



ISSN: 2456-0057
IJPNPE 2018; 3(2): 602-606
© 2018 IJPNPE
www.journalofsports.com
Received: 14-05-2018
Accepted: 15-06-2018

Gurpreet Kaur
Assistant Professor, G.H.G.
Harparkash College of Education
for Women, Sidhwan Khurd,
Punjab, India

Effect of mantra meditation and Anapanasati meditation techniques on vigilance among the boxers of Chandigarh

Gurpreet Kaur

Abstract

The purpose of this research was to study the effect of Mantra meditation and Anapanasati Meditation on the Vigilance. The method used for the study was an experimental method. The experimental design was be true experimental design in which pre-post randomized group design technique was adopted. A sample of 45 boxers was selected from the Boxing Academy, Sector-42, Chandigarh Administration, Chandigarh. The selected boxers was randomly distributed in three different groups i.e., Experimental Group (Mantra Meditation), Experimental Group (Anapanasati Meditation), and a control group. The training was given for the period of eight weeks. The results of the study shown that when comparing the post-test of the three different groups i.e., Experimental Group (Mantra Meditation), Experimental group (Anapanasati Meditation) and the control group, it is found that the two Experimental group given training for eight weeks have shown significant improvement than the control group.

Keywords: Effect, mantra, Anapanasati, meditation, vigilance and boxers

1. Introduction

Meditation practices have brought fruitful results in almost every sphere of life. Numerous researches have been conducted with this assumption that meditation helps in reducing and managing stress and anxiety. Apart from reducing stress meditation can also be used as a technique to develop attention. Archer (2017) ^[1]. Studies have shown that it can strengthen the immune system, reduce stress, increases feelings of well-being and even help preserve brain tissue (this last finding was reported in the November 28, 2005, issue of Neuroreport). In addition, says a recent study, meditation trains the mind to process information more efficiently, thereby improving practitioners' ability to pay attention to multiple stimuli while not in a meditative state.

Meditation is a mental training, which involves attention and the ability to maintain focus on a particular object. There are various meditational techniques which can be used to get benefits of it. Rani & Rao (1996) ^[2] indicated that Transcendental Meditation practitioners have greater attention regulation capacity than the people who do not practice this form of meditation. Elizabeth R. Valentine & Philip L. G. Sweet (1999) ^[3] concluded that Mindfulness meditation showed superior performance in comparison with other meditation techniques and also with those who do not practice any form of meditation. Giuseppe and Milos (2007) ^[4] examined how the regular practice of meditation may affect the normal age-related decline of cerebral gray matter volume and attentional performance observed in healthy individuals and concluded that the regular practice of meditation may have neuro protective effects and reduce the cognitive decline associated with normal aging. Suggests that mantra meditation training improves efficiency, possibly via improved sustained attention and impulse control.

Attention span in sports can be enhanced by various methods which have already been proved in various research studies. However role of attention have been studied and realised by all of us but the most important aspect which is equally important as important as attention is vigilance. Apart from having good attention span players need to have vigilance to excel in any sports. Vigilance is termed as persistent concentration; it is defined as an ability to maintain alertness for longer period of time.

Correspondence
Gurpreet Kaur
Assistant Professor, G.H.G.
Harparkash College of Education
for Women, Sidhwan Khurd,
Punjab, India

During this time, the person makes an effort to perceive the advent of a stimulus from particular target. The individual watches for a signal stimulus that may occur at any unfamiliar time. This usage of vigilance is probably closest to the common lay usage and to the English dictionary primary definitions of vigilance, e.g. 'state of being alertly watchful, especially to avoid danger' (Merriam-Webster [online], 2005). Vigilance refers here to the capacity to maintain attention over time and the ability to respond appropriately to relevant stimuli. Low levels of vigilance result in slow responses and even failures to respond to target stimuli. Open-skill sports, such as boxing, are performed in constantly changing environments. Athletes must be able to move in a variety of ways and adapt to rapidly changing situations. Boxing requires sustained attention (vigilance) because athletes must perform while in motion at near viewing distance from which most of the visual information is received. The attention adopted during the execution of a skilled motor action can have a profound effect on performance outcomes. Experimental data showed that optimal level of attention increases the perceptual sensitivity for the discrimination of target stimuli, reduces information processing time and improves decision-making processes in sport-specific targets. It has been speculated that one of the key factors affected the effectiveness of attention processes in sport is an expertise gained from participating in systematic exercise demanding high level of visual attention during fast motor responses to external stimuli. It is possible that the attentional skills adopted during the execution of an athlete's motor action in boxing training can be transferred to other behaviors outside of sport as well as cognitive impairment such as attention, concentration and memory.

Anapansati, the meditation on in-and-out breathing, is the first subject of meditation expounded by the Buddha in the Maha Satipatthana Sutta, the Great Discourse on the Foundations of Mindfulness. The Buddha laid special stress on this meditation, for it is the gateway to enlightenment and Nibbana adopted by all the Buddhas of the past as the very basis for their attainment of Buddha hood. When the Blessed One sat at the foot of the Bodhi Tree and resolved not to rise until he had reached enlightenment, he took up Anapanasati as his subject of meditation. On the basis of this, he attained the four jhanas, recollected his previous lives, fathomed the nature of samsara, aroused the succession of great insight knowledge's, and at dawn, while 100,000 world systems trembled, he attained the limitless wisdom of a Fully Enlightened Buddha.

2. Materials and Methods

The method used for this study was an experimental method. Probability sampling technique namely random sampling technique was used. A sample of 45 boxers was selected from the Boxing Academy, Sector-42, Chandigarh Administration, Chandigarh. They were thoroughly explained the significance and purpose of the study. This subject were provided written assent in conjunction with written consent from their legal guarding or parents to participants in the study. All subjects were healthy and able to participate in regular training programme. The selected boxers was randomly distributed in three different groups i.e., Experimental Group (Mantra meditation), (Anapanasati Meditation) and a control group.

Each group was of fifteen boxers. The age of the boxers ranged from 18 to 20 years.

3. Tools

The variables selected for the present study were Meditation Technique of Mantra meditation, Anapanasati Meditation and Vigilance. The vigilance of the boxing players was assessed by using Cognitive Vigilance Task (CVT) constructed by Jitender Mohan (1980). The subjects were to encircle the adjoining two numbers, who are similar to each other, for the determination of correct signal. The score of the individual was equal to the number of correct responses, minus the incorrect. This is the most common measure used in the studies on vigilance performance where the number signals is to be detected correctly.

4. Protocol

To solve the purpose three different groups were randomly formed. The subjects were given one week familiarization session on Mantra meditation and Anapanasati meditation training only to the experimental group. The protocol for the experimental group was established by a panel of three experts in the area of yoga. The training was given for the period of eight week (6 days in a week). One training session was of 45 minutes and the training use to be given after the evening training session. The qualified trainer was hired to give training to the subjects. To eliminate the placebo effect Blind fold method was used in which the trainer used to visit and spent 45 minutes with both the groups were the mantra meditation, Anapanasati meditation was practiced by the boxers of experimental group and the boxers of control group were not given any training but use to have informal sessions with the expert.

5. Statistical Techniques

The paired t-test was used to compare the mean scores of pre and post-test on Vigilance. Gokhale (1995) ^[5] finds in the experimental research pre-test and post-test were not parallel forms of the same test and the difference between the pre-test and post-test score is meaningless. The post-test score was used as the criterion variable. Therefore in the present study to compare the mean scores of post-test by keeping pretest as covariate, Analysis of Co-variance (ANCOVA) technique was used. Since there were only two groups so no post hoc test was used. To test the hypotheses of the study the level of significance was set at 0.05.

6. Results

The raw data was organized, coded and recorded in the excel sheet, MS office 2007. The preliminary analysis was done by using Mean, Standard Deviation and Standard Error of Mean to understand the nature of sample. The Kolmogorov-Smirnov Test of Normality was used to see whether the data was normally distributed or not. The data was found normally distributed therefore; the parametric tests for further analysis were used. The observed facts in the sample was put to further analysis (Inferential Statistics) so that the facts observed in the sample can be tested for significance and assumption about the population can be made. The results of the study are discussed in the following tables with their explanation.

Table 1: Descriptive analysis of Different Training Group Measured in post-testing on Vigilance

Groups	Mean	Std. Deviation	N
Mantra Meditation group	155.13	26.94	15
Anapanasati Meditation group	138.46	27.98	15
Control group	116.33	18.54	15

Table no. 1 indicates that the mean value of Mantra meditation group, Anapanasati and control group during post-test were 155.13, 138.46 and 116.33 respectively and the

standard deviation during post-test was 26.94, 27.98 and 18.54 respectively.

Table 2: Adjusted Mean and Standard Error of Different Groups during post-test on Vigilance

Groups	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Mantra Meditation group	148.40 ^a	3.89	140.53	156.26
Anapanasati Meditation group	148.67 ^a	3.99	140.61	156.73
Control group	112.85 ^a	3.83	105.10	120.60

a. Covariates appearing in the model are evaluated at the following values: Pre vigilance = 89.0000.

Table no. 2 shows that the adjusted mean scores of the male boxers of Experimental Group (Mantra meditation) during the post test on vigilance is 148.40 with the standard error 3.89, the adjusted mean scores of the male boxers of Experimental Group (Anapanasati meditation) during the post test is on vigilance 148.67 with the standard error 3.99, The

Control Group during the post test on Vigilance is 112.85 with the standard error 3.83 these values are different from that of the unadjusted values shown in table 3, this shows that the effect of covariant (pre-test) is eliminated in comparing the effectiveness of the treatment in the post testing.

Table 3: Analysis of Co-variance the Post-test data on Vigilance ability

Source	Type III Sum of Squares	Df	Mean Square	F	Sig.
Corrected Model	28346.55 ^a	3	9448.85	43.20	.000
Intercept	10813.66	1	10813.66	49.43	.000
PV	16981.04	1	16981.04	77.63	.000
GROUPS	12548.81	2	6274.40		
Error	8967.75	41		28.68	.000
Total	877541.00	45	218.72		
Corrected Total	37314.31	44			

Table no. 3 shows that the f -value 28.68 after comparing the adjusted mean of all the three groups of male boxers during the post-test, the f-value 28.68 is significant at 0.05 level with

the degree of freedom (1, 41). It may therefore be said that the three groups differ significantly.

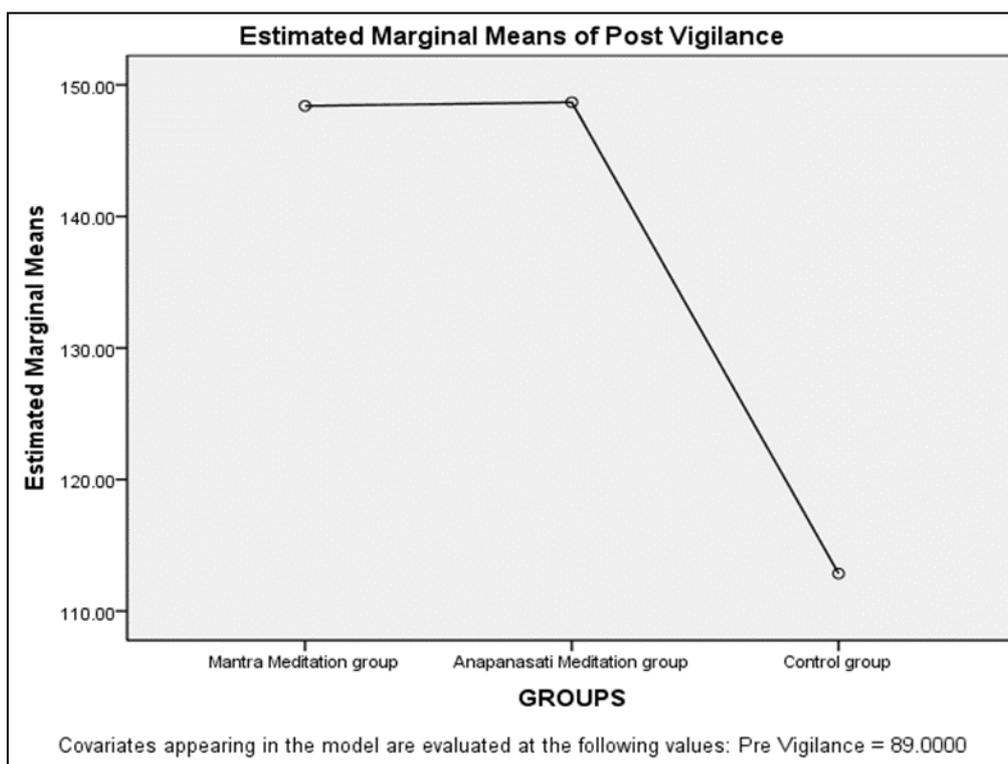


Fig 1: Showing adjusted Mean value of different group during post-test on Vigilance

Table 4: Mean differences of the different groups on Vigilance

(I) Groups	(J) Groups	Mean Difference (I-J)	Sig. ^a
Mantra Meditation group	Anapanasati Meditation group	0.277	.962
	Control group	35.546*	.000
Anapanasati Meditation group	Mantra Meditation group	0.277	.962
	Control group	35.823*	.000
Control group	Mantra Meditation group	35.546*	.000
	Anapanasati Meditation group	35.823*	.000

Table no. 4 results that there is the significant difference the mean score of male boxers given mantra meditation and the mean score of male boxers of control group during posttest on vigilance. The significant difference is also seen in the mean score of male boxer given Anapanasati Meditation and the

mean score of male boxers of control group whereas no significant difference is seen the mean score of male boxers given Mantra Meditation and mean score of the male boxers given Anapanasati Meditation.

Table 5: Pair wise, N, Mean, SD, SEM and t-value of the male boxers of Mantra Meditation group during pre-test and post-test on Vigilance

Test	Mean	N	SD	SEM	t - Value	p - Value
Pre test Scores Mantra Meditation Group	97.00	15	31.76	8.20	12.83	.000
Post test Scores Mantra Meditation Group	155.13	15	26.94	6.95		

Table no. 5 it can be seen that the t-value is 12.83 which is significant at 0.05 level with the degree of freedom 14. This shows that the mean scores of the male boxing players during pretest and the mean scores of the male boxing players during post-test on vigilance differ significantly. In this context the null hypothesis that there is no difference in the mean score of pre and posttest of the male boxers of the group given Mantra

Meditation training on Vigilance is rejected. Further, the mean score of male boxer during pretest is 97.00 and the mean score of the male boxers during posttest is 155.13. It may therefore be said that male boxers of experimental group given Mantra Group have shown significantly better Vigilance ability during post-test as compare to pre-test.

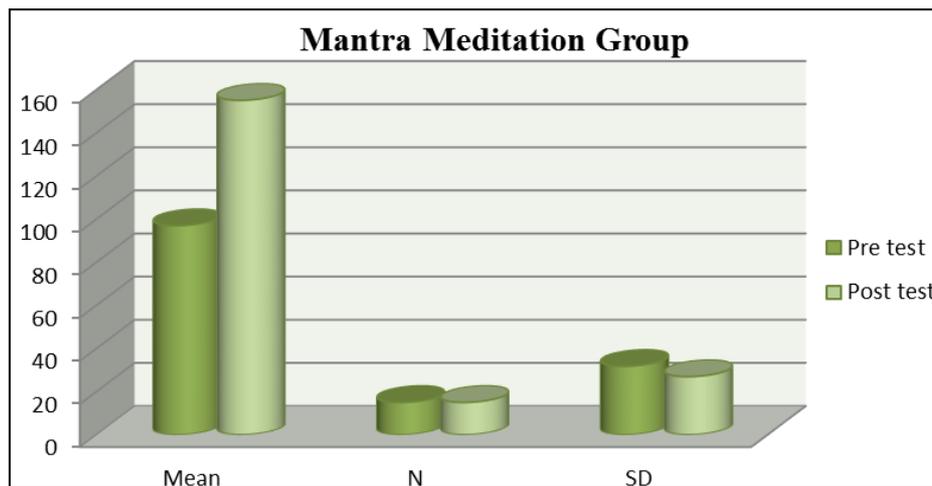


Fig 2: Showing Means, SD of the male boxers from Mantra Meditation group during pre-test and post-test on Vigilance

Table 6: Pair wise, N, Mean, SD, SEM and t value of the male boxers of control group during pre-test and post-test on Vigilance

Test	Mean	N	SD	SEM	t - Value	p - Value
Pre test Scores Control Group	93.13	15	16.41	4.23	12.90	.000
Post test Scores Control Group	116.33	15	18.54	4.78		

Table 6 it can be seen that the t-value is 12.90 which is significant at 0.05 level with the degree of freedom 14. This shows that the mean scores of the male boxing players during pretest and the mean scores of the male boxing players during posttest on vigilance differ significantly. In this context the null hypothesis that there is no difference in the mean score of pre and posttest of the male boxers of the group given control group on Vigilance is rejected. Further, the mean score of male boxer during pretest is 93.13 and the mean score of the male boxers during posttest is 116.33. It may therefore be said that male boxers of control group have shown significantly better vigilance ability during post-test is compare to pre-test.

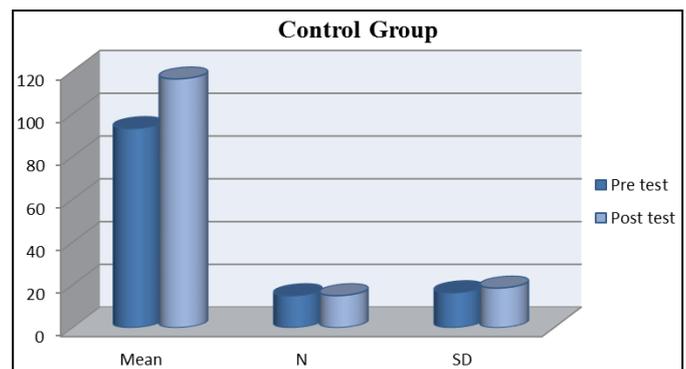
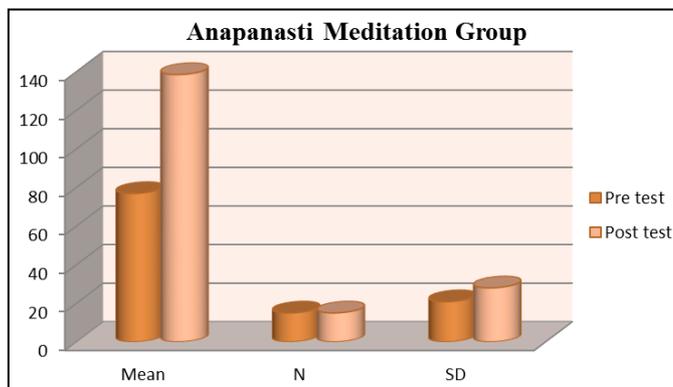


Fig 3: Showing Means, SD of the male boxers from control group during pre-test and post-test on Vigilance

Table 7: Pair wise, N, Mean, SD, SEM and t-value of the male boxers of Anapanasati Meditation group during pre-test and post-test on Vigilance

Test	Mean	N	SD	SEM	t - Value	p - Value
Pre test Scores Anapanasti Meditation Group	76.86	15	20.82	5.37	13.18	.000
Post test Scores Anapanasti Meditation Group	138.46	15	27.98	7.22		

Table no. 7 it can be seen that the t-value is 13.18 which is significant at 0.05 level with the degree of freedom 14. This shows that the mean scores of the male boxing players during pretest and the mean scores of the male boxing players during posttest on vigilance differ significantly. In this context the null hypothesis that there is no difference in the mean score of pre and posttest of the male boxers of the group given Anapanasti meditation training on vigilance is rejected. Further the mean score of male boxer during pre-test is 76.86 and the mean score of the male boxers during post-test is 138.46. It may therefore be said that male boxers of experimental group given Anapanasti Meditation have shown significantly better Vigilance ability during post-test is compare to pre-test.

**Fig 4:** Showing Means, SD of the male boxers from Anapanasti Meditation group during pre-test and post-test on Vigilance

7. Discussion and Conclusion

The results of the study suggest that the independent variables of the study i.e., Mantra Meditation training and Anapanasati Meditation training have significantly enhanced the Vigilance ability of the male boxers of Chandigarh. The post-test comparison of the three groups suggests that male boxers of both the experimental group have statistically better than the control group during posttest. It suggests that the improvement seen in the dependent variable i.e., vigilance is due to the independent variables only because the other factors which may contribute in the development of dependent variable have not shown significant improvement in the control group as much as it is seen in the two experimental group.

Further, when the analysis is done pair wise it is found that all the three groups have shown significant improvement during posttest i.e., after the training. The vigilance of male boxers of Chandigarh of the three groups (Experimental group – Mantra Training, Experimental Group – Anapanasati and the control group) is higher in post-test as compare to the scores of pretest. It is assumed that the three groups are not initially equal, despite of randomization. The initial condition of the training may affect the final scores, therefore the effect of the initial condition was eliminated by using a statistical technique ANCOVA and the result of the study was drawn.

A growing body of literature on the underlying mechanisms of meditation and vigilance suggest that meditation can increase the alertness among the sportspersons. However, to

date, previous studies have only focused on various meditation techniques that may increase the attentional span of sportsman. The study adds to it by explain the effect of Anapanasati meditation and vigilance amongst the boxers. The study further adds to the literature that eight weeks of Anapanasati meditation is useful in developing vigilance.

8. References

1. Archer Shirley. Meditation improves attention. IDEA Fitness Journal 2007, Academic One File, 2017; 103.
2. Rani NJ, Rao PVK. Meditation and attention regulation. Journal of Indian Psychology. 1996; 14(1-2):26-30.
3. Elizabeth R Valentine, Philip LG Sweet. Meditation and attention: A comparison of the effects of concentrative and mindfulness meditation on sustained attention, Mental Health, Religion & Culture. 1999; 2(1).
4. Giuseppe Pagnoni, Milos Cekic. Age effects on gray matter volume and attentional performance in Zen meditation, 2007. Received 7 March 2007, Revised 25 April 2007, Accepted 5 June 2007, Available online 25 July 2007. <https://doi.org/10.1016/j.neurobiolaging.2007.06.008>
5. Anuradha A Gokhale. Collaborative Learning Enhances Critical Thinking, Journal of Technology Education. 1995; (7)1, n.a. <https://doi.org/10.21061/jte.v7i1.a.2>
6. Delmonte Michael M. The Relevance of Meditation to Clinical Practice: An Overview; Journal of Applied Psychology. 1990; 39(3):331-354 DOI: 10.1111/j.1464-0597.1990.tb01058.x
7. Hancock PA. In search of vigilance: The problem of estrogenically created psychological phenomena; American Psychologist. 2013; 68(2):97-109. doi:<http://dx.doi.org/10.1037/a0030214>
8. Kaplan Stephen. Meditation, Restoration, and the Management of Mental Fatigue; Journal of Sage. 2001; 33(4), <http://journals.sagepub.com/doi/abs/10.1177/00139160121973106>
9. Lang Ariel J, Strauss Jennifer L, Bomyea Jessica, Bormann Jill E, Hickman Steven D, Good Raquel C, et al. The Theoretical and Empirical Basis for Meditation as an Intervention for PTSD; Journal of sage; 2012. <http://journals.sagepub.com/doi/abs/10.1177/0145445512441200>