



ISSN: 2456-0057

IJPNPE 2018; 3(2): 2308-2311

© 2018 IJPNPE

www.journalofsports.com

Received: 07-05-2018

Accepted: 15-06-2018

Rajinder KaurAssistant Professor, Sri Guru
Granth Sahib World University
Fatehgarh Sahib, Punjab, India

An analysis of coordinative ability of school level hockey players

Rajinder Kaur

Abstract

An attempt was taken to assess the “effect of different time of day of coordinative ability of School level hockey Players”. To obtain the Purpose of the study; coordinative ability was selected as Orientation ability and Balance Ability; data was collected on 50 female hockey players age ranged from 13 to 17 years, from the Department of Physical Education and Sports Technology, Sri Guru Granth Sahib World University, Fatehgarh Sahib. To assess the orientation ability of recruited subjects, Penny test and to check balance long nose test was used. The subjects were tested at different time of day i.e. one time in morning between 6.00 AM to 7.00 AM and one time in evening between 5.00 PM to 6.00 PM. To compare the coordinative abilities mean, standard deviation and paired t-test were employed with the help of statistical package of SPSS. To test the hypothesis the significance level was set at 0.05 percent. The result showed that there was a significant difference exists between mean of orientation ability and Balance ability of hockey players at different time of day (Morning and Evening).

Keywords: Time of day, balance ability orientation ability

Introduction

The game hockey may take place at various times throughout the day whilst training may be held in the morning or afternoon. Despite its popularity as a sport, few scientific studies have focused on the circadian variation in hockey player's performance. For instance, some investigators, who are interested in hockey performance, reported that aerobic (Chtourou *et al.* 2012) ^[2] anaerobic performances (Chtourou *et al.* 2012, Hamouda *et al.* 2012) ^[2, 8] and repeated sprint ability (Chtourou *et al.* 2012) ^[2] fluctuate with time of day. Indeed peak and mean power during maximal cycling test (Chtourou *et al.* 2012, Hamouda *et al.* 2012, Aloui *et al.* 2012) ^[2, 8, 14] maximal voluntary contraction (Aloui *et al.* 2012) ^[14] Flexibility (Reilly *et al.* 2007) ^[13] hand-grip strength (Reilly *et al.* 2007) ^[13] total work during the repeated sprint ability test (Chtourou *et al.* 2012) ^[2] total distance and maximal aerobic velocity during the Yo-Yo test (Chtourou *et al.* 2012) ^[2] were significantly higher in the evening than in the morning. Most of studies showed that peak hockey performances have been found to occur in the early evening corresponding to the peak of the body temperature. Orientation. Fall is upon us and most hockey players are working on their preseason strength and conditioning programs to help them report to camp as fast, strong and powerful as possible. As hockey has grown more popular, so have strength and conditioning specific programs. The purpose of this article is to present an overview of our preseason training program for high school athletes. Hockey is an interesting sport to train due to its high energy system needs, as well as high muscular demands. Hockey is a game of speed and power and should be trained according to its specific demands. When you look at the playing intervals of hockey players, you find that most athletes experience a three times rest to one part work ratio. So having said this, it's important to think about developing the ability to play hockey, not the theoretical model of conditioning.

Methodology

Selection of Subjects

An attempt was taken to assess the “effect of different time of day of coordinative ability of School level hockey Players”. To obtain the Purpose of the study; coordinative ability was selected as Orientation ability and Balance Ability; data was collected on 50 female hockey players age ranged from 13 to 17 years, from the Department of Physical Education and Sports Technology, Sri Guru Granth Sahib World University, Fatehgarh Sahib.

Corresponding Author:**Rajinder Kaur**Assistant Professor, Sri Guru
Granth Sahib World University
Fatehgarh Sahib, Punjab, India

Selection of variables

Orientation ability and Balance ability was selected as variables in the present study.

Criterion Measure

To assess the orientation ability of recruited subjects, Penny test and to check balance long nose test was used.

Administration of the tests

The subjects were tested at different time of day i.e. one time in morning between 6.00 AM to 7.00 AM and one time in evening between 5.00 PM to 6.00 PM. After the collection of relevant data, it was processed and analyzed with descriptive statistics. To compare Balance and Orientation ability between morning and evening time School level hockey players mean, standard deviation and paired t-test were employed with the help of statistical package of SPSS. To test the hypothesis the significance level was set at 0.05%.

Results, Analysis and Discussion of Finding

The obtained data was analyzed by applying the t- statistics to find out the critical difference between among the hockey players at level of significance 0.05.

Table 1: Paired t-Statistics of the Balance ability at different time of day

Time of Day	Mean	SD	SEM	N	t ratio
Morning	9.54	1.44	2.25	25	0.48
Evening	11.34	0.54	1.33	25	

Table-1 explains that there was a significant difference exists between mean of Balance ability of hockey players at different time of day (Morning and Evening), since the calculated 't' value 0.48 which was found to be higher than tabulated 't' value 2.05. So, the means of two sessions (morning and evening) were found to be rejected at 0.05%

Table 2: Paired t- Statistics of the Orientation ability at different time of day

Group	Mean	SD	SEM	N	t ratio
Morning	10.33	3.32	1.22	25	0.12
Evening	11.36	1.42	2.48	25	

Table-II reveals that there was significant difference exists between mean of Orientation ability of hockey players at different time of day (Morning and Evening), since the calculated 't' value 0.12 which was found to be higher than tabulated 't' value 2.05. So, the means of two sessions (morning and evening) were found to be rejected at 0.05%

Discussion of finding

The present investigation was entitled as "effect of different time of day of coordinative ability of school level hockey Players". Two components of coordinative ability Balance ability and Orientation Ability was selected. The obtained data was analyzed by applying the Paired t- statistics to find out the critical difference between among the hockey players at level of significance 0.05. Results reveals that a significant difference was found between mean of Balance ability and Orientation ability of hockey players at different time of day (Morning and Evening). This difference may occur due to the reason that similar nature of training was adopted by the Hockey players at the both time of the day, it may also be occur because the temperature also varies at morning and evening sessions. The dietary habits of the hockey players

may also effects the results of the study.

Hockey is one type of small ball game. Hockey is a game that is played between two teams each team using a crooked stick or stick to move the ball (Kaur 2018; Phytanza Burhaein Sukoco & Ghautama 2018) ^[16, 15]. The goal of the Hockey game is to put the ball as much as possible into the opponent's goal and keep the goal in order not to concede the ball.

Researchers conducted observations and observations at elementary school (SD) Muhammadiyah Kregan Cangkringan. The introduction of the Hockey game was done to elementary school children but it did not continue due to damaged infrastructure and the modification of the hockey game model so elementary school children did not have any knowledge of the Hockey game. In addition limited facilities are the main cause of the introduction of Hockey material when learning upper-class physical education in elementary schools. In this regard the implementation of the game of Hockey sticks will become a very important part in the implementation of learning activities both Hockey sticks that are in accordance with the standards or modified Hockey sticks (Jerath & Long 2020; Pramantik & Burhaein 2019) ^[17, 18]. Based on the identification results not all elementary schools in Sleman have a number of Hockey sticks which are adequate for implementing Hockey game learning.

Hockey is one type of small ball game. Hockey is a game that is played between two teams each team using a crooked stick or stick to move the ball (Kaur 2018; Phytanza Burhaein Sukoco & Ghautama 2018) ^[16, 15]. The goal of the Hockey game is to put the ball as much as possible into the opponent's goal and keep the goal in order not to concede the ball.

Researchers conducted observations and observations at elementary school (SD) Muhammadiyah Kregan Cangkringan. The introduction of the Hockey game was done to elementary school children but it did not continue due to damaged infrastructure and the modification of the hockey game model so elementary school children did not have any knowledge of the Hockey game. In addition limited facilities are the main cause of the introduction of Hockey material when learning upper-class physical education in elementary schools. In this regard the implementation of the game of Hockey sticks will become a very important part in the implementation of learning activities both Hockey sticks that are in accordance with the standards or modified Hockey sticks (Jerath & Long 2020; Pramantik & Burhaein 2019) ^[17, 18]. Based on the identification results not all elementary schools in Sleman have a number of Hockey sticks which are adequate for implementing Hockey game learning.

Hockey is one type of small ball game. Hockey is a game that is played between two teams each team using a crooked stick or stick to move the ball (Kaur 2018; Phytanza Burhaein Sukoco & Ghautama 2018) ^[16, 15]. The goal of the Hockey game is to put the ball as much as possible into the opponent's goal and keep the goal in order not to concede the ball.

Researchers conducted observations and observations at elementary school (SD) Muhammadiyah Kregan Cangkringan. The introduction of the Hockey game was done to elementary school children but it did not continue due to damaged infrastructure and the modification of the hockey game model so elementary school children did not have any knowledge of the Hockey game. In addition limited facilities are the main cause of the introduction of Hockey material when learning upper-class physical education in elementary schools. In this regard the implementation of the game of Hockey sticks will become a very important part in the implementation of learning activities both Hockey sticks that

are in accordance with the standards or modified Hockey sticks (Jerath & Long 2020; Pramantik & Burhaein 2019)^[17, 18]. Based on the identification results not all elementary schools in Sleman have a number of Hockey sticks which are adequate for implementing Hockey game learning.

Hockey is one type of small ball game. Hockey is a game that is played between two teams each team using a crooked stick or stick to move the ball (Kaur 2018; Phytanza Burhaein Sukoco & Ghautama 2018)^[16, 15]. The goal of the Hockey game is to put the ball as much as possible into the opponent's goal and keep the goal in order not to concede the ball.

Researchers conducted observations and observations at elementary school (SD) Muhammadiyah Kregan Cangkringan. The introduction of the Hockey game was done to elementary school children but it did not continue due to damaged infrastructure and the modification of the hockey game model so elementary school children did not have any knowledge of the Hockey game. In addition limited facilities are the main cause of the introduction of Hockey material when learning upper-class physical education in elementary schools. In this regard the implementation of the game of Hockey sticks will become a very important part in the implementation of learning activities both Hockey sticks that are in accordance with the standards or modified Hockey sticks (Jerath & Long 2020; Pramantik & Burhaein 2019)^[17, 18]. Based on the identification results not all elementary schools in Sleman have a number of Hockey sticks which are adequate for implementing Hockey game learning Hockey is one type of small ball game. Hockey is a game that is played between two teams each team using a crooked stick or stick to move the ball (Kaur 2018; Phytanza Burhaein Sukoco & Ghautama 2018)^[16, 15]. The goal of the Hockey game is to put the ball as much as possible into the opponent's goal and keep the goal in order not to concede the ball.

Researchers conducted observations and observations at elementary school (SD) Muhammadiyah Kregan Cangkringan. The introduction of the Hockey game was done to elementary school children but it did not continue due to damaged infrastructure and the modification of the hockey game model so elementary school children did not have any knowledge of the Hockey game. In addition limited facilities are the main cause of the introduction of Hockey material when learning upper-class physical education in elementary schools. In this regard the implementation of the game of Hockey sticks will become a very important part in the implementation of learning activities both Hockey sticks that are in accordance with the standards or modified Hockey sticks (Jerath & Long 2020; Pramantik & Burhaein 2019)^[17, 18]. Based on the identification results not all elementary schools in Sleman have a number of Hockey sticks which are adequate for implementing Hockey game learning Hockey is one type of small ball game. Hockey is a game that is played between two teams each team using a crooked stick or stick to move the ball (Kaur 2018; Phytanza Burhaein Sukoco & Ghautama 2018)^[16, 15]. The goal of the Hockey game is to put the ball as much as possible into the opponent's goal and keep the goal in order not to concede the ball.

Researchers conducted observations and observations at elementary school (SD) Muhammadiyah Kregan Cangkringan. The introduction of the Hockey game was done to elementary school children but it did not continue due to damaged infrastructure and the modification of the hockey game model so elementary school children did not have any knowledge of the Hockey game. In addition limited facilities are the main cause of the introduction of Hockey material

when learning upper-class physical education in elementary schools. In this regard the implementation of the game of Hockey sticks will become a very important part in the implementation of learning activities both Hockey sticks that are in accordance with the standards or modified Hockey sticks (Jerath & Long 2020; Pramantik & Burhaein 2019)^[17, 18]. Based on the identification results not all elementary schools in Sleman have a number of Hockey sticks which are adequate for implementing Hockey game learning This may be because of nature of the games. The hockey players perform the skills with the foot, these soccer skills requires players to make pinpoint passes, free kick with precision, fake out the defence and dribble the ball. Foot-eye coordination helps the players to stop a soccer ball with his foot and make adjustments to intercept the ball (Livestrong, 2015)^[7]. This leads to the enhancement of foot-eye coordination in hockeyers and this ability assist the athletes to keep their head up during ball handling which maximizes their performance. On the other hand the hockey players show their performance by handling the ball with the help of the stick. Hockey is an excellent sport for those who want to improve their hand-eye coordination (Bragg, 2014)^[8]. Hockey skills forces the players to use hand-eye coordination to pass, receive, hit and shoot etc. the ball while being guarded by someone who is trying to keep the players from doing all these required skills. Measuring the distance, force and flight that needs to be put on a ball for goal shooting through a horizontal hoop is a skill made more difficult by the constraints of opposing defenders and a game clock, these could be the reasons that hockey players had an upper hand in hand-eye coordination. Further both sport group athletes were showing equal proprioceptive ability because proprioception as ability is required by both group athletes equally. The reason could be attributed to the fact that the nature of game, dimension of the ground, system of play of the game are similar for both group players. Another reason could be that both the group were undergoing a similar curriculum and had been adequate trained, so no difference were detected.

In 2013 Garbi *et al.* also conducted a study entitled "Time of day effect on hockey-specific field test in Tunisian boy player" supported the present study. The idea, methodology or administration used in this study was adopted in the present investigation which gives a strong support in relation to fulfill the purpose of present investigation.

References

1. Bernard T, Giacomoni M, Gavarry O, Seymat M, Falgairette SG. Time-of-day effects in maximal anaerobic leg exercise. *European Journal of Applied Physiology and Occupational Physiology*. 1998;77(1-2):133-138.
2. Chtourou H, Hammouda O, Chaouachi A, Chamari K, Souissi N. The effect of time-of-day and Ramadan fasting on an-aerobic performances. *International Journal of Sports Medicine*. 2012;33(02):139-147.
3. Durocher J, Leetun DT, Carter JR. Sport-specific assessment of lactate threshold and aerobic capacity throughout a collegiate hockey season. *Applied Physiology Nutrition and Metabolism*. 2008;33(6):1165-1171.
4. Duvac I, Zvonar M, Psalman V. On-site measuring and Monitoring training intensity in hockey. *Medicine and sport in sport and exercise*. 42. vyd., č 5. Baltimore: Wolter Kluwer, S; c2010. p. 490-491, 601s.
5. Duvac Zvonar I, M - Psalman V. Heart rate monitoring during testing of specific endurance abilities in ice

- hockey. Monography of the Children and Youth Fitness and Health. 1. vyd. Liverpool: World Academic Union, 2010s. 329-333, 603s.
6. Gacesa JZP, *et al.* Maximal anaerobic power test in athletes of different sport disciplines. *Journal of strength and conditioning research.* 2009;23/3:751-755.
 7. Grasgruber P, Cacek J. *Sportovnígeny.* Brno: Computer Press, 2008, 480s.
 8. Hamouda O, Chtourou H, Farjallah MA, Damien D, Souissi N. The effect of Ramadan fasting on the diurnal variations in aerobic and anaerobic performances in Tunisian youth hockey players. *Biological Orientation Research.* 2012;43:177-190.
 9. Huguet G, Touitou Y, Reinberg A. Diurnal Changes in Sport Performance of 9 - 11-Year-Old School Children. *Chronobiology International.* 1995;14:371-384.
 10. McArdle WD, Katch FI, Katch VL. *Exercise physiology: Energy, nutrition, and human performance.* Baltimore: Lippincott Williams & Wilkins; c1996. p. 850.
 11. Melhim AF. Investigation of circadian Orientations in peak power and mean power of female physical education students. *International Journal of Sports Medicine.* 1993;14(106):303-306.
 12. Montgomery DL. Physiology of Ice Hockey. In *Sports Medicine.* 1988;5(2):99-126.
 13. Reilly T, Atkinson G, Edwards B, Waterhouse J, Farrelly K, Fairhurst E. Diurnal variation in temperature, mental and physical performance, and tasks specifically related to hockey (hockey). *Chronobiology International.* 2007;22(3):507-519.
 14. Aloui C, Nguyen DK, Njeh H. Assessing the impacts of oil price fluctuations on stock returns in emerging markets. *Economic Modelling.* 2012 Nov 1;29(6):2686-95.
 15. Phytanza DT, Burhaein E, Ghautama WS. Life skill dimension based on Unified Sports soccer program in physical education of intellectual disability. *Yaşam Becerileri Psikoloji Dergisi.* 2018;2(4):199-205.
 16. Kaur N. Green synthesis of three-to five-membered O-heterocycles using ionic liquids. *Synthetic Communications.* 2018 Jul 3;48(13):1588-613.
 17. Jerath K, Long F. Multiperiod contracting and salesperson effort profiles: The optimality of hockey stick, giving up, and resting on laurels. *Journal of Marketing Research.* 2020 Apr;57(2):211-35.
 18. Pramantik IA, Burhaein E. A floor time approach to improve learning outcomes of the body roll to the side in adaptive physical education learning: Classroom action research study on two cerebral palsy students. *International Journal of Disabilities Sports and Health Sciences.* 2019;2(2):45-53.