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GRT **A COMPARATIVE STUDY OF SPORT
AGGRESSION AMONG ATHLETES OF CONTACT,
NON CONTACT AND SEMI CONTACT SPORTS**

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Abstract:-Objective: The purpose of the study was to assess and compare of sport aggression among athletes of contact, non contact and semi contact sports. **Subjects and Methods:** For this study ninety athletes was randomly selected from different levels and sports of contact, non contact and semi contact. The age of the subjects was ranging from 16 to 30 years. The sport aggression was taken as independent variable. The sport aggression of the participants was measured by Anand Kumar & Prem Shanker Shukla (1988) questionnaire. The significance difference among athletes contact, non contact and semi contact sports in relation to sport aggression, was determined through Descriptive statistics and one way analysis of variance. **Conclusion:** It is concluded that significant difference exists among athletes of Contact, Non Contact and Semi Contact sports in relation to Sport Aggression. As compared to Non contact athletes and semi Contact athletes, Contact athletes have higher mean value on Sport Aggression. The sequence of performance among Contact, Non Contact and Semi Contact athletes, was Contact athletes > Semi Contact athletes > Non Contact athletes.

Keywords: Sport Aggression, Contact, Non Contract and Semi Contact athletes.

INTRODUCTION

The path of Science and technology innovation have undergone a remarkable change during the past couple of decades which has caused the growth of science-based industries, such as biotechnology, information technology, space technology etc. This is true in the area of sports and games also because the power of knowledge in the knowledge society in the field of sports through Scientific Research has revolutionized the standard of sporting performance all over the world in different sports and games. Scientific research is being carried all over the world in the area of sports and sports science disciplines to revolutionize the standard of sports performance. Coaches and scientists are more dependent on more modern and scientific technology to derive top quality performance from their athletes.

High achievement sports have developed internationally into economically significant phenomenon. International events such as Olympic Games or World Championship are central media events. Consequently the phenomenon of high performance sports has also become very interesting from the scientific point of view, which has been confirmed by great number of sports science and sports medical conferences and publications. Training Science well supported by other sports science such as Sports Medicine, Sports Physiology, Sports Psychology, Sports Nutrition, Sports Biomechanics, etc., contributed a lot in optimization of sports performance level in various sports and games.

There are several Sports Science subjects, which have revolutionized the standard of sports in modern times, which include several subjects such as medical science, sports physiology, sports psychology, training science, kinesiology and biomechanics, anthropometry, sports nutrition and other allied sciences. All the subject specialties have their own contribution to the final exceptional performance of an athlete. In broader sense the main sports disciplines also could be considered as sports sciences. Execution of technique, skill and tactics of any sports requires human body action with physical and psychological aspects. None of these specialties can by itself lead to the final performance. There has to be concerted effort of all sports science disciplines including the main sports concerned.

In modern competitive sports, the anxiety in sportsman has affected their performance. As the physical load during the training of sportsman for international competition is intensified the sportsmen are more anxiety prone while

participating in competitive sports. When athlete gets anxious the heart rate increases, the blood pressure become elevated the breathing becomes more rapid and oxygen consumption increases. He may experience nausea, light headache, dryness of mouth or feeling of fatigue or weakness. He may yawn frequently, or engage in nervous activity (bite his nails, wiggle his leg, twirl his hair etc.). He may sweat profusely, urinate frequently or have loose stools. He may have difficulty in getting into sleep. And inevitably have an increase in muscular tension. He may even have difficulty in breathing as the muscle of his neck and throat tense up causing him to choke (literally and figuratively). The term aggression has developed into something of an umbrella construct, in both its social and academic applications (Widmeyer, Dorsch, Bray, & McGuire, 2002). For example, pushy and persistent sales people are often referred to as aggressive, as are baseball players who run the bases exceptionally hard and sacrifice their bodies for the betterment of their teams.

More recently the instinct view of aggression has received its impetus from ethnologists such as Lorenz. He believes that aggression builds up within an individual and that this builds up needs some form of release. The release may occur through either on acceptable or an unacceptable (antisocial) act. Sports would serve as a suitable vehicle, for example, whereas war would not. In fact Lorenz advocates that sport is sought to be substitute for war. In other words, because all competitive sport situations hold some degree of hostility between opponents, participants allows aggression to be dissipated in an acceptable manner.

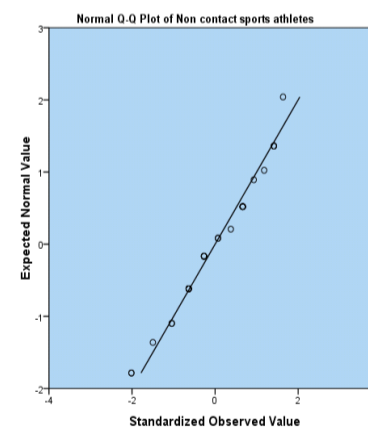
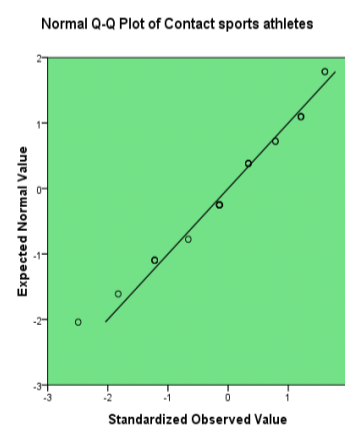
METHODOLOGY

For the purpose of the study ninety (N=90) athletes was randomly selected from different levels and sports of contact, non-contact and semi contact sports. All participants categorized into three groups, contact (30), non-contact (30) and semi-contact (30) athletes and the level of participation of athletes is national level. The age of the subjects was ranged from 16-30 years. Sport aggression was taken as independent variables. The sport aggression of the participants was measured by Anand Kumar & Prem Shanker Shukla (1988) questionnaire. In order to assess of sport aggression among athletes of contact, non-contact and semi contact sports data were summarized by descriptive statistic. One Way Analysis of Variance (ANOVA) was used to find out the significant difference among athletes of contact, non-contact and semi contact sports in relation to sport aggression. In the analysis of variance, if F-ratio is significant it indicates that there are some differences within a set of population means. To know more about the pattern of differences existing within a set of population means, Least Significant Difference (LSD) Post-hoc test was used.

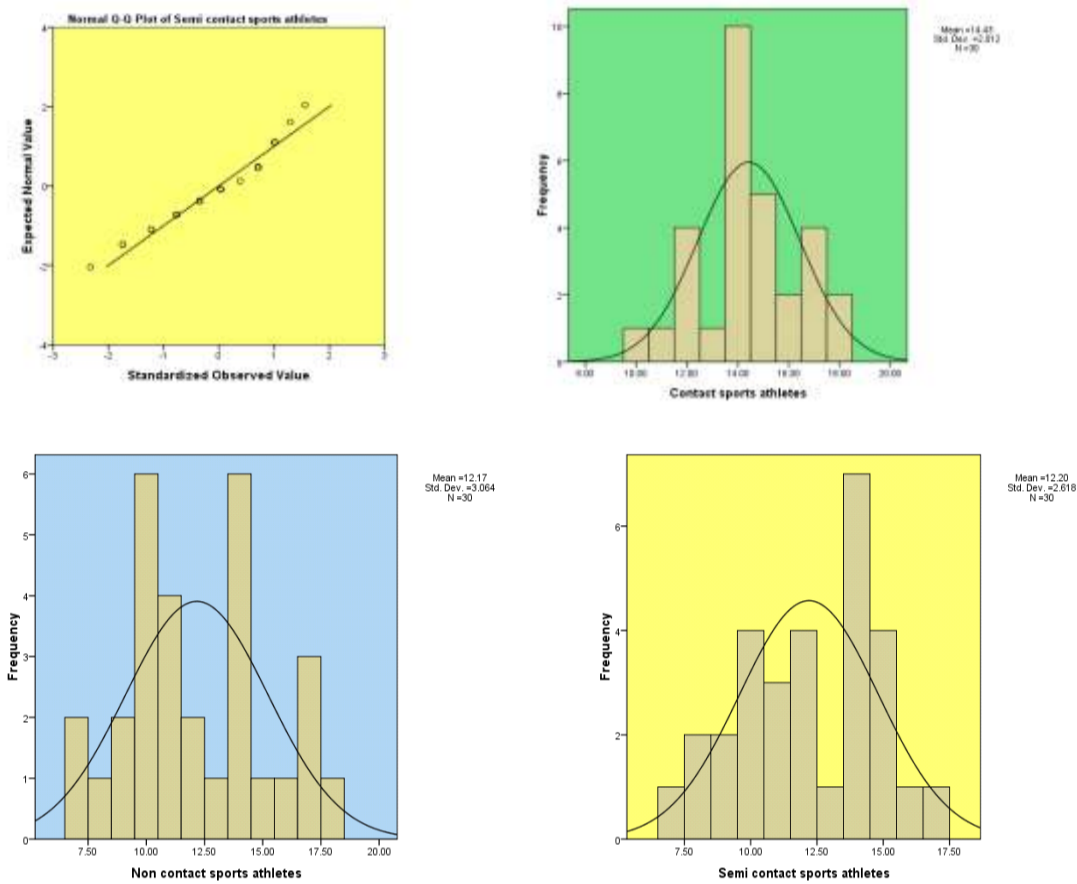
FINDING

The data pertaining to sport aggression had been analyzed by using the descriptive statistics i.e. mean, standard error, and one way analysis of variance (ANOVA) for sport aggression to find out the significant difference among the means. The level of significance to check the F-value was set at 0.05 level, which was considered appropriate for the purpose of the study.

Testing basic assumption to apply ANOVA (Chan, Y. H., 2003) Testing Normality of data by Q-Q Plots and Normal Curve



A Comparative Study Of Sport Aggression Among Athletes Of Contact, Non Contact And Semi Contact Sports



The Q.Q Plot compares the quantiles of a data distribution with the quantiles of a standardized theoretical distribution from a specified family of distributions (in this case, the normal distribution). In the above Q.Q. plots, the points are plotted along a line. The Q.Q. plots also verify that the distribution is normal.

By Formal Tests

Test of Homogeneity of Variances			
Sport aggression			
Levene Statistic	df1	df2	Sig.
4.244	2	87	.077*

The formal test named levene statistic test were also applied to conform normality of data. Sport aggression scores the variances were significant different in the three groups, levene statistic value (2, 87) = 4.244, $p < 0.05$, shows that the distribution is normal. It can be confident that population variances for each group are approximately equal and distribution is normal.

Since data fulfils basic assumptions to apply one way analysis of variance was applied to compare of sport aggression among athletes of contact, non contact and semi contact sports.

Table 1
Descriptive statistics of Sport aggression of Non-contact, Contact and Semi contact athletes

Sport Aggression	N	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Non-contact game athletes	30	12.16	3.06	0.55	7.00	18.00
Contact game athletes	30	14.43	2.01	0.37	10.00	18.00
semi contact game athletes	30	12.20	2.61	0.47	7.00	17.00
Total	90	12.93	2.78	0.29	7.00	18.00

It is evident from table - 1 that mean and standard deviation scores of non-contact, contact and semi contact athletes in relation to Sport aggression has been found 12.16, 14.43 & 12.20 and 3.06, 2.01 & 2.61 respectively.

Table 2
Analysis of Variance of sport aggression of Non-contact, Contact and Semi contact athletes

Source of Variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	101.26	2	50.63	7.487	.001
Within Groups	588.34	87	6.76		
Total	689.60	89			

* Significant at 0.05 level of significance $F_{0.05}(2, 147) = 3.09$

Table- 2 revealed that there is significant difference among athletes of non-contact, contact and semi contact sports in relation to Sport aggression, as obtained F-ratio is 7.487, which is higher than the tabulated value of 3.09, required for F-ratio to be significant at 0.05 level with (2,87) degree of freedom.

Since the one way analysis of variance was found significant in relation to Sport aggression, the least significant difference (LSD) test is applied to find out the differences of the paired means among athletes of non-contact, contact and semi contact sports.

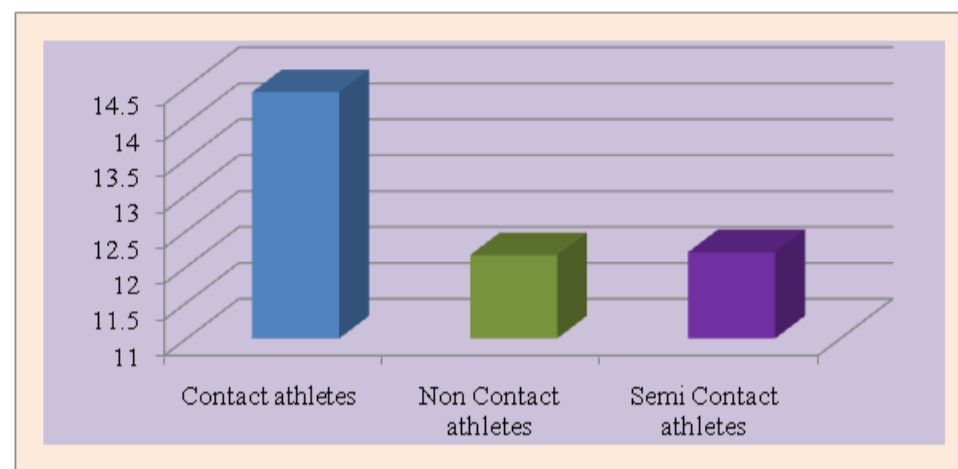
Table 3
Paired mean comparison of sport aggression of Non-contact, Contact and Semi contact athletes

(I) group	(J) group	Mean Difference (I-J)	Sig.
Non contact game athletes	Contact game athletes	-2.26 [*]	.001
	semi contact game athletes	-0.03	.961
Contact game athletes	semi contact game athletes	2.23 [*]	.001

* Significant at 0.05 level of significance

It is evident from table- 3 that paired mean differences among athletes of non contact, contact and semi contact sports in relation to sport aggression, it is found significant difference between Non Contact and Contact athletes; Contact and semi contact athletes and no significant difference found between contact and semi contact athletes.

Figure 1
Graphical representation of the Comparison of Means scores of non contact, contact and semi contact athletes in relation to Sport aggression



DISCUSSION OF FINDINGS

In sport, aggression is a characteristic that can have many negative as well as positive effects on performance. Aggression is defined as “any form of behaviour directed toward the goal of harming or injuring another living being who is motivated to avoid such treatment” (Baron & Richardson, 1994). Most people view aggression as a negative psychological characteristic; however some sport psychologists agree that aggression can improve performance (Widmeyer & Birch, 1984). This is called an assertive behaviour (Bredemeier, 1994), where a player will play within the rules of the sport at a very high intensity, but will have no intention to harm an opponent. In sport, aggression has been defined into two categories: hostile aggression and instrumental aggression (Silva, 1983). Hostile aggression is when the main aim is to cause harm or injury to your opponent. Instrumental aggression is when the main aim is to be non-aggressive but to win the ball. Coulomb and Pfister (1998) conducted a study looking at aggression in high-level sport. They found that experienced athletes used more instrumental aggression in which they used to their advantage and that hostile aggression was less frequently used. Experienced athletes used self-control to help them with their aggression. In the present significant difference found among athletes of contact, non contact and semi contact sports in relation to sport aggression. In present study non contact sports athletes was found very aggressive compare to non contact and semi contact sports athletes. The higher aggression in contact than in non contact and semi contact sports athletes is consistent with learning theory. However, this theory also demands that aggression should be greater for contact sports athletes than for their non contact and semi contact sports athletes and similar for non contact and semi contact sports athletes. The result of the present study is also support by the result of Patrice Lemieux, Stuart J. McKelvie and Dale Stout (2002).

CONCLUSION

It is concluded that significant difference exists among athletes of Contact, Non Contact and Semi Contact sports in relation to Sport Aggression. As compared to Non contact and semi Contact athletes, Contact athletes have higher mean value on Sport Aggression. The sequence of performance among Contact, Non Contact and Semi Contact athletes, was Contact game athletes > Semi Contact athletes > Non Contact athletes.

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