# A Comparative Study of Aggression, Anxiety and Personality of State, National and International level Weightlifters

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*Abstract - This study is aimed to explore the level of aggression, anxiety and personality of state, national and international level weightlifters. Aggression, anxiety and personality factor is important to enhance the overall performance of an individual. The main objective of this study was to observe the comparison of above-mentioned factors between state, national and international level weightlifters. A total of 60 (20 state level, 20 national level and 20 international level weightlifters) subjects were taken for this study. Comparison of data have been shown in this by using statistical analysis (ONE-WAY ANOVA-POST HOC TEST). Anxiety in sports is considered as an important issue for many athletes. It refers to a sort of nervous and fear emotion formed by frustration of self-esteem and self- confidence, or increasing of the sense of failure and guilty, which is resulted by the threat from being unable to achieve goals or to overcome obstacles at the right time. In sport, aggression is a characteristic that can have many negative as well as positive effects on performance. Healthy aggression can help a team out-physical an opponent, generate crowd enthusiasm, and create anxiety within the minds of the opponent. When athletes participate in competitive sport, their underlying personality characteristics inevitably contribute to how they behave. Personality has been defined as ''psychological qualities that contribute to an individual's enduring and distinctive patterns of feeling, thinking and behaving''. Within the boundaries and based on the results it is obvious that there is a significant difference in anxiety level of state and international level, but no difference in national level weightlifters. With the analysis, it can be said that there is no significant difference in personality factors of state, national and international level weightlifters but the aggression level shows no significant difference in state and national groups but shows a difference in national international level weightlifters.*

*Keywords - Aggression, Anxiety, Personality, Weightlifters*

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## INTRODUCTION

In this bleeding edge time of competition, a person's mental preparation is as significant as demonstrating a game's various capacities on legitimate lines. Sports competition is related to an enormous mental burden. Study on anxiety, personality and aggression in sport and games is extremely famous because it is useful in finding the psychological image of individual sportsmen. Aggression, Anxiety and Personality are the important factors in any game, which effect the performance of an individual. (Hamilton, 1960).

**Aggression-** aggression can be defined as a behaviour or act of an individual. Aggression in a sporting environment falls in the area of sports psychology. Aggression can be seen throughout the sports, before playing, during the play and after the play. Balanced level of aggression in required to maintain the performance in sports. (singh, 2010)

**Anxiety-** anxiety can be said as a feeling of fear, uneasiness and nervousness, or can be said as a body's natural response to stress. Anxiety in sports performance is called sports anxiety or competitive (O'Hara, 1960) anxiety. Sportsperson should have balanced level of anxiety otherwise it can cause a decline in the performance. (Joawad, 2010)

**Personality-** personality embraces moods, opinions, thinking and behaviour that distinguish a person from another person. Personality definitely influences sports choices. Generally, athletes choose a sport based on their personality. Personality can tell how extrovert, introvert and openness to experience an athlete is. (Bray, 2003)

## Limitations

a) Questionnaire research has its limitations.

b) As such any bias that might have crept into the subject response on their account may be considered as limitation.

c) The test was limited to certain number of subjects and only specific questionnaire were used for the study. This was another limitation.

**Delimitations**

a) The study was delimited to state, national and international level weightlifters only.

b) The study was further delimited to the age range from 17 to 25 years.

c) The study was further confined to the following psychological variables.

**Statement Of The Problem**

The purpose of the study was to find the significance difference of aggression levels, anxiety levels and personality factors between state, national and international level weightlifters.

Psychological variables – aggression, anxiety and personality.

**RESEARCH METHODOLOGY**

The study was a survey, in which comparative method was used and data collection was done to see the comparative result of aggression levels, anxiety levels and personality factors between state, national and international level weightlifters. This survey was conducted in 16 weeks. Questionnaires were administered to the subjects in google forms on their E-MAIL and through chat (WhatsApp link), with a consent form.

**SELECTION OF SUBJECTS**

For this study, a total number of 60 subjects were selected, who have been doing weightlifting form 2-6 years. All the subjects were selected taking into considerations, that they must have been represented in weightlifting at state, national and international level, who had deep knowledge about the game. The age level of subjects ranged from 17 to 25 years. The reason of examination is to dissect the impact of aggression, anxiety and personality on state, national and international level weightlifters. Out of total 60 subjects 20 were state level weightlifters, 20 were national level weightlifters and 20 were international level weightlifters. To find out significant deference among three groups, ANOVA (post-hoc) was employed.

**ADMINISTRATIVE TOOLS**

*Hamilton Anxiety Rating Scale*

For measuring the anxiety of the subjects, a questionnaire published by Max Hamilton in 1959 was used. The scale consists of fourteen items designed to assess the severity of a patient's anxiety. Each of the 14 items contains number of symptoms, and each group of symptoms is rated on a measure of 0 to 4. Every item is defined by a series of symptoms, and measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety). All of these scores are used to compute an overarching score that indicates a person's anxiety level. In this questionnaire, total score is the sum of all the responses. (Hamilton, 1960)

*The Big Five Personality Test*

For measuring personality factors, The **Big Five personality test** was used. It is a suggested taxonomy, or grouping, for personality factors, developed from the 1980s forward in psychological trait theory. This personality test, will help you understand the way you act and how your personality is structured (SHIN, 2009). It has 50 items, with a scale of 1-5, where 1=disagree, 2=slightly disagree, 3=neutral, 4=slightly agree and 5=agree. In this questionnaire, sum of each trait is done at last. The traits are-

a) extraversion

b) agreeableness

c) conscientiousness

d) neuroticism

e) openness to experience

*Aggression Or AGQ Questionnaire*

For measuring the aggression level of the subjects (Aggression Questionnaire and sometimes referred to as the AGQ or AQ) was designed by Arnold H. Buss and Mark Perry, professors from the University of Texas at Austin in a 1992 article for the Journal of Personality and Social Psychology, was used. (Hamilton, 1960) It consists of total 29 items, on the scale of 1 to 5, which have: 1(extremely uncharacteristic), 2(somewhat uncharacteristic), 3(neither or nor), 4(somewhat characteristic), 5(extremely characteristic). Questions from 1-9 are related to physical aggression, 10-14 verbal aggression, 15-21 verbal and 22-29 for hostility. The total score is the sum of all the responses.

**STATISTICAL PROCEDURE**
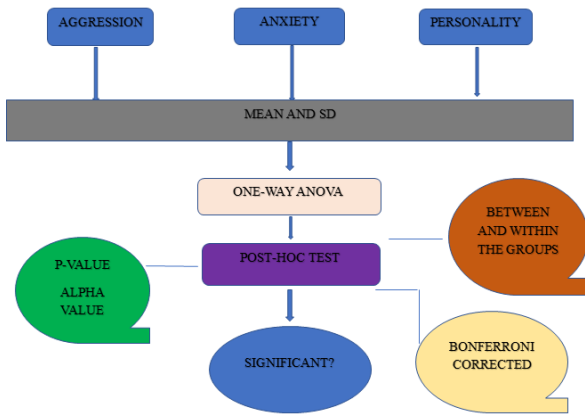
| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 2296.23 | 2 | 1148.11 | 22.74 | 5.481 |
| Within groups | 2877.7 | 57 | 50.48 | | |

The above table shows that no significant difference is found between the group scores. As, F(df=2), F=22.74, P>0.05, whereas within the group also there is no difference is shown

**Table No - 3 Post-Hoc Analysis**

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 1.82 | YES | ANOVA | 0.05 |
| National v international | 0.68 | NO | Post-hoc test (Bonferroni corrected) | 0.01 |
| International v state | 8.87 | YES | | |

The above table depicts, that significant difference is found between state v national (1.82) anxiety test. There is no significant difference between national v international (0.68) anxiety test. But there is a significant difference between international v state level (8.87) anxiety test.

**Data Analysis For Personality Level Of All The Three Groups**

**Table No: -4 Descriptive Statistics From Personality (Extroversion) Factor**

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 414 | 20.7 | 41.16 | 6.41 | 20 |
| National | 397 | 19.8 | 23.08 | 4.8 | 20 |

## RESULTS

### Analysis Of Data

In this chapter, analysis of given data will be done between and within the three different groups by applying statistical method- ANOVA, (post-hoc) as well as using Bonferroni corrector method. Descriptive statistics will be shown including group names, sum, mean, variance, sd and count. Then evaluation of ANOVA will be done (between the groups and within the groups) which will include F value and p-value. At last post-hoc analysis with Bonferroni corrected method will be done to find the significant difference in the three groups.

**data Ianalysis for anxiety level of all the three groups**

**Table No- 1 Descriptive Statistics From Anxiety Test**

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 714 | 35.7 | 57.58 | 7.58 | 20 |
| National | 443 | 22.15 | 58.23 | 7.63 | 20 |
| International | 461 | 23.05 | 35.62 | 5.96 | 20 |

The above table depicts that there is a significant difference in mean value of different groups- state (35.7) and national level (22.15), state (35.7) and international level (23.05), but no difference is shown from national and international level.

**Table No - 2 Evaluation Of Anova Of Anxiety Within The Groups And Between The Groups**

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| | | 5 | | 0 | |
|---|---|---|---|---|---|
| International | 380 | 19 | 23.57 | 4.85 | 20 |

The above table depicts that there is no significant difference shown in mean value of state (20.7), national (19.85) and international level (19) personality test.

### Table No - 5 Evaluation Of Anova Within The Groups And Between The Groups

| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 28.9 | 2 | 14.45 | 0.49 | 0.61 |
| Within groups | 1668.75 | 57 | 29.27 | | |

No significant difference is found between the group scores. As, $F(df=2)$, F=0.49, P>0.05, whereas within the group also no difference is shown.

### Table No -6 Post-Hoc Analysis

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 0.63 | NO | ANOVA | 0.05 |
| National v international | 0.58 | NO | Post-hoc test (Bonferroni corrected) | 0.01 |
| International v state | 0.35 | NO | | |

The above table depicts, that no significant difference is found between state v national (0.63), national v international (0.58) and international v state (0.35) level personality test.

### Table No - 7 Descriptive Statistics From Personality (Agreeableness) Factor

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 312 | 15.6 | 23.72 | 4.8 | 20 |

| | | | | 7 | |
|---|---|---|---|---|---|
| National | 354 | 17.7 | 28.32 | 5.32 | 20 |
| International | 353 | 17.65 | 40.02 | 6.32 | 20 |

The above table depicts that there is no significant difference shown in mean value of state (15.6), national (17.7) and international level (17.65) level personality test.

### Table No -8 Evaluation Of Anova Within The Groups And Between The Groups

| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 57.43 | 2 | 28.71 | 0.93 | 0.39 |
| Within groups | 1749.55 | 57 | 30.69 | | |

No significant difference is found between the group scores. As, $F(df=2)$, F=0.93, P>0.05, whereas within the group also no difference is shown.

### Table No -9 Post-Hoc Analysis

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 0.20 | NO | ANOVA | 0.05 |
| National v international | 0.97 | NO | Post-hoc test (Bonferroni corrected) | 0.01 |
| International v state | 0.25 | NO | | |

The above table depicts, that no significant difference is found between state v national (0.20), national v international (0.97) and international v state (0.25) level personality test.

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**Table No - 10 Descriptive Statistics From Personality (Conscientiousness) Factor**

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 382 | 19.1 | 48.41 | 6.95 | 20 |
| National | 421 | 21.05 | 40.78 | 6.38 | 20 |
| International | 428 | 21.4 | 35.09 | 5.92 | 20 |

The above table depicts that there is no significant difference shown in mean value of state (19.1), national (21.05) and international level (21.4) level personality test.

**Table No - 11 Evaluation Of Anova Within The Groups And Between The Groups**

| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 61.43 | 2 | 30.71 | O.741 | 0.48 |
| Within groups | 2361.55 | 57 | 41.43 | | |

No significant difference is found between the group scores. As, F(df=2), F=0.741, P>0.05, whereas within the group also no difference is shown.

**Table No- 12 Post-Hoc Analysis**

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 0.36 | NO | ANOVA | 0.05 |
| National v international | 0.85 | NO | Post-hoc test (Bonferroni corrected) | 0.01 |
| International v state | 0.26 | NO | | |

The above table depicts, that no significant difference is found between state v national (0.36), national v international (0.85) and international v state (0.26) level personality test.

**Table No - 13 Descriptive Statistics From Personality (Neuroticism) Factor**

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 469 | 23.45 | 42.78 | 6.54 | 20 |
| National | 467 | 23.35 | 42.76 | 6.53 | 20 |
| International | 432 | 21.6 | 48.88 | 6.99 | 20 |

The above table depicts that there is no significant difference shown in mean value of state (23.45), national (23.35) and international level (21.6) level personality test.

**Table No - 14 Evaluation Of Anova Within The Groups And Between The Groups**

| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 43.3 | 2 | 21.65 | O.48 | 0.61 |
| Within groups | 2554.3 | 57 | 44.81 | | |

No significant difference is found between the group scores. As, F(df=2), F=0.48, P>0.05, whereas within the group also no difference is shown.

**Table No - 15 Post-Hoc Analysis**

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 0.96 | NO | ANOVA | 0.05 |
| National v international | 0.41 | NO | Post-hoc test (Bonferroni corrected) | 0.01 |
| International v state | 0.39 | NO | | |

The above table depicts, that no significant difference is found between state v national (0.96),

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national v international (0.41) and international v state (0.39) level personality test.

**Table No - 16 Descriptive Statistics From Personality (Openness To Experience) Factor**

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 393 | 19.65 | 35.81 | 5.98 | 20 |
| National | 394 | 19.7 | 28.85 | 5.37 | 20 |
| International | 407 | 20.35 | 35.50 | 5.95 | 20 |

The above table depicts that there is no significant difference shown in mean value of state (19.6), national (19.7) and international level (20.35) personality test.

**Table No - 17 Evaluation Of Anova Within The Groups And Between The Groups**

| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 6.1 | 2 | 3.05 | O.09 | 0.91 |
| Within groups | 1903.4 | 57 | 33.39 | | |

No significant difference is found between the group scores. As, F(df=2), F=0.09, P>0.05, whereas within the group also no significance.

**Table No - 18 Post-Hoc Analysis**

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 0.97 | NO | ANOVA | 0.05 |
| National v international | 0.719 | NO | Post-hoc test (Bonferroni corrected) | 0.01 |
| International v state | 0.712 | NO | | |

The above table depicts, that no significant difference is found between state v national (0.97), national v international (0.719) and international v state (0.712) level personality test

**Data Analysis For Aggression Level Of All The Three Groups**

**Table No - 19 Descriptive Statistics From Aggression Test**

| GROUPS | SUM | MEAN | VARIANCE | SD | COUNT |
|---|---|---|---|---|---|
| State | 1630 | 81.5 | 16.05 | 4.00 | 20 |
| National | 1538 | 76.9 | 57.25 | 7.56 | 20 |
| International | 1364 | 68.2 | 34.58 | 5.88 | 20 |

The above table depicts that there is a no significant difference in mean value of state (81.5) and national level (76.9), but a significance difference is shown in mean value of national (76.9) and international (68.2) level as well as well as international (68.2) and state (81.5) level aggression test.

**Table No - 20 Evaluation Of Anova Within The Groups And Between The Groups**

| Source of variation | SS | df | MS | F | P-value |
|---|---|---|---|---|---|
| Between groups | 1824.93 | 2 | 912.4 | 25.37 | 1.3 |
| Within groups | 2050 | 57 | 35.96 | | |

No significant difference is found between the group scores. As, F(df=2), F=25.37, P>0.05, whereas within the group also no difference is shown.

**Table No - 21 Post-Hoc Analysis**

| Groups | p-value (TEST) | Significant | TEST | ALPHA |
|---|---|---|---|---|
| State v national | 0.0212 | NO | ANOVA | 0.05 |
| National v international | 0.0002 | YES | Post-hoc test (Bonferroni corrected) | 0.01 |

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| International v state | 3.885 | YES | | |
|---|---|---|---|---|

The above table depicts, that significant difference is found between national v international (0.002) level anxiety test, as well as in international v state (3.885) level anxiety test. But There is no significant difference between state v national (0.0212) level aggression test.

## DISCUSSION OF FINDINGS

This chapter depicts about the statistical findings with the already establish facts. This study was done to find out the significant difference between anxiety, personality and aggression on sate, national and international level weightlifters. The statistical procedure used for analyses was ANOVA (post-hoc), to see the significant difference in all the three groups.

### *Result Of Anxiety Level*

Discussion for anxiety level results in table no.10 (descriptive analysis), shows a significant difference in 2 groups (state and national) and (state and international). But shows no difference in national and international group. In table no. 11, evaluation of ANOVA, shows no significant difference between and within the groups. In table no. 12, post-hoc analysis shows significant difference in (state v national) and (international v state). But shows no significant difference in national v international.

### *Result Of Personality Factors*

Findings for personality factors (descriptive analysis) in table no. 13,16,19,22 and 25, shows no significant difference in all the three groups (state, national and international). In table no.14,17,20,23 and 26, with the evaluation of anova, there was no significant difference shown between and within the groups. With the analysis of post-hoc, in table no. 15,18,21,24 and 27, no significant difference was shown in any of the groups.

### *Result Of Aggression Level*

Discussion for aggression level results in table no. 28, (descriptive analysis), shows no significant difference in state and national group. But shows a significant difference in (national and international) and (international and state) groups. In table no. 29, with the evaluation of anova, no significant difference can be shown between and within the groups. In table no. 30, post-hoc analysis shows a significant difference in (international v national) and (international v state). But shows no significant difference in state v national groups.

The difference within the player's anxiety and personality and aggression level is may be due to the level of competition as in international players deal with more tough level of completion rather than state and national level players. Another reason can be that the players were not of the same standard of experience with a similar kind of mental training and lack of adequate psychological preparation for the competition which must have been a probable cause.

## CONCLUSIONS

Within the boundaries and based on the results it is obvious that there is a significant difference in anxiety level of state and international level, but no difference in national level weightlifters. With the analysis, it can be said that there is no significant difference in personality factors of state, national and international level weightlifters but the aggression level shows no significant difference in state and national groups but shows a difference in national international level weightlifters. The alteration within the weightlifter's anxiety, personality and aggression level can be due to the stages of competition as in international players can deal with more hard level of competition. There are many others factors answerable for the complex anxiety and aggression level in players such as mass media, spectators, personal, individual life style, routine etc.

## RECOMMENDATIONS

This Comparative study can be carried out for state & national level weight lifters. This survey research methodology can be done to find out the difference between the anxiety, personality & aggression levels of weightlifters. Studies like this can be used for enhancing the psychological factors in weightlifters. Study on anxiety, personality & aggression in sport or games is extremely famous because it is helpful in finding the psychological picture of individual sportsmen. Aggression, Anxiety & Personality are the important factors in any game, which effect the performance of an individual. Disbalance of these factors can cause nervousness, before the competition, during the competition & after the competition. With the help of this study the valid & preferable psychological training program can be made for state & national level weightlifters as well as counsel lung session can be done with certified psychologist, to maintain the balance of these factors during competition.

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