

1st International Conference on Sports and Exercise Science 2009

Bangkok, Thailand

01 – 03 Disember 2009

**En. Nurul Azuar Hamzah
Pusat Pengajian Sains Kesihatan**

Overall Programs
1st International Conference on Sports and Exercise Science 2009
“Sport and Healthy Lifestyle during Global Crisis”
December 1-3, 2009
at The Twin Towers Hotel, Bangkok Thailand
Hosted by Faculty of Sports Science, Kasetsart University

Date		
November 30, 2009		
14.00 – 18.00	Registration	Front Desk
	Fixing for the Poster Presentation	4 th FL.
December 1, 2009		
08.00 – 09.00	Registration	Front Desk
09.00 – 09.45	Opening Ceremony - Welcome Speech Assoc.Prof.Vudtechai Kapilakanchana; President, Kasetsart University - Opening Ceremony and Special Lecture : “Sport and Healthy Lifestyle during Global Crisis” Dr.Sasithara Pichaicharnarong; Permanent Secretary, Ministry of Tourism and Sport. MC: Dr.Nattaya Keowmookdar Chairman: Dr.Supitir Samahito Secretary: Dr.Ratree Ruangthai	Kasatsuk Ballroom
09.45 – 10.15	Coffee Break	
10.15 – 11.30	Keynote Speaker : Success in Golf: How Biomechanics and Motor Learning May Improve Golf Practice and Performance? Dr.Justin Keogh; Auckland University of Technology, New Zealand. MC: Dr.Nattaya Keowmookdar Chairman: Dr.Arth Nana Secretary: Dr.Ratree Ruangthai	Kasatsuk Ballroom
11.30 – 12.30	Invited Speaker : Specific Demands Based Training Periodized Program for Young Golf Player Dr.Jasson Chiang; Chinese Cultural University, Taiwan. MC: Dr.Nattaya Keowmookdar Chairman: Dr.Arth Nana Secretary: Dr.Ratree Ruangthai	
12.30 – 13.30	Lunch	
13.30 – 14.30	Invited Speaker: Bidding Strategies and Winning Factors for 2016 Olympic Games Dr.Munehiko Harada; Waseda University, Japan MC: Dr.Nattaya Keowmookdar Chairman: Dr.Supitir Samahito Secretary: Dr.Ratree Ruangthai	Kasatsuk Ballroom
14.30 – 15.00	Coffee Break / Opening Ceremony for Poster Presentation Dr.Siriporn Sasimontonkul; Dean, Faculty of Sports Science, Kasetsart University MC: Dr.Nattaya Keowmookdar Reporter: Dr.Jakapong Khaothin	4 th FL.

15.00 – 17.00	Oral Presentation I Sub-theme: Biomechanics and Sport Medicine Chairman: Dr.Panwira Kwanburanachan Secretary: Ms.Sompiya Somthavil Sub-theme: Physiology of Exercise and Nutrition Chairman: Dr.Apasara Arkarapanthu Secretary: Mr.Paitoon Wong-anukan Sub-theme: Sports Management and Tourism Chairman: Mr.Kongsak Yodmanee Secretary: Ms.Walaikorn Sangchoti	Kasatsuk I Kasatsuk II Kasatsuk III
17.00 – 18.00	Poster Presentation	4 th FL.
18.00 – 21.00	Welcome Dinner Hosted by Ministry of Tourism and Sports.	Kasatsuk Ballroom
December 2, 2009		
08.00 – 09.00	Registration	Front Desk
09.00 – 10.15	Keynote Speaker: The Global Recession and It's Effect on the Sport Industry Dr.Timothy De Schriver; University of Delaware, USA. MC: Dr.Nattaya Keowmookdar Chairman: Dr.Pongsak Swatdikiat Secretary: Dr.Supatcharin Pan-u-thai	Kasatsuk Ballroom
10.15 – 10.45	Coffee Break	
10.45 – 12.00	Oral Presentation II Sub-theme: Sports and Exercise Psychology and Coaching Chairman: Dr.Wimonmas Prachakul Secretary: Dr.Supatcharin Pan-u-thai Sub-theme: Sports and Exercise Psychology and Coaching Chairman: Dr.Jakapong Khaothin Secretary: Mr.Thanakorn Kaimusik	Kasatsuk I Kasatsuk II
10.45 – 11.40	Workshop I: Respiratory Gas Analysis during Exercise Mr. Enock Wang; Clinical Support Manager Respiratory Diagnostics Asia, Care Fusion Chairman: Mr.Niwat Limsuknirun Secretary: Mr.Sumeth Suwanphrom	Kasatsuk III
11.40 – 12.30	Workshop II: Biomechanical Approach to Movement Analysis in Sport Mr. Federico Donatelli, BTS Bioengineering Co. Chairman: Ms.Sompiya Somthavil Secretary: Ms.Walaikorn Sangchoti	
12.30 – 13.30	Lunch	
13.30 – 15.00	Symposium A Symposium A₁ : “A Bridge for Higher Achievement in Golf” Topic: Body Conditioning and Training for Golfer Dr.Justin Keogh; New Zealand Topic: Aerodynamic of Golf Ball Dr.Chanin Tongchitpakdee; Thailand Dr.Pongwit Siripoe; Thailand Topic: From Theory to Practice Perspective from Professional Golfer Mr. Tony Meechai; Thailand Chairman: Dr.Siriporn Sasimontonkul Secretary: Mr.Champan Chinnasee Symposium A₂ : “Tourism Management in Asia During Global Crisis” Topic: Recreation Tourism Management in the ASEAN Community During Global Crisis Dr. Sombat Karnjanakit; Thailand Topic: Future Trends in the Asian Tourism During Global Crisis”	Kasatsuk I Kasatsuk II

	<p>Dr.Terdchai Chaubumrong; Thailand Topic: A Study on the Development and Management of Tourism and Sports Tourism in Shanghai in Economic Crisis</p> <p>Dr.Liu Zhimin; China, China Chairman: Mr.Somthop Thitbathan Secretary: Mr.Bunjob Pirokam</p>	
	<p>Symposium A₃: "Strategies for Fat Burning" Topic: Exercise, Diet, and Weight Control Dr. Tae Won Jun; Korea Topic: Nutrition: Strategies for Fat Burning Dr.Sunard Taechangam; Thailand Topic: Strategies for Fat Burning: Individual Approach in Clinical Settings Dr.Grit Leetongin; Thailand Chairman: Dr.Apasara Arkarapanthu Secretary: Mr.Niromlee Makaje</p>	Kasatsuk III
15.00 – 15.30	Coffee Break	
15.30 – 17.15	<p>Oral Presentation III Sub-theme: Sports and Exercise Psychology and Coaching Chairman: Mr.Anek Sootmongkol Secretary: Mr.Poosanapas Somnil Sub-theme: Biomechanics and Sport Medicine Chairman: Dr.Siriporn Sasimontonkul Secretary: Ms.Sompiya Somthavil Sub-theme: Leisure Study, Healthy and Well-being Chairman: Dr.Tanate Yukuntawanitchai Secretary: Ms.Somkid Pinthong</p>	Kasatsuk I Kasatsuk II Kasatsuk III
December 3, 2009		
8.00 – 9.00	Registration	Front Desk
9.00 – 10.15	<p>Keynote Speaker: The Role of Physical Activity and Exercise to Promote Quality of Life Dr.Tae Won Jun, Seoul National University, Korea. MC: Dr.Nattaya Keowmookdar Chairman: Dr.Vijit Kanungsukasem Secretary: Dr.Jakapong Khaothin</p>	Kasatsuk Ballroom
10.15 – 10.45	Coffee Break	
10.45 – 11.45	<p>Invited Speaker: Drug Abuse for Weight Loss Dr.Juthamane Suthisang; Mahidol University, Thailand MC: Dr.Nattaya Keowmookdar Chairman: Dr.Vijit Kanungsukasem Secretary: Dr.Jakapong Khaothin</p>	
11.45 – 12.30	<p>Oral Presentation IV Sub-theme: Leisure Study, Healthy and Well-being Chairman: Mr.Choi Young Seok Secretary: Ms.Nanthawan Thienkaew Workshop III: Motion Analysis: Qualisis Mr. Dannaic Goh Seng; Qualisis Asia Chairman: Ms.Sompiya Somthavil Secretary: Mr.Chamnan Chinnasee Workshop IV: TRX and Sports Performance Ms. Suzanne Hosley, Managing Director, Fitness Innovations Thailand Chairman: Dr.Wimonmas Prachakul Secretary: Mr.Poosanapas Somnil</p>	Kasatsuk I Kasatsuk II Kasatsuk III
12.30 – 13.30	Lunch	
13.30 – 15.00	<p>Symposium B Symposium B₁: "Coaching and Mental Games in Golf" Topic: Golf and Sport Psychology Dr. Pichit Meungnapoe; Thailand</p>	Kasatsuk I

	<p>Topic: Scientific golf Coaching Dr.Veerayut Chaowpreecha; Thailand Topic: The Role of Golf in Thailand Mr.Chaowarat Kemarat; Thailand Chairman: Dr.Wipoj Chansem Secretary: Dr.Supacharin Pan-uthai</p>	
	<p>Symposium B₂: "Sport Management Transition from Amateur to Profession" Topic: Lesson Learned from the Development of Major League Soccer in North America Dr.Timothy De Schriver; USA Topic: Sport Management Transition from Amateur to Profession: Case Study from Lawn Tennis Mrs.Nareumol Sirivat; Thailand Topic: A Talent Management Model for Sports Authority of Thailand Mrs.Nathanicha Na Nakorn, Thailand Chairman: Mr.Chai Nimakorn Secretary: Ms.Amphorn Sriyaphai</p>	Kasatsuk II
	<p>Symposium B₃: "Stand up, Sit down, Keep Moving : How much Activities for a Merry and Bright in All Age" Topic: Evaluating Eldercare Training Programs for Longevity Dr.Ed Rosenberg; USA Topic: The Linkage of Physical Education and Sports Science to Promote Active Healthy Living in School and Community Dr.Rho Seong Kyu; Korea Topic: Clinical Implication of Youth Participant in Sports Dr.Mario Imson; Philippines Chairman: Dr.Ratree Ruangthai Secretary: Mr.Apiluk Theanthon</p>	Kasatsuk III
15.00 – 16.00	<p>Certificate Distribution & Closing Ceremony Dr.Chawalit Hongprayoon; Vice President, Kasetsart University</p>	Kasatsuk Ballroom
16.00 – 17.00	Coffee Break & End of the Programs	

12. Lane, A. & Terry, P. (2006). Power point presentation topic "Mood states as predictors of athletic performance: test of a conceptual model." Department of sport sciences Brunel University. (Online). Available: <http://winninglane.com/files/BPS.PPT>
13. Leelapornpisit, P. (2002). Aromatherapy (1 ed.). Chiang Mai: Faculty of pharmacy Chiang Mai Univ. (พิมพ์ ศิลปพรพิสิฐ. (2545). สุนทรบำบัด. เชียงใหม่: คณะเภสัชศาสตร์ มหาวิทยาลัยเชียงใหม่)
14. Lehmer, J., Marwinski, G., Lehr, S., Jöhren, P., & Deecke, L. (2005). Ambient odors of orange and lavender reduce anxiety and improve mood in a dental office. *Physiology & Behavior*, 92-95.
15. Muongmee, P. (1984). Physiological base of exercise and physical education. Bangkok: Buraphasana Publisher. (ประทุม ม่วงมี. (2527). รากฐานทางสรีรวิทยาของการออกกำลังกายและการพลศึกษา. กรุงเทพฯ: สำนักพิมพ์บูรพาสาสน์.)
16. Page, T. & Azpuru, C. (1992). Method for enhancing performance so as to improve vigor and decrease fatigue, confusion, tension, and anxiety. (Online) Available: <http://www.freepatentsonline.com/5096712.html>
17. Porter, K. (2003). *The Mental Athlete*. Champaign: Human Kinetics. Raudenbush, B., Corley, N., & Eppich, W. (2001). Enhancing athletic performance through the administration of peppermint odor. *Journal of sport and exercise psychology*, 23, 156-160.
18. Reungrangsee, N. & Wongyai, S. (2007). Aromatherapy text book (1st ed.). Nonthaburi: Thai veteran organization publisher. (รศ.ดร. นิธิศิริ เรืองรังสี และ รศ.ดร. สุพจน์ วงศ์ใหญ่. (2550). ตำราวิชาการ สุนทรบำบัด. นนทบุรี: กิจการโรงพิมพ์องค์การสงเคราะห์ทหารผ่านศึก)
19. Rushall, B. (2008). Some psychological factors for promoting exceptional athletic Shiina, Y., Funabashi, N., Lee, K., Toyoda, T., Sekine, T., Honjo, S., et al. (2007). Relaxation effects of lavender aromatherapy improve coronary flow velocity reserve in healthy men evaluated by transthoracic Doppler echocardiography. *International Journal of Cardiology*, 10, 1-5.
20. Shephard, R. & Astrand, P. (2000). *Endurance in sport* (2nd ed.). Oxford: Blackwell science Ltd. abortion. *American society of internal medicine*, 4, 166-169.
21. Wildwood, C. (1999). *Create your own aromatherapy perfumes* (1st ed.). Avon: Bookcraft. Wilmore, J. & Costill, D. (1999). *Physiology of sport and exercise* (2nd ed.). Champaign: Human Kinetics.
22. Yameesri, W. (2004). Effect of aromatherapy on relaxation among patients in surgical critical care unit. Master's thesis, Faculty of Graduate Studies, Chiang Mai University. (วารกรณ์ เข้มมีศรี. (2547). ผลของสุนทรบำบัดต่อการผ่อนคลายของผู้ป่วยในหอผู้ป่วยวิกฤตศัลยกรรม. วิทยานิพนธ์ปริญญาการศึกษามหาบัณฑิต สาขาการพยาบาลผู้ใหญ่. เชียงใหม่: บัณฑิตวิทยาลัยมหาวิทยาลัยเชียงใหม่.)

EFFECTS OF SOUND AIDED IMAGERY TRAINING ON PERFORMANCE SCORE, HEART RATE AND PERCEIVED STATE ANXIETY IN KELANTAN STATE BOWLING ATHLETES

Nurul Azuar Hamzah and Nurul Ain Md. Zainol
Pusat Pengajian Sains Kesihatan, Universiti Sains Malaysia, Malaysia

ABSTRACT

The purpose of this research is to determine the effectiveness of 4-weeks sound-aided imagery intervention among state bowling athletes. The parameters observed were performance score, pre-performance heart rate and perceived state anxiety by using CSAI-2. It was well documented that imagery can significantly enhance the psychological state as well as skill performance (see Holmes & Smith, 2004 and Silbernagei *et. al*, 2007). Through imagery, an athlete can construct pictures and scenes by recreating experiences or create experiences without receiving external stimuli or producing overt behavior. There are different ways in performing imagery where the most popular is using written script (Perry & Morris, 1995). However, written scripts are unlikely to create clear imagery whereas the use of audio was suggested can involve greater multisensory during imagery (Hales, 1994 and Holmes and Collins, 2001). The subjects of this study comprised twelve state bowling athletes (mean age=14.5±1.45). They were randomly divided into three groups: sound-aided group (VSI), verbal imagery group (VI) and control group (C). Intervention was supervised in experimental group three times per week before training session for four weeks. A competition was conducted during the post test and all parameters were collected 40 minutes before the game. Result from one-way ANOVA revealed that there was non-significant difference in all variables measured when comparing between the groups except for performance score. We concluded that this four weeks sound aided verbal imagery training did not bring a significant impact on the pre-competitive heart rate and perceived state anxiety although some values were observed to be slightly higher compared to control group. The present study formulated the use of audio and verbal approach in order to improve the efficacy of imagery given. Pre-competitive state anxiety was assessed since it is a common symptom in sport situation. It was reported that imagery may modify perception of anxiety and thus aid performance (Page *et. al*, 1999). Theoretically, athletes should display low level of cognitive state anxiety and moderate level of somatic state anxiety for a good performance. Imagery also serves as predictors for cognitive and somatic anxiety through its motivational arousal construct. Imagery is an effective way to regulate the symptom of anxiety such as increased heart rate and we think that determining the effectiveness of the modality on this aspect is needed. On practical perspective, it is hope that this study will give the implication in implementing imagery intervention to improve the sport performance.

METHODOLOGY

Research design

This is a post test only study, which was designed to examine the effects of 4 weeks imagery intervention among Kelantan bowling athletes.

Participants

The sample comprised 12 (9 males, 3 females) of Kelantan state bowling athletes (mean age=14.5, SD=1.45). All participants had provided the informed written consent. All of them had at least two years playing experience at the national level. They have three times per week training under coach supervision.

Research Instrument

Sounds were recorded by using audio recorder by including the following situations; ball moving on the lane, ball hitting the pins and pin drops. The recording was inserted together with imagery script read by researcher.

To access the pre-competitive state anxiety, Competitive State Anxiety Inventory-2 (CSAI-2) developed by Martens and his colleague (1990) was used. It consists of 27 items, where 9 items assigned to three subscales (cognitive state anxiety, somatic state anxiety and self confidence) with alpha value ranged from 0.79 to 0.90 in consistency (Martens et. al, 1990). Each item is attached with the 4-point Likert scale, ranging from 1(not at all) to 4(very much so).

Pre-performance heart rate was accessed from radial pulse count. Subjects were instructed to take pulse rate for 15 seconds. The rate was multiplied by 4 in order to get a 1 minute heart rate.

Procedure

All the athletes were randomly assigned to one of three groups: a verbal imagery with sound-aided group (VSI); a verbal imagery group (VI) and a Control group. All participants in the experimental group (VSI and VI) performed their imagery three times per week for four weeks. The groups were consisting as following:

1. **Sound-aided verbal imagery group (VSI):** Athletes performed imagery as instructed verbally by researcher through CD player. The stimulus images including the sight of bowling alley, the ball and the pin, the sound of people around them and the throwing skills they are performing. The sound of ball in action was added, so the athletes could hear the sound of ball moving along the lane, ball cutting the pins and pins drop.
2. **Verbal imagery group (VI):** Athletes performed imagery as instructed verbally by researcher through the CD player. The stimulus images including the sight of bowling alley, the ball and the pin, the sound of people around them and the throwing skills they are performing. No sound of ball in action was inserted.
3. **Control group:** No imagery intervention was introduced to the athletes in this group.

The athletes were instructed not to perform any additional bowling throw training or practice for the duration of the study. None of them was allowed to take part in any bowling competition throughout the study.

A post-test was conducted during a bowling competition. CSAI-2 was carried out forty minutes before competition in a quiet, airy room. Self-monitored pre-performance heart rate was recorded 5 minutes before competition.

Data analysis

Descriptive statistic was used to report the result on cognitive state anxiety, somatic state anxiety, pre-performance heart rate and performance score. Statistical evaluations involved the use of one-way ANOVA to compare the parameters between the groups. Significant level was set at $p < 0.05$.

RESULTS

Perceived state anxiety

According to the Competitive State Anxiety Inventory (Martens et. al, 1990), the 27 items were categorized into three factors; cognitive state anxiety, somatic state anxiety and self confidence. However, in this study factor for self confidence was taken out since it was not the main interest of this study. The score for cognitive state anxiety was the lowest in VSI group ($M=16.3$, $SD=1.5$). Similarly, score for somatic anxiety was also the lowest in VSI group ($M=13.8$, $SD=2.5$). The results indicated that VSI group perceived the lowest cognitive and somatic state anxiety when compared to other groups (Figure 1).

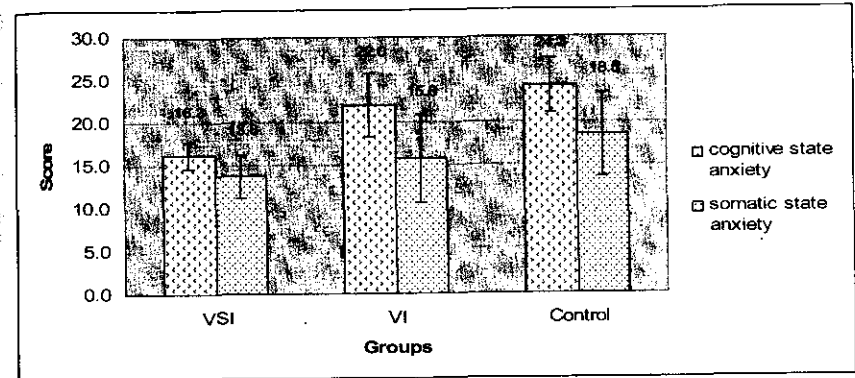


Figure 1. Cognitive and somatic state anxiety

Pre-performance heart rate

The result for pre-performance heart rate showed the lowest score in VSI group ($M=92.0$, $SD=3.3$). This result indicated that athletes in VSI group displayed lower heart rate before competition when compared to other groups (Figure 2).

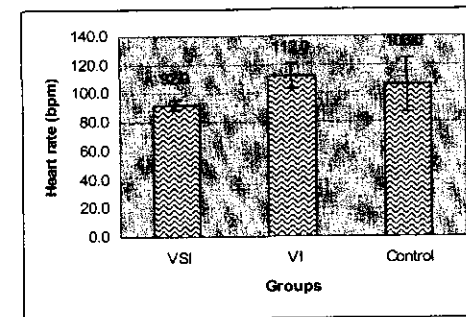


Figure 2. Pre-performance heart rate

Performance score

Performance score was taken by collecting the total scores of six games. The result showed that performance score was highest in VI group ($M=988.25$, $SD=164.7$). This result indicated that athletes in VI group were able to perform better compared to other groups. (Figure 3)

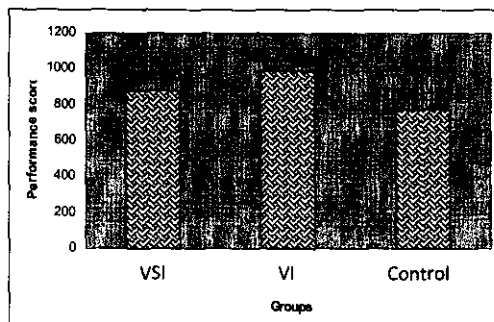


Figure 3. Performance score

Statistical analysis using one-way ANOVA was performed to compare all the variables in three groups. Result revealed that there were non-significant relationship between groups for the cognitive state anxiety, somatic state anxiety and heart rate. However, the VI group scored significantly higher on performance score ($p < 0.05$).

		Sum of Squares	df	Mean Square	F	Sig.
Cognitive anxiety	Between Groups	136.167	2	68.083	7.708	.101
	Within Groups	79.500	9	8.833	1.215	.341
Somatic anxiety	Between Groups	45.500	2	22.750		
	Within Groups	168.500	9	18.722		
Heart rate	Between Groups	842.667	2	421.333	2.855	.110
	Within Groups	1328.000	9	147.556	15.280*	.001
Performance score	Between Groups	94660.667	2	47330.333		
	Within Groups	27878.250	9	3097.583		

*. The mean different is significant at the .05 level

DISCUSSION

The role of imagery on enhancement of performance of motor skills (Driskal, Copper & Moran, 1994; Feltz & Landers, 1983) and memory tasks are well-documented (Paivio, 1971; Wollen, Weber, & Lowry, 1972). Nideffer (1985) recommended that the use of various mental practice aspects need to be adjusted, depending upon the circumstances for which the mental practice is to serve. Given these potential benefits, these study is ought to examine the effects of sound-aided imagery training on bowling performance, pre-performance heart rate and also the effects on perceived cognitive and somatic state anxiety. Specifically, the findings indicated that this imagery intervention did not bring a significant effect on bowling performance, pre-performance heart rate and also perceived pre-performance cognitive and somatic state anxiety of the participants compared to other groups. It was difficult to reconcile these finding given the growing number of evidence that suggested the effectiveness of imagery interventions on sports performance. However, it is speculated that it may be due to the frequency of the imagery intervention sessions that need to be conducted more often in a week and in longer duration rather than two months.

The lowest score for cognitive and somatic state anxiety was displayed by VSI group. This finding showed that imagery had assisted the athletes to regulate their anxiety before competition. Adding the sound stimulus had provided positive effect in reducing level of anxiety and it could be because of sound stimulus during imagery training had served an anxiety coping strategy when athletes experiencing the real situation. Consistent with the finding in state anxiety, the athletes in VSI group revealed the lowest heart rate compared to VI and Control group. We concluded that imagery intervention with sound stimulus had given a better effect in reducing the pre-performance heart rate. This finding reflects the motivational role of imagery-driven physiological arousal for performance. Meanwhile, the result for performance score was the highest in VI group compared to VSI and Control group. The findings did not support Smith and Holmes (2004) who noted that the verbal imagery with additional stimulus cues would produce significantly greater improvement in performance than the verbal imagery intervention alone. We proposed that, in order to improve the performance, imagery should be supervised by providing the athletes along with the goal setting strategy.

The trends of result suggest that sound aided imagery training had assisted the athletes in term of regulating their arousal and anxiety. The finding highlighted the importance of involving athletes in various modalities of imagery training in order to enhance the athletes' mental and physical skills.

REFERENCES

1. Jones, M. V., Mace, R. D., Bray, S. R., Macrae, A. W. & Stockbridge, C. (2002). The Impact of Motivational Imagery on the Emotional State and Self-Efficacy Levels of Novice Climbers. *Journal of Sport Behavior*, 25 (1): 57-74.
2. Nelson, J., Czech, R. D., Joyner, A. B., Munkasy, B. & Lachowez, T. The Effects of Video and Cognitive Imagery on Throwing Performance of Baseball Pitchers: A Single Subject Design. *The Sport Journal*-ISSN: 1453-9518.
3. Ploszay, A. J., Gentner, N. B., Skinner, C. H. & Wrisberg, C. A. (2006). The Effects of Multisensory Imagery in Conjunction with Physical Movement Rehearsal on Golf Putting Performance. *Journal of Behavior Education*.15:249-257.
4. Smith, D. & Holmes, P. (2004). The Effect of Imagery Modality on Golf Putting Performance. *J. of Sport & Exercise Psychology*, 26: 385-395.
5. Vikram, S. & Sahni, S. P. (2002). The Effect of Implementing Imagery Technique on Psychophysiological Variables of Tennis Players. *J. Sports Traumatology*. Allied Sports Sci. 4: 27-31.