Induced Changes of Game-Specific Training and Yogic Practices on Selected Psychological and Skill Performance Variables among Hockey Players

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KEYWORDS

Game-Specific Training, Yogic Practices, Aggression, Self-Confidence, Dribbling And Hitting

ABSTRACT

Introduction: Game-specific training and yogic practices on selected psychological and skill performance variables" refers to a research area that examines how combining targeted training specific to a particular sport (like basketball drills for basketball players) with yoga exercises can influence various psychological factors like focus, anxiety, and overall mental well-being, alongside improving technical skill performance in that sport.

Objectives: The purpose of the study was to induced changes of game-specific training and yogic practices on selected psychological and skill performance variables among hockey players.

Methods: To achieve the purpose the study, forty five hockey players were selected from various departments of Selvam Educational Institutions, Namakkal, Tamil Nadu, India were randomly selected as subjects. As per the records, their age ranged between 18 to 25 years. For this study the true randomized experimental group design has been employed with three groups namely Group I game-specific training group, Group II yogic practices group and control group with 15 subjects each. Group I and II undergone their respective treatments for a period of twelve weeks and there was no specific training given to the control group.

The collected data were statistically analyzed by using analysis of covariance (ANCOVA).

Conclusions: The result of the study indicate that the game-specific training and yogic practice showed significant improvement on performance level in all the selected psychological and skill performance variables when compared with control group.

1. Introduction

Sports-specific training has gained considerable attention in enhancing athletes' performance, particularly in young, developing players. Among various training modalities, circuit training has shown to be especially effective for athletes, as it combines endurance, strength, agility, and skill drills into a holistic approach that targets multiple physical and skill-based components within a short period. This research focuses on sports-specific circuit training for handball, a sport requiring high proficiency in skills such as passing accuracy, shooting accuracy, and dribbling ability fundamental for both offensive and defensive strategies. Handball, especially at competitive levels, demands both physical and technical prowess. Given that players must execute these skills under intense physical strain, training methods tailored to meet these demands can be crucial in promoting young athletes' performance levels and technical consistency. Existing studies on sports-specific training emphasize the need for structured training protocols that mirror game-like conditions to improve in-game performance. For instance, a study by Sharma et. al., (2022) highlighted that sports-specific training can significantly enhance skill-related components in team sports. Similar research by (Malek & Rose, 2021) found that training designed to replicate game situations, such as circuit training, can lead to notable improvements in skill execution under pressure. The impact of such training is not only in improving isolated skills but also in building decision-making abilities and resilience. However, while research has shown the positive effects of general game-specific training on overall fitness and endurance, limited studies have explored the direct effects of game-specific training and yogic practices on sport-specific skills, especially among young athletes.

Sports Specific Training can help to improve strength, flexibility and stamina whereby the players can improve his performance in specific sports. For this sports specific training is in need to all about developing physical conditions to improve performance and skills at a particular sport. Also, understanding the needs of the game, training/practicing at the correct pace in order to meet sports requirements. “Sport specific” is the new marketing buzzword when it comes to strength and conditioning programs for youth. Training that is specific to the demands of a particular sport does have merit at the higher levels, assuming the athlete is developmentally sound. A good athlete is a combination of raw athleticism (big, strong, fast, and adaptable) and sport-specific skill (skill involved with a specific sport like hitting, kicking, or dribbling). When parents and athletes are looking for a coach to help them be better at their sport, they must realize the difference between the two factors involved with being a good athlete. Sport-skill coaches are specialists in developing the specific skill sets needed for that game. Athletic performance coaches or “Strength and conditioning” coaches are specialists in making an athlete generally faster, stronger, more mobile, and more reactive. Unless either of these coaches has extensive, qualified experience in developing both factors of athleticism they can’t create a program that optimizes both. One of the well-established laws of motor learning is that the only way to improve a skill is to practice that skill as accurately as possible. Besides sports specific training improves the neuromuscular adaptations, athleticism and injury

prevention and decreased rehabilitation time. To facilitate how a person does deliver oxygen to their working muscles, they need to train, or participate in activities that will build up the energy stores needed for their sport.

Sport specific training introduces & refines the necessary skill to excel at any sport. Your young athlete will feel more confident in their agility, speed &hand/eye coordination. The sport-specific skill training is a year-round elite level sport specific training experience. Focusing on the physical, technical, tactical and psychological pillars of the sport, the Sport Specific Skill Training is part of the athletic performance ranch initiative to build character, knowledge and leadership. The sport specific training introduces & refines the necessary skills to excel at any sport. Our young athlete will feel more confident in their agility, speed, & hand/eye coordination. Group or individual training is available. Strength training is an essential element of fitness for every sport. Resistance exercises only add unnecessary bulk to athletes and hinders their ability to execute skill and perform that their best. Strength training and conditioning is an integral part of athletic performance.

Yoga practice has been transmitted from teachers (gurus) to students. Over the millennia, yoga has been influenced by different traditions and philosophies evolving into a variety of practices. Different schools often emphasize different components of the 8 limbs described above. Health benefits were recognized as a byproduct to physical and mental discipline of yoga practice. In the twentieth century, the introduction of yoga to the West has emphasized the potential for yoga as means of health maintenance, prevention, and treatment for chronic disease. The majority of yoga practices in the West contain aspects of postures, breath control and meditation. Styles of vary in the emphasis of each component by technique, sequence, and intention. As a mind body practice, the biological mechanism of yoga probably has multiple components. As a physical activity, part of the effect is similar to other types of exercise. Generally, yoga is considered a low- to moderate-intensity exercise. Exercise is known to improve health through improving cardiovascular fitness, muscle strength, and respiratory adaptations, modifying metabolism and immune function. Yoga's emphasis on relaxation in static and dynamic exercises distinguishes it from conventional exercise. By systematically contracting and relaxing muscles in coordinate sequences, changing breathing patterns, and cultivating mental attentiveness and awareness during practice, yoga attempts to synchronize the body and mind. The practice of yoga requires active participation of the subjects. Hence, the effects of factors such as the motivation to receive yoga training as well as the subject's age and gender may be expected to Influence the outcome. This is interesting to study as yoga training is increasingly being included as part of routine programmes.

Hockey is a multifaceted sport that requires agility and speed from players. Skating biomechanics is a fundamental aspect of hockey that affects a player's ability to move effectively on the ice. According to a study by T. Wong (2019), the ankle, knee and hip joints work in synchrony during skiing, providing efficient movement and gliding. Hockey players need to create a powerful push during the step and maintain balance during the sliding phase.

The ankle joint is critical for generating a high level of force during the take-off phase and for shock absorption during the landing phase. The knee joint acts as a shock absorber during the landing phase and helps propel the body forward during the take-off phase. The hip joint contributes to forward momentum and stability during stride.

In addition to skating, hockey players also perform various moves that require strength and agility, such as checking, passing, throwing, and turning. These movements require the coordination of multiple joints and muscles to create efficient and effective movements. According to a study by Shea (1992), hockey players perform rotational movements, such as turns, that require the transfer of energy through the lower extremities. The hip, knee, and ankle joints are essential for stability and power generation during these movements. The torso and upper limbs are also involved in the rotational movements that players use to check, pass, and shoot.

2. Objectives

The purpose of the study was to find out the induced changes of game-specific training and yogic practices on selected psychological and skill Performance variables among hockey players.

3. Methodology

The purpose of the study was to find out the Induced changes of game-specific training and yogic practices on selected psychological and skill Performance variables among hockey players. To achieve the purpose the study, forty five hockey players were selected from various departments of Selvam Educational Institutions, Namakkal, Tamil Nadu, India were randomly selected as subjects. As per the records, their age ranged between 18 to 25 years. For this study the true randomized experimental group design has been employed with three groups namely Group I game-specific training group, Group II yogic practices group and control group with 15 subjects each. Group I and II undergone their respective treatments for a period of twelve weeks and there was no specific training given to the control group. Taking into consideration of the feasibility of criteria, availability of instruments and the relevance of the variable to the present study, the following dependent variables and tests were selected and represented in Table 1.

Table 1: Criterion Measures and Test Selection

Criterion Variables	Test Items	Units of Measurement
Aggression	Questioner	In Points
Self- Confidence	Questioner	In Points
Dribbling	Subjective Ratings	In Points
Hitting	Subjective Ratings	In Points

Training Intervention

The experimental groups were undergoing game-specific training and yogic practices for a period of twelve weeks. The experimental groups underwent respective training on alternative days like, Mondays, Wednesdays and Fridays; Tuesday, Thursday and Saturday. The training programme were carried out in the hockey field. Each training session consist of approximately 90 minutes, was conducted only in the mornings. The training programme consisted of warm up

and stretching for 15 minutes and specific training for 60 minutes and 15 minutes of warm down. The initial intensity of the training was fixed at 60-65%. The intensity of the exercises was gradually increased at 05%, once in every four weeks.

The three groups viz game-specific training, yogic practices and control were statistically analyzed by using analysis of covariance (ANCOVA). In case of significance of mean difference was observed on the criterion measure, the Scheffe's test was applied as a post – hoc test, to find out which pair of group is high among the others. The analysis of covariance of pre test and post mean among game-specific training and yoga training and control group on psychological and skill performance variables represented in Table 2.

4. Results

Variables	Test	Exp. Gr. I	Exp. Gr. II	Control Gr. III	SOV	SS	df	MS	'F'
AGGRESSION	Pretest	24.53	24.47	25.52	**BG**	1.58	2	0.79	0.11
					WG	289.14	42	6.88	
	Post test	23.07	21.40	22.13	**BG**	124.74	2	62.37	83.16*
					WG	35.47	42	0.75	
	Adjusted Post test	20.88	18.24	23.33	**BG**	173.79	2	86.89	104.68*
					WG	34.14	41	0.83	
SELF-CONFIDENCE	Pretest	20.1	19.9	19.8	**BG**	0.93	2	0.465	0.072
					WG	268.8	42	6.4	
	Post test	27.1	33.25	21.85	**BG**	1302.3	2	651.15	25.32*
					WG	1080.1	42	25.71	
	Adjusted Post test	26.97	33.28	21.96	**BG**	1286.77	2	643.38	29.03*
					WG	908.61	41	22.16	
DRIBBLING	Pretest	5.47	5.40	5.20	**BG**	0.58	2	0.29	0.77
					WG	15.73	42	0.37	
	Post test	8.27	7.73	5.40	**BG**	69.73	2	34.87	94.68*
					WG	15.47	42	0.37	
	Adjusted Post test	8.19	7.70	5.51	**BG**	58.62	2	29.31	171.37*
					WG	7.01	41	0.17	
HITTING	Pretest	5.93	5.80	5.87	**BG**	0.13	2	0.07	0.11
					WG	25.07	42	0.60	
	Post test	8.47	7.80	6.13	**BG**	43.33	2	21.67	41.62*
					WG	21.87	42	0.52	
	Adjusted Post test	8.42	7.84	6.13	**BG**	45.52	2	21.26	75.90*
					WG	11.48	41	0.28	

Table 2: Analysis of Covariance of Pre Test and Post Mean Among Game-Specific

Training and Yoga Training and Control Group on Psychological and Skill Performance Variables

*Significant at 0.05 level of confidence

Table I shows that the adjusted post test means of aggression, self- confidence, dribbling and hitting of game-specific skills training and yogic practice and control groups were 20.88, 18.24,23.33; 26.97, 33.28,21.96; 8.19,7.70,5.51; and 8.42, 7.84, 6.13 respectively. The obtained F-ratio value is 104.68, 29.03, 171.37 and 75.90 which is higher than the table value 3.22 with df 2 and 41 required for significance at .05 level. Since, the value of F- ratio is higher than the table value it indicates that there is significant difference between the adjusted post-test means of game-specific skills training and yogic practice and control groups on aggression, self-confidence, dribbling and hitting.

Since, three groups are compared and whenever the obtained 'F' ratio for adjusted post test is found to be significant, Scheffe's test is used to find out the paired mean difference and it is presented in Table-3.

Table 3: Scheffe's Test for the Differences between the Adjusted Post Test Paired Means on Psychological and Skill Performance Variables

Variables	Experimental Group - I	Experimental Group - II	Control Group - III	Mean Differences	Confidence Interval Value
Aggression	20.88	22.49	-	1.61*	0.543
	20.88	-	23.33	2.45*	0.543
	-	22.49	23.33	0.84*	0.543
Self-Confidence	16.39	18.24	-	1.85*	0.543
	16.39	-	22.26	5.87*	0.543
	-	18.24	22.26	4.02*	0.543
Dribbling	8.19	7.70	-	0.49	0.543
	8.19	-	5.51	2.68*	0.543
		7.70	5.51	2.19*	0.543
Hitting	8.42	7.84	-	0.58*	0.543
	8.42	-	6.13	2.29*	0.543
	-	7.84	6.13	1.71*	0.543

*Significant at 0.05 level of confidence

From the above table the mean difference values between game-specific training and yogic practice (0.49) reveals that there was an insignificant difference in the variable dribbling as the mean difference value was lesser than the confidence interval value (0.543). Where are all of the variables, the mean difference between the groups that practiced yoga and game-specific training, as well as between the groups that practiced yoga and the control group, was more than

the confidence interval value (0.543), indicating a significant difference. The findings show that yoga practitioners group scored higher on aggression and self-confidence than the game-specific training group. The game-specific training group scored higher on skill performance dribbling and hitting better than the yoga practitioners group.

Adjusted post test mean values of game-specific skills training and yogic practice and control groups on aggression, self- confidence, dribbling and hitting were graphically represented in Figure 1- 4.

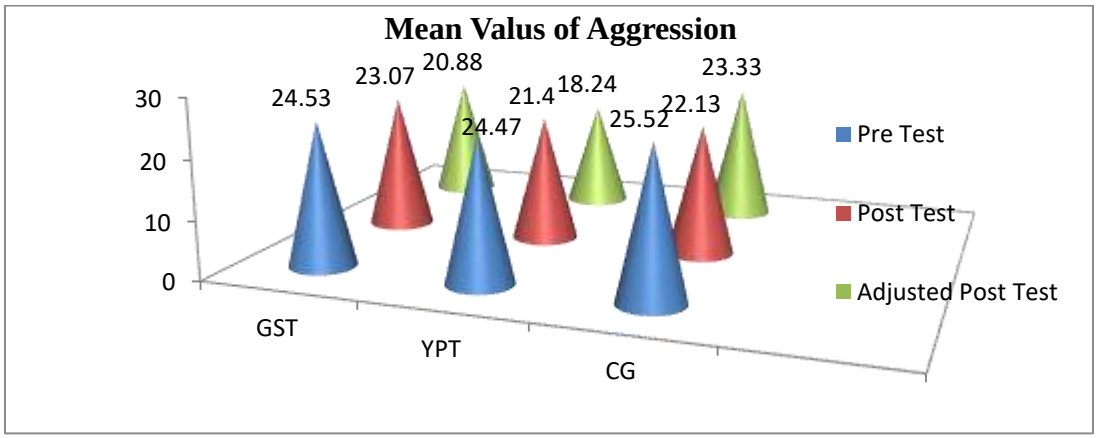

Figure 1: Pre, Post and Adjusted Post Test Means of Game-Specific Training, Yogic Practices and Control Group on Aggression of Hockey Players

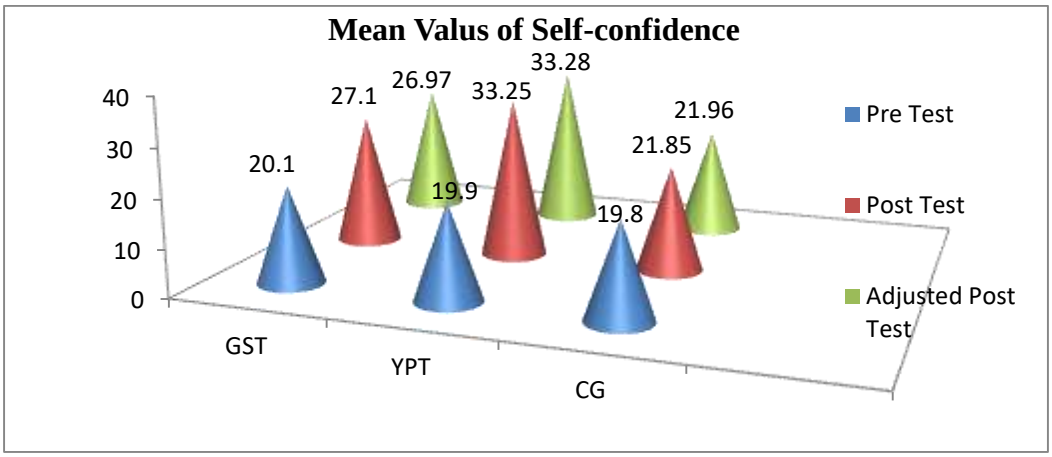

Figure 2: Pre, Post and Adjusted Post Test Means of Game-Specific Training, Yogic Practices and Control Group on Self Confidence of Hockey Players

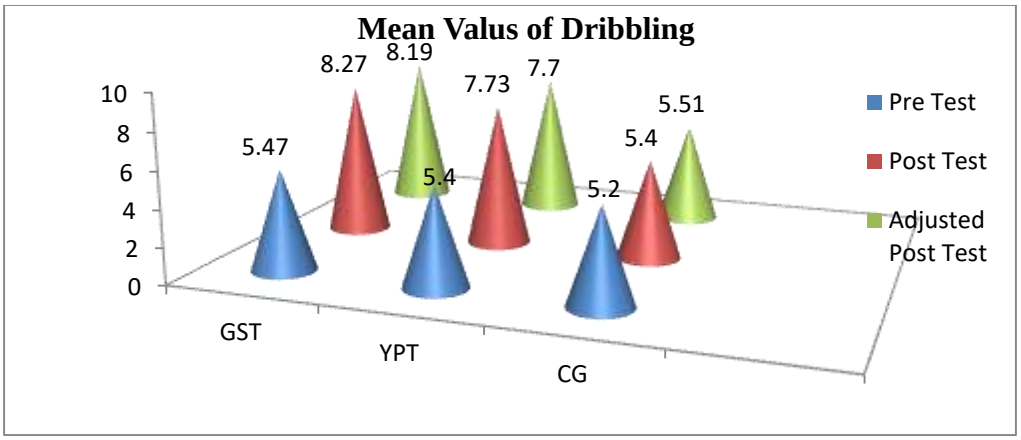

Figure 3: Pre, Post and Adjusted Post Test Means of Game-Specific Training, Yogic Practices and Control Group on Dribbling of Hockey Players

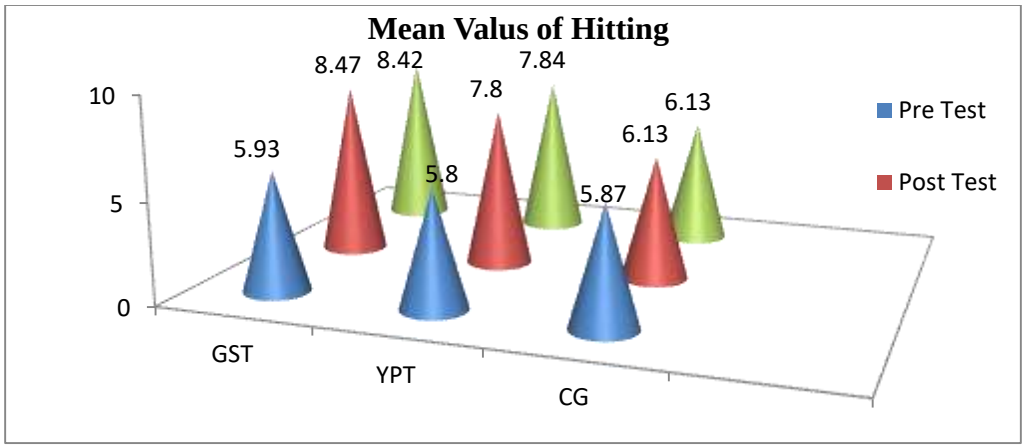

Figure 4: Pre, Post and Adjusted Post Test Means of Game-Specific Training, Yogic Practices and Control Group on Hitting of Hockey Players

5. Discussions on Findings

The result of the study indicate that the game-specific training and yogic practice showed significant improvement on performance level in all the selected psychological and skill performance variables when compared with control group. Hence, twelve weeks game-specific training showed considerable improvement in dribbling and hitting among hockey players in experimental groups. At the same time when the yogic practice group showed significant improvement in aggression and self- confidence than the other variables. The results of the studies are in line with the studies of Kalpana, G., (2021), Mala, R. & Pushpa, P.M., (2022) and Durai C, Anantharaj G., (2017).

6. Conclusions

From the analysis of the data, the following conclusions were drawn,

1. The game-specific training group had shown significant improvement in selected skill performance variables such as dribbling and hitting among hockey players.
2. The yogic practice group had shown a significant improvement in selected psychological variables such as aggression, self- confidence among the hockey players.
3. The control group had not shown significant changes in any of the selected variables.

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