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An analytical and comparative investigation of cooperativeness within the framework of individual and team sports

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Kumar, Suchitra Senapati, Kanchan Thappa and Dr. Mehak Arora**

Abstract

Study Aim: The aim of this study was to find out the significant difference of cooperativeness between individual and team sports.

Material and Methods: A total of 620 male subjects between the age group of 18-25 years participated in this cross-sectional research. The participants were members of the Individual Sports (*viz.*, Athletics, Archery, Gymnastics, and Badminton & Chess) and Team Sports (*viz.*, Cricket, Basketball & Volleyball). The Social Intelligence Scale, developed in 1986 by Ms. Usha Ganesan and N.K. Chadda, was used to assess patience.

Statistical Technique: Unpaired t-test was employed for the present investigation.

Results: There were significant differences ($0.0001 < 0.05$) in scores for individual sports ($M = 25.5194$, $SD = 3.3796$) and team sports ($M = 24.1903$, $SD = 3.0464$).

Keywords: Cooperativeness, athletics, archery, gymnastics, badminton, chess, cricket, basketball, volleyball, individual sports, team sports

Introduction

Psychology is a science in which, we study about human behavior and Sports Psychology is primarily concerned with the analysis of behavior of sports persons. Sports psychology involves the study of how psychological factors affect performance and how participation in sports and exercises affect psychological and physical factors [1]. Sports performance is not just a function of physiology (fitness factors) and biomechanics (for instance, technique variables), but psychological aspects also play a significant influence in performance. However, every athlete has to be under a certain amount of stress in order to perform at their best [2]. In addition, cooperation has always been valued, and the importance of cooperation has been mentioned many times in the major domains of education, and is reflected in fitness ability indicators. It can be seen that physical education can create an ideal context for cooperative learning [3]. Cooperative learning is also effective in promoting subject knowledge and problem-solving abilities. Assessing the effectiveness of learning has always been an important aspect of physical education (as with other subject areas), enabling teaching and learning outcomes to be evaluated and improvements and next steps to be explored further [4]. Group Cooperation is a psychological factor related to the creation of a positive dynamic group and a behavioural indicator of a pro-social attitude Group Cooperation is understood as a decisional process of basic coordination among a given group of people to associate, collaborate and achieve individual and common objectives [5, 6]. Studies show that there are individual predictors in each of the members of the group that favours group cooperation, such as sportsmanship, moral competence or emotional intelligence, the latter being the most relevant factor in cooperation in events that have no future consequences, which reveals that cooperation, is affected by emotional factors [7]. The situational cooperation is related to willingness to cooperate in different situations that occur during the game or outside it. Little is known about the effect of sports rules modification on cooperation [8, 9]. Cooperation involves different factors, such as conditional cooperation, situational cooperation with the coach, disposition to unconditional cooperation, situational cooperation with teammates, and situational cooperation outside the field of play [10]. Cooperation is, like competitiveness, one of the fundamental aspects of human social behavior. Our personal experience and numerous experimental studies have shown that, in various situations, cooperation occurs between people who are not necessarily related instead of seeking their own short-term benefits and cooperativeness in the group can also provide advantages beyond individual benefit [11, 12].

Material and Methods

Participants

A sum of 620 male participants aged between 18 and 25 years were involved in the cross-sectional study. These individuals were associated with the fields of Individual Sports, such as Athletics, Archery, Gymnastics, Badminton, and Chess, as well as Team Sports, including Cricket, Basketball, and Volleyball. The designated universities for this inquiry were as follows:

1. Guru Nanak Dev University, Amritsar
2. Punjabi University, Patiala
3. Panjab University, Chandigarh
4. Lovely Professional University, Phagwara

Research Design

This is an exploratory study that has employed method of data collection and analysis quantitatively with the aim to find out the significant differences between Individual and Team Sports on the variable, Cooperativeness.

Statistical Analysis

The normality of the data was checked by using the Shapiro-wilk test of normality. Under the data analysis, exploration of data was made with descriptive statistics and graphical analysis. Unpaired t-test was employed for the present investigation. The SPSS (statistical package for the social sciences) version 20.0 was used for all analyses. For testing the hypotheses, the level of significance was set at 0.05.

Results

Table 1: Descriptive statistics and independent samples t-test result comparing individual sports and team sports on cooperativeness.

| Cooperativeness | | |
|----------------------------|--------------------|--------------------|
| | Individual Sports | Team Sports |
| Sample size | 310 | 310 |
| Arithmetic mean | 25.5194 | 24.1903 |
| 95% CI for the mean | 25.1417 to 25.8971 | 23.8499 to 24.5308 |
| Variance | 11.4220 | 9.2808 |
| Standard deviation | 3.3796 | 3.0464 |
| Standard error of the mean | 0.1920 | 0.1730 |
| Mean Difference | 1.3290 | |
| Pooled Standard Deviation | 3.2174 | |
| Standard Error | 0.2584 | |
| 95% CI of difference | 1.8365 to 0.8215 | |
| Test statistic t | 5.143 | |
| Degrees of Freedom (DF) | 618 | |
| P value | 0.0001 | |

An independent-samples t-test was conducted to compare the cooperativeness for individual sports and team sports. There were significant differences ($0.0001 < 0.05$) in scores for individual sports ($M = 25.5194$, $SD = 3.3796$) and team sports ($M = 24.1903$, $SD = 3.0464$). The magnitude of the differences in the means (mean difference = 1.3290, 95% CI: 1.8365 to 0.8215) was significant.

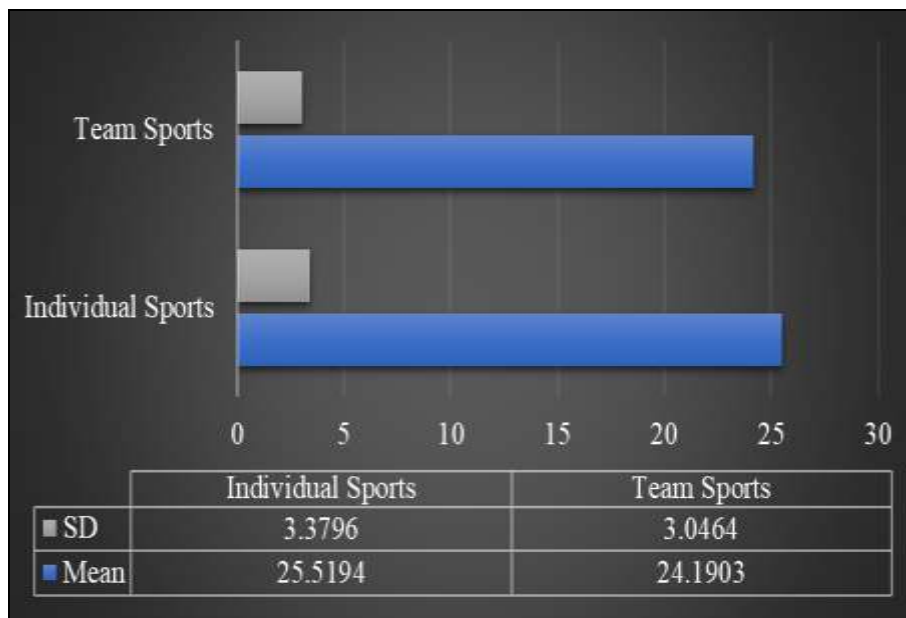


Fig 1: Mean and standard deviation scores for individual sports and team sports on cooperativeness.

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Conflict of interest

The authors declare no conflicts of interest.

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