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A Study of Decision Making among Players of Contact sports, Semi Contact Sports and Non Contact Sports

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Abstract
The study's objective was to compare athletes' decision-making abilities in contact, semi-contact, and non-contact sports. A total of 180 players in contact sports, 180 in semi-contact sports, and 180 in non-contact sports were chosen as participants. The subjects' ages ranged from 18 to 25 years. All the participants were participating in the regular activity classes under the requirements of the inter-college competition of Panjab University, Chandigarh. Decision-making was considered as the parameter of this study and this was measured by Decision Conflict Scale (DCS) Decision Conflict Scale developed by Annette M. O'Connor. The subjects were directed to respond to these items according to their feelings while in competition mode. One-way ANOVA in SPSS Package 22.0 was applied to compare decision-making differences among male players of contact sports, semi-contact sports, and non-contact sports, assuming a normal distribution. Following this, a post-hoc Tukey HSD test was used to identify the group variations, with the significance level set at 0.05. According to the study, notable variances were observed in decision-making sub-variables, i.e., values clarity, support, uncertainty, and decision conflict among athletes engaged in contact, semi-contact, and non-contact sports. However, no significant differences were found for the informed and effective decision sub-variables of the decision-making. Further post hoc analysis revealed that players of semi-contact sports have significantly more value clarity, support, uncertainty, and decision conflict sub-variables of decision-making compared to players of contact and non-contact sports. However, there was an insignificant difference found between players of contact and non-contact sports in value clarity, support, uncertainty, and decision conflict.

Keywords: Decision Making, Contact Sports, Semi-Contact Sports and Non-Contact Sports.

Introduction

In sports, the outcomes of competitions are often determined by the results of winning and losing. Winning refers to achieving a favorable outcome or victory in a particular game, match, or tournament. It is the desired outcome for athletes, teams, and their supporters, as it signifies success, accomplishment, and the attainment of set goals. Winning can be a result of superior skill, strategy, teamwork, preparation, and sometimes even luck (Van, 2022). The field of sports psychology is instrumental in improving athletes' overall performance and well-being. It focuses on the mental aspects of sports, helping athletes develop a strong mindset, manage stress, and optimize their psychological state during competition.

The process of decision-making involves using information about one's current situation and applying knowledge to plan, select, and carry out an appropriate goal-driven action or series of actions (Causer, et. al. 2014 & Williams, 2013). Decision-making also involves the ability of individuals to choose effective actions from a wide range of possible options to achieve a specific goal (Hastie, 2001). Hence, making precise decisions is crucial for achieving success in team sports (Baker, et. al. 2003). It is, however, suggested that various factors such as age, the relative age effect, expertise (Sierra et al. 2017 & Araujo, 2019), and acute factors like fatigue (Russell, 2019) may influence the quality and accuracy of decisions.

The decision-making involves the mental process that leads to choosing a belief or a course of action from various options. A final choice is generated from every decision-making process, and this choice may or may not lead to taking action. Whenever someone is confronted with a difficult situation, he looks for a solution or decides to solve it. Decisions are taken based on experience, rational thinking, foresight, and the foreseen consequences of the decision. The word decision was first used in the 15th century. The origin of the word comes from Middle English decisioun, from Latin decisi. The word decision means the ability to make choices quickly and confidently, a determination arrived at after consideration. (Eilon, S. 1969).
The process of making decisions in sports involves using knowledge about the current situation to choose the appropriate action based on one's perceived ability to execute a specific motor skill, as defined by Causer and Ford (2014). Making

the right decisions under high game pressure and time constraints is crucial for in-game performance, according to Höner (2020). Decision-making entails identifying and selecting alternatives based on the decision-maker's values and preferences, and it is a significant part of management and implementation processes, as highlighted by Reason (1990).

Methodology

The descriptive research technique was used for the present study. The researchers applied a purposive random sampling procedure to select the appropriate sample for the study. The total sample of the present study comprised 540 subjects including contact sports players (180), semi-contact sports players (180), and non-contact sports players (180). Decision-making was measured by the Decision Conflict Scale (DCS) developed by Annette M. O'Connor (Revised, 2005). To determine the difference in decision-making among the male players of contact sports, semi-contact sports, and non-contact sports One-Way ANOVA was used for normal distribution and a post-hoc test of Tukey HSD was used for determining the differences across groups through SPSS Package 22.0 and the significant level was set at 0.05. The assumptions for applying independence were also taken into consideration. The study also considered the assumptions for applying independence.

Results and Discussion

Table 1: Descriptive Statistics of Decision Making of Contact Sports, semi contact sports and non-contact sports Players

Sub variable	Sports	Means	Std. Deviation
Informed	Contact sports	12.59	15.52
	Semi contact sports	20.506	13.07
	Non-contact sports	16.94	14.04
Values Clarity	Contact sports	21.29	15.36
	Semi contact sports	27.17	17.27
	Non-contact sports	20.09	16.26
Support	Contact sports	23.01	17.43
	Semi contact sports	28.35	17.81
	Non-contact sports	23.47	17.34
Uncertainly	Contact sports	25.97	17.82
	Semi contact sports	29.47	19.44
	Non-contact sports	24.08	18.17
Effective Decision	Contact sports	24.12	18.56
	Semi contact sports	25.72	16.88
	Non-contact sports	23.13	20.93
Decision Conflict	Contact sports	167.90	96.68
	Semi-contact sports	205.18	94.80
	Non- Contact sports	167.56	102.59

Table 1 depicts the descriptive statistics for the players of contact sports, semi-contact sports and non-contact sports in the sub-variable of decision making i.e. informed, values clarity, support, uncertainly, effective decision, and decision conflict. The semi-contact sports players indicated more informed (20.50) as compared to non-contact sports (16.94) and contact sports players (12.59). On the variable of values clarity, semi-contact sports players scored (27.17) higher as compared to contact sports players (21.29), and non-contact sports players (20.09).

On the variable of support, semi-contact sports players scored (28.34) higher as compared to non-contact sports (23.47),) and contact sports players (23.00). For the uncertainly variable, the score was high for semi-contact sports players (29.46) as compared to contact sports (25.96), and noncontact sports players (24.08). On the variable of effective decision, semi-contact sports players scored (25.71) higher as compared to contact sports (24.11) and non-contact sports players (23.13). On the variable of decision conflict, semi-contact sports players scored (205.18) higher as compared to contact sports (167.90) and non-contact sports players (167.56). on the variable of decision conflict, semi-contact sports players have shown the highest mean value (205.18) followed by contact sports players (167.90) and non-contact sports players (167.56).

The graphical representation for the same is given in figure-1.

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Fig 1: Comparison of Mean Scores of different sub variable of decision making of contact sports, semi contact sports and non-contact sports players

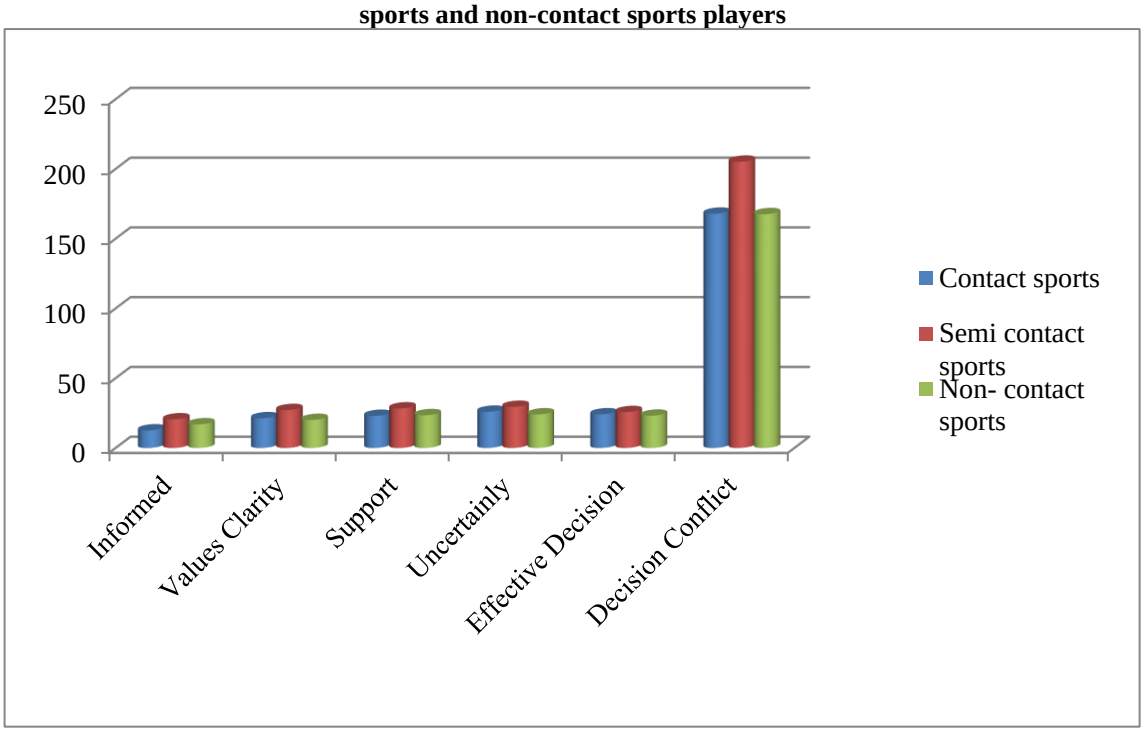

Table 2: One Way Analysis of Variance for sub variables of decision making of contact sports, semi contact sports and non-contact sports players

Sr. No.	Variables	Main Effect	Sum of Squares	df	Mean Square	F	p- value
1	Informed	Between Groups	5757.58	2	2878.79	14.23	9.46
		Within Groups	107975.7	537	202.20		
		Total	113733.3	539			
3	Value Clarity	Between Groups	5081.60	2	2540.80	9.53	0.00
		Within Groups	142275.45	537	266.43		
		Total	147357.06	539			
3	Support	Between Groups	3063.78	2	1531.89	4.97	0.00
		Within Groups	164059.08	537	307.80		
		Total	167122.9	539			
4	Uncertainty	Between Groups	2664.27	2	1332.13	3.88	0.02
		Within Groups	183071.2	537	342.83		
		Total	185735.5	539			
5	Effective Decision	Between Groups	628.4033	2	314.20	0.88	0.41
		Within Groups	189887.3	537	355.59		
		Total	190515.8	539			
6	Decision Conflict	Between Groups	168286.6	2	84143.28	8.75	0.00
		Within Groups	5134234.54	537	9614.67		
		Total	5302521.10	539			

One Way Analysis of variance in Table 2 showed that there were insignificant differences in the informed and effective decision sub-variable of decision-making among the players of contact sports, semi-contact sports, and non-contact sports as the p-value for the F-test is less than 0.05. The above table showed the significant differences in the sub-variable of decision-making naming value clarity, support, uncertainty, and decision conflict among the players of contact sports, semi-contact sports, and non-contact sports as the p-value for the F-test is greater than 0.05. However, it does not help to identify the groups which differ significantly among each other. Thus, a post hoc test was applied to check the differences and the results are presented in the following table.

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Table- 3: Post hoc t value of different sub-variables of decision-making of contact sports, semi-contact sports, and non-contact sports players

Variable	t value		
	Contact sports vs Semi-contact sports	Contact sports vs Non-contact sports	Semi-contact sports vs Non-contact sports
Value Clarity	3.41**	0.69	4.11**
Support	2.89**	0.25	2.64**
Uncertainty	1.79	0.96	2.76**
Decision conflict	3.61**	0.03	3.64**

* Significant at .05 level; ** Significant at .01 level

From Table 3, It was found that semi-contact sports players had significantly higher value clarity than contact sports and non-contact sports players, with "t" values of 3.41 and 4.11, respectively at the 0.01 level of significance. However, there was no significant difference found between contact sports and non-contact sports players in the variable of value clarity. For the variable of support, semi-contact sports players had significantly higher values than contact sports and non-contact sports players, with "t" values of 2.89 and 2.63, respectively at the 0.01 level. Additionally, the results show that there is no significant difference in support between contact sports and non-contact sports players. In the variable of uncertainty, semi-contact sports players had significantly higher values than non-contact sports players with a "t" value of 2.76 at the 0.01 level. However, there was no significant difference found between contact sports and semi-contact sports and between contact sports and non-contact sports players in the variable of uncertainty. For the variable of decision conflict, semi-contact sports players have significantly higher Decision Conflict than contact sports and non-contact sports players, with "t" values of 3.61 and 3.64, respectively at the 0.01 level. However, in decision conflict between contact sports and non-contact sports players, no significant difference was found.

Discussion

The aim of this study was to examine the disparity in decision-making among male athletes in contact, semi-contact, and non-contact sports. The analysis of the study exposed no statistically noteworthy differences among the contact sports, semi-contact sports and non-contact sports with respect to the sub-variables informed and effective decision at 5% level of significance. Singh and Singh (2023) have also found insignificant differences in the variable of decision-making style among individual, team, and combat sports. Nagarabetta (2023) also reported similar results and showed that in decision-making there is no significant difference between team and individual players.

The investigation of the sub-variable value clarity revealed that statistically significant differences were established between contact sports, semi-contact sports and non contact sports. Further from the post hoc analysis, it has been found that semi-contact sports players had significantly higher value clarity than contact sports and non-contact sports players. Moreover, the results show that there is no significant difference in value clarity between contact sports and non-contact sports players. The present study also discovered statistically significant differences between contact sports, semi-contact sports and non-contact sports groups with respect to the sub-variable support.

The post hoc analysis showed that semi-contact sports players had significantly higher support than contact sports and non-contact sports players. However, insignificant differences in support between contact sports and non-contact sports players were found. In the sub-variable uncertainty, a statistically significant difference was found between contact sports, semi contact sports and non-contact sports groups. The analysis further showing that semi-contact sports players have a significantly better uncertainty value as compared to the players of contact sports and non-contact sports. However, there is no significant difference found between contact and non-contact sports with respect to the sub-variable uncertainty. In the case of sub-variable decision conflict, the results showed a statistically significant variance between contact sports, semi-contact sports, and non-contact sports players.

The post hoc analysis further exposed that semi-contact sports players had significantly higher decision conflicts than contact sports and non-contact sports players. However, insignificant differences were found between contact sports and non-contact sports with respect to the variable of decision conflict.

The above findings are partially in harmony with the results of Rahimpour et al., (2022) as they disclosed a significant difference in decision-making ability between the expert and novice players, with experts demonstrating superior performance. The findings of Fruchart et al., (2010) also support the outcomes of the current study, as they found that there existed significant differences in decision-making between basketball and handball players, supporting the current study's findings. The basketball players in their research demonstrated a better understanding of the conditions compared to the handball players.

Conclusion

Within the limitations of the present study and based on the analysis of data, it was concluded that significant differences were found among players of contact sports, semi-contact sports and non-contact sports in decision-making sub-variables i.e. values clarity, support, uncertainty and decision conflict. However, no significant differences were found for the informed and effective decision sub-variables of the decision-making. Further post hoc analysis revealed that players of semi-contact sports have significantly more value clarity, support, uncertainty, and decision conflict sub-variables of decision-making compared to players of contact and non-contact sports. However, there was an insignificant difference found between players of contact and non-contact sports in value clarity, support, uncertainty, and decision conflict.

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