 0.54

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