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Original Research Article

Influence of Pranayama on Adjustment in School Going Adolescents

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ABSTRACT

Adolescent is emotionally unstable and unpredictable period, of psychological growth, as well as period of storm and stress. This is the time when personality development is ascertained and new adjustments have to be take place. Aim of this study was to investigate the effect of Pranayama on adjustment of school going Adolescents. A pre-and post experimental research design with control group is used in this investigation. Two groups of subjects, i.e., control and experimental deployed for this study. The subjects of experimental group underwent Pranayama practice i.e. Anulom-Vilom Pranayama with Antha and Bahya Kumbhak, internal and external respectively, for at least 30 minutes while subjects of control group engaged in normal activity.The subjects of both groups administered on Sinha and Singh's AISS scale (Hindi version). The data collected on this test were analysed before commencing the intervention as Pre-experimental stage or phase. Post-experimental stage or phase-I. & Post-experimental stage or after 2 month and after 4 month of practce of pranyama respectively. The subjects of the experimental group decreased the mean scores of adjustment in all the three areas viz. Emotional, Social and Educational at highly significant level of $p < 0.0005$ at post-phase- II as compared to their pre-state of the experiment which indicates that subjects of the experimental group fully attain Good level of their adjustment.

Key words: Pranayama, Yoga, Stress, Adjustment, Adolescents.

INTRODUCTION

Adolescent is a transitional stage of human development period of growth from puberty to maturity. This is the period associated with rapid physical, psychological social changes in which a child matures into an adult. Teens' bodies and minds develop and change tremendously during the period of adolescence, which causes their whole personality to change too. According to Goldstein and Glick (1987), "comprise a developmental process in which youth move from the dependency and immaturity of childhood toward the physical, psychological, and social maturity of adulthood". This is also a period of psychological growth, as well as period of storm and stress, when the adolescents are emotionally unstable and unpredictable. This is the time when personality development is ascertained and new adjustments have to be take place.

Adjustment may be considered as an important variable of personality as it plays an important role in the development of personality. It is a highly serviceable concept in psychology and concerns the managing of an individual's affairs in many ways.

Imbalanced emotion is one of the crucial factors leading to maladjustment.

The children, who are deprived of proper emotional growth, develop feelings of insecurity and inadequacy that may have maladjustment Chauhan (1995). Studies on adjustment revealed that maladjustment in any sphere of life leads to delinquent behaviour. Mello and Gutherie (1958) observed emotional maladjustments lead to delinquent behaviour. Quay and Peterson (1959), Singh (1976) Nirmal (1977), Singh (1979) observed in their studies that delinquents were poor in adjustment in various areas like health, home, social, emotional etc. Mays (1954), Nagla (1981) observed maladjustment as a cause of delinquency & Mehta (2000), classified Adjustment in four categories 1 Psychological Adjustment, 2.Social Adjustment, 3Emotional Adjustment& 4. Educational Adjustment.

Pranayama:

Pranayama is the fourth limb or component of Maharishi Patanjali Yog system. According to Patanjali, Pranayama means altering the normal process of breathing or the cessation of the flow of Swasa (inhalation) and Praswasa (exhalation). He stated that the practice of Pranayama purifies the Nadies. When the Nadies are full of impurities, the breath does not enter the Susumna. It is only way, by which all the Nadies can be purified and the practitioners can successfully control the breath. Patanjali says that regular practice of Pranayama unveils the source of knowledge.

Pranayama plays an important role in maintenance of healthy body. It also noted that modern medical scientific has conceived the Pranayama as valor in prevention and management of different psychosomatic problems.

It means the regular practice of Pranayama unfolds supreme knowledge or increase the level of conscious.

Types of Pranayama

Maharishi Patanjali enunciated main types of Pranayama, viz., Surya Bhedi, Chandra Bhedi, Nadi Shuddhan or Anulom-Vilom,. Ujjayi, Bhramari,. Bahya,. Udgeeth. Sheetali Pranayama.

Research studies conducted to evaluate the effect of Yoga and Meditation on Adjustment directly or indirectly reveal that these techniques are competent to develop better adjustment in subjects practicing Yoga and Meditation.

A large number of studies on meditation techniques related to personality factors also show, directly or indirectly, the effect of Meditation on adjustment.

Brautigam (1972) observed an increase in adjustment of drug abused subjects practicing T.M., while Willis (1974) concluded an improvement in degree of adjustment and self-concept in T.M. practitioners. Suarez (1976) found greater marital satisfaction and greater adjustment in T.M. practicing subjects. Aron and Aron (1982) also observed decrease in anxiety and improvement in adjustment in T.M. practitioners.

Gaur and Betal (1999) concluded a significant improvement in adjustment ($p < 0.005$) in the areas viz. Home, Health, Social and Emotional, in the drug-abused subjects practicing Preksha meditation for two months compared to non-practicing subjects. Gaur and Bhargava (2005) noted a significant improvement in adjustment in the areas Home, Health, Social and Emotional in PRANAYAMA practitioners. Gaur et al (2004) found a remarkable improvement in adjustment in the areas of Emotional, Social and Educational in the teenaged students practicing Preksha Meditation.

In the above-mentioned review, T.M. and Preksha Meditation techniques are used and it is observed that these are conducive for bringing about improvement in adjustment.

Shubhlaxmi, Saxena, Urmila and D'Souza concluded a positive impact of Nadi sodhan Pranayama on cardio vascular system and brain functioning.

Objectives of the study

The main objectives of study is to evaluate the influence of Pranayama on the three areas of adjustment viz. Emotional, Social and Educational among school going adolescents of Metro city Delhi and to present results the scientifically.

Hypothesis:

1. The subjects of the control group and the experimental group belong to the teenager students' population of Metro city; hence it hypothesized that subjects of both the groups will be found homogeneous in their adjustment attributes at the pre-experimental stage.
2. Significant improvement in adjustment will be found in subjects of the experimental group at the end of post-phase- I of the experiment as compared to their pre-experimental stage. This improvement will be further carried over significantly at the end of post-phase II of the experiment.
3. As compared to subjects of the control group, subjects of the experimental group will have a significant improvement in their adjustment at the end of post-phase- I (after two month) of the experiment and will continue the improvement at the end of post-phase II (after six month) of the experiment.

Research Design

A pre-and-post experimental research design, with control group was adopted.

Control of Variance

Adequate attempts were made to control the extraneous and relevant variables like subject relevant, situation relevant and sequence relevant by adoption of sound strategy.

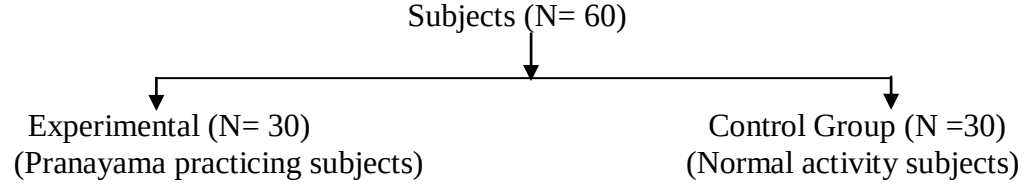
Table – 1 Research Design

Groups / Independent Variables	**Experimental Stages/ Dependent Variables (D.V.)**	
	Pre (0 – month)	**Post (4-months)**
Experimental Group (n=30) Pranayama	Aadjustment	Aadjustment
Control Group (n=30) Normal activity	Aadjustment	Aadjustment

Sample

After surveying the characteristics of the target population a random sample of 60 adolescent students from Senior Secondary School was selected from Metro city schools. The total sample divided into two groups each of 30 adolescent students. One served as an experimental group whiles another as control. The age range is from 14 to 16 years with an average of 15 yrs. The educational was of 12^{th} standard with similar economic standard as illustrated in fig.1.

Fig.-1.



Tests and tools

The following Standardized Psychological tests were used in this investigation:

1. Sinha and Singh's Adjustment Inventory: AISS - Sinha and Singh's Adjustment Inventory (1984) is used to measure degree of adjustment in the three areas viz. emotional, social and educational. It has sixty items twenty items for each of the three areas, with validity (0.001) and reliability (0.95 split-half).
2. Manual of Sinha and Singh's Adjustment Inventory.

PROCEDURE

First of all the selected subjects for this investigation were explained the purpose of the study than got their consent to conduct this study deploying them as

subjects. The subjects of both groups administered on Sinha and Singh's AISS scale (Hindi version). The data collected on this test were analysed before commencing the intervention. This stage of the experiment may be termed as Pre-experimental stage or phase. The subjects of experimental group underwent Pranayama practice i.e. Anulom-Vilom Pranayama with Antha and Bahya Kumbhak, internal and external respectively. for at least 30 minutes including each day for period of two months after which measures on D.V. will be made by the same tests. This stage may be termed as Post-experimental stage or phase-I. The process was further carried out for four more months on the same subjects at the end of which D.Vs. will be measured again and this stage is termed as Post-experimental stage or phase -II.

The subjects of control group were not be assigned any specific task rather they were engaged in their daily routine activities as usual and were measured on D.V. at the same interval as the subjects of experimental group were measured.

Instruction of Pranayama, Asana with Bandha were given by investigator who himself is Yog expert.

RESULT AND DISCUSSION

Section A

Inter-group comparison

(a) Adjustment level at pre-experimental stage

Table 1 shows Mean scores, SDs and resultant 't' values of adjustment of the Experimental and Control groups at the pre-experimental stage.

Table-1: Mean, SD and 't' values of Adjustment for the Control and Experimental groups at Pre- experimental stage (N = 30 for each)

Control Group			Expe Experimental group (n				
Areas	Mean	SD	Mea	Mean	SD	't'	p
Emotional	8.37	2.10	8.34	2.83	0. 40	N.S	
Social	6.87	2.31	6.90	2.02	0.37	N.S	
Educational	6.57	2.46	6.63	2.78	0.41	N.S	

It is clear from the Table 1 and Figure 1 that there is no significant difference among the subjects of control group and the experimental group on any of the three areas of adjustment viz. Emotional, Social and Educational. It reveals that the subjects of both groups are homogeneous on all the three areas of adjustment at their pre-experimental stage. The subjects of both groups are found with unsatisfactory adjustment in their emotional area of adjustment (c.f. table 2). However their adjustment found satisfactory in social and educational field. The obtain results corroborate the first hypothesis proposed earlier.

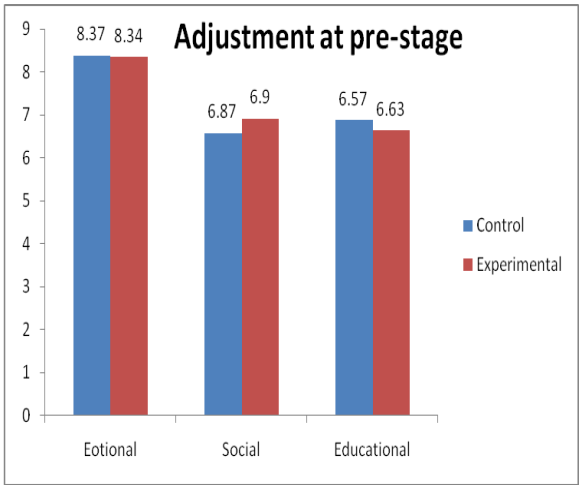


Figure 1: Mean score of Adjustment in the Emotional, Social and Educational areas of the Control and Experimental groups at Pre- experimental stage

Table 2. Standard scores for assessing Adjustment, as suggested by Sinha and Singh's AISS scale

Areas	Emotional	Social	Educational
Excellent	0 to 1	0 to 2	0 to 2
Good	2 to 4	3 to 4	3 to 4
Average	5 to 7	5 to 7	5 to 7
Unsatisfactory	8 to 10	8 to 10	8 to 10
Very unsatisfactory	11 & above	11& above	11 & above

(b) Influence of two month Pranayama practice on Adjustment (post-phase I)

Table 3: Mean, SD and 't' values of Adjustment for the Control and Experimental groups at post- experimental stage - I phase (N = 30 for each)

Control Group			Experimental group			
Areas	Mean	SD	Mean	SD	't' (One tailed)	p
Emotional	8.17	2.20	6.54	2.73	4.02	.0005
Social	6.67	2.21	4.45	2.12	5.84	.0005
Educational	6.37	2.26	4.13	2.78	5.47	.0005

On assessing the scores obtained at post- stage-I, significant differences are found in the subjects of both the groups in

all three areas of adjustment. The subjects of the experimental group are now found significantly better in their adjustment in the areas of emotional ($p < 0.0005$), social ($p < 0.0005$) and educational ($p < 0.0005$) in comparison to the subjects of control group (Table 2 and Figure 2).

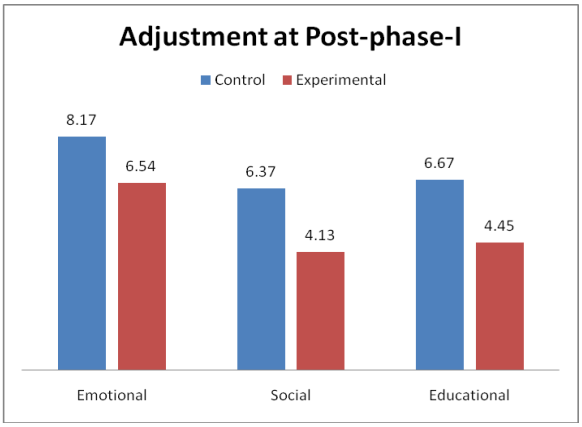


Figure 2: Mean score of Adjustment in the Emotional, Social and Educational areas of the Control and Experimental groups at post- experimental stage-I –

On comparing with standard scores (c.f. table 2) as suggested by Sinha and Singh's AISS scale (Hindi version), it is observed that the adjustment levels of the subjects of experimental group improved on all the areas. The emotional adjustment of the subjects of experimental group which was unsatisfactory at pre-experimental stage now became average at this stage, i.e., they shifted from unsatisfactory to average level. They also improved on the areas of social and educational adjustment and shifted from average to good level at this stage in comparison to the subjects of control group. The subjects of control group still remained at unsatisfactory level on the emotional adjustment and average on social and educational adjustment. The result implies that subjects of the experimental group who practiced Pranayama for two months are now found better adjusted as compared to subjects of the control group. These findings support hypothesis proposed earlier.

(c) Influence of four months (post-phase II) Pranayama on Adjustment

Mean, SD and 't' values of adjustment of the subjects of control and experimental groups at post- experimental stage- II are presented in Table 4.

Table 4: Mean, SD and 't' values of Adjustment for the Control and Experimental groups at post- experimental stage - II phase (N = 30 for each)

	Control Group		Experimental Group			
Areas	Mean	SD	Mean	SD	't'	p (One tailed)
Emotional	7.58	2.03	3.83	1.01	9.74	0.0005
Social	6.57	2.11	3.70	1.74	8.02	0.0005
Educational	6.21	2.05	3.90	1.87	6.38	0.0005

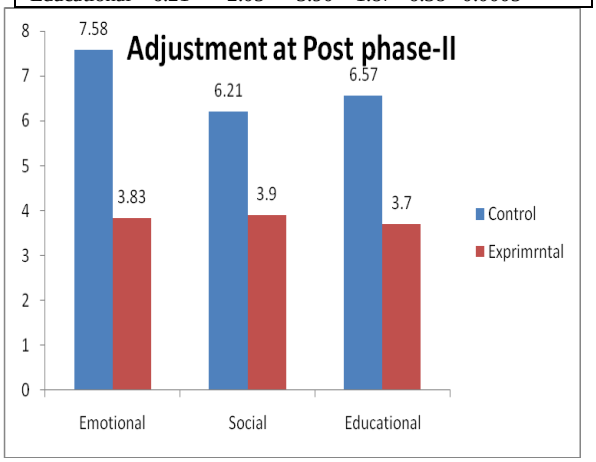


Figure 3: Mean scores of Adjustment in the Emotional, Social and Educational areas of the Control and Experimental groups at post-stage- II

It is observed from Table 4 and Figure 3 that the mean scores of adjustment of subjects of the experimental group reduced at highly significant ($p < 0.0005$) level in all the three areas in comparison to the mean scores of subjects of the control group. It reveals that the subjects of experimental group are now significantly more adjustable than the subjects of control group.

On comparing with the standard scores table of Sinha and Singh's AISS scale (Table 2) it is very clear that subjects of the experimental group attained good level of adjustment in all the three areas. Whereas subjects of the control group did not show any significant reduction in their mean scores of adjustment and they remained at average to unsatisfactory level of adjustment just as they were at the pre-experimental stage.

The overall picture that emerges after four months of the experiment (Figure 3) indicates a remarkable increase in adjustment level in all the three areas

(unsatisfactory to good) (Table 4) in the subjects of the experimental group in comparison to subjects of the control group who have not shown any perceptible difference from their pre-experimental stage. Thus, the results support early proposed hypothesis.

Section B

Intra-group comparison

The inter-group analyses of the data compare the effects of Pranayama practice on adjustment between the control group and the experimental group. These analyses have been discussed in Section A, the preceding section of this chapter.

Now it is very useful to investigate the effects of Pranayama and Normal activities on adjustment occurring, if any, within the subjects of each group, viz. experimental (practicing Pranayama), and control (normal activity) at different stages of the experiment. The intra-group analysis will help to confirm the evidences already available from the findings based on inter-group comparisons presented earlier. It will highlight the changes among the subjects of Pranayama and the Normal activity groups and also the magnitude of changes, if any, for their significance. Therefore, such analyses are undertaken and their results are given below.

1. Impact of Pranayama on Adjustment

a) Impact of two months Pranayama practice (post-phase I)

Table 5 shows the Mean scores and Sandler's 'A' values of adjustment of the experimental group on Emotional, Social and Educational areas at pre- and post-phase -I of the experiment .

Table 5: Mean and 'A' values of Adjustment in the Emotional, Social and Educational areas at pre- and post- experimental stage- I of the experimental group (n = 30)

Areas	Mean Pre	Mean Post-phase I	A (One tailed)	p
Emotional	8.34	6.54	0.239	0.01
Social	6.90	4.45	0.128	0.005
Educational	6.63	4.15	0.145	0.005

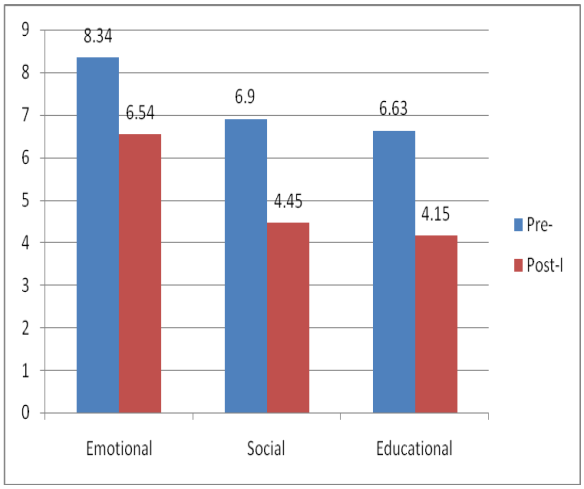


Figure 4: Mean scores of Adjustment Emotional, Social and Educational areas of the Experimental group at pre-and post-phase I.

The results displayed in Table 5 and Figure 4 show that there are significant differences in mean scores of adjustment in all three areas viz. Emotional, Social and Educational at post-phase I stage as compared to the pre-stage. The significantly decrease trend of means scores at post-experimental stage–I indicates the improvement in adjustment of the subjects of experimental group after two month Pranayama practice.

On comparing these mean scores from the standard scores table-2 for assessing the adjustment in all the three areas, it is observed that the subjects of experimental group attained an average level of emotional adjustment at post- stage-I in comparison to their unsatisfactory level of pre-stage. The mean scores in emotional adjustment decreased significantly ($p<.01$) from 8.34 to 6.54 (fig.4). The subjects also shifted significantly ($p<.005$) from average level to good level in the areas of social and educational adjustment. The mean scores fall from 6.90 to 4.45 in the area of Social adjustment and from 6.63 to 4.13 in educational area of adjustment (fig. 4). This implies that subjects of the experimental group improved their adjustment significantly in all said areas after two month practice of Pranayama. These findings support the earlier proposed hypothesis No. 2

b) Impact of four months Pranayama practice (post-phase II)

Table 6 presents the Mean scores value on the Adjustment scale in the Emotional, Social and Educational areas at pre-stage and post-phase II and Sandler's 'A' between these two stages.

Table 6: Mean and 'A' values of Adjustment in the Emotional, Social and Educational areas at pre- and post- experimental stage-II of the experimental group (N = 30)

Areas	Mean Pre	Mean Post-phase-II	'A' (One tailed)	p
Emotional	8.34	3.53	0.104	0.0005
Social	6.90	3.90	0.103	0.0005
Educational	6.63	3.70	0.102	0.0005

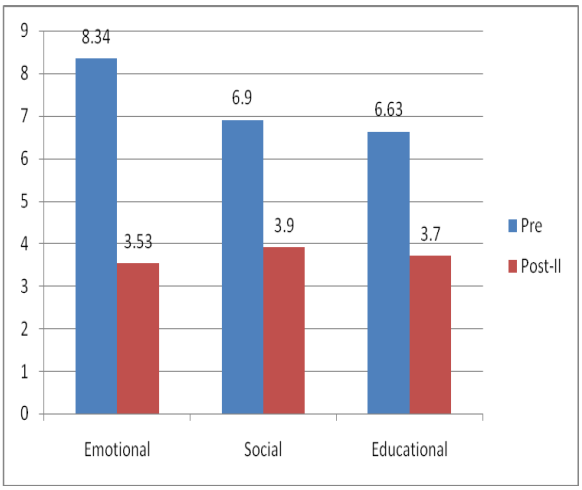


Figure 5 Mean scores of Adjustment Emotional, Social and Educational areas of the Experimental group at pre- and post-stage- II stage.

The findings presented in Table 6 and Figure 5 clearly reveal that the subjects of the experimental group decreased the mean scores of adjustment in all the three areas viz. Emotional, Social and Educational at highly significant level of p <0.0005 at post-phase- II as compared to their pre-state of the experiment.

On comparing the mean scores obtained at post-phase II stage, with the standard scores (c.f. table-2), it clearly indicates that subjects of the experimental group fully attain good level of their adjustment at this stage.

The findings confirm that the practice of four months Pranayama technique brings about very significant improvement in adjustment in all the three areas viz. Emotional, Social and Educational. It also suggests that longer duration of Pranayama practice brings out a highly significant and beneficial change in the pattern of adjustment leading to increased harmony and peace in behaviour.

2. Impact of normal activity on Adjustment

A) Impact normal activity after two months (post-phase I)

Table 7 displays the mean scores of the control group on adjustment in the three areas viz. Emotional, Social and Educational at pre and post-phase I and Sandler's 'A' value between these stages of experiment.

Table 7: Mean and 'A' values of Adjustment in the Emotional, Social and Educational areas at pre- and post- experimental stage-II of the experimental group (n = 30)

Areas	Mean Pre	Mean Post-phase-II	'A' (One tailed)	p
Emotional	8.37	8.17	3.104	NS
Social	6.87	6.67	4.123	NS
Educational	6.53	6.37	4.112	NS

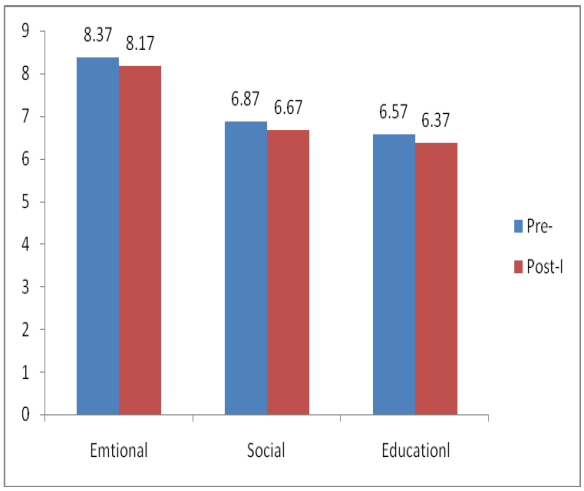


Figure 6: Mean score of Emotional, Social and Educational Adjustment at pre and post-phase I stage of the Control group.

The findings displayed in Table 7 and Figure 6 clearly show that there is no significant changes observed in adjustment of the subjects of the control group on the all the three areas viz. Emotional, Social and Educational between the two phases i.e. pre-phase and post-phase- I of the experiment. In accordance with standard scores table-2 subjects of the control group, doing normal activity, remained at unsatisfactory level in their emotional adjustment and average in social and educational adjustment at both

the stages. It is observed that the normal activities of two months and the test sensitivity have yielded no impact on subjects of the control group.

B) Impact of normal activity after four months (post-phase II)

Mean scores of the control group on adjustment in the Emotional, Social and Educational areas at pre and post-phase II and Sandler's 'A' value between these stages of the experiment are presented in Table 8.

Table 8: Mean and 'A' values of Adjustment in the Emotional, Social and Educational areas at pre- and post- experimental stage-II of the experimental group (n = 30)

Areas	Mean Pre	Mean Post-phase-II	'A' (One tailed)	p
Emotional	8.37	7.88	0.284	NS
Social	6.87	6.57	2.103	NS
Educational	6.53	6.21	3.102	NS

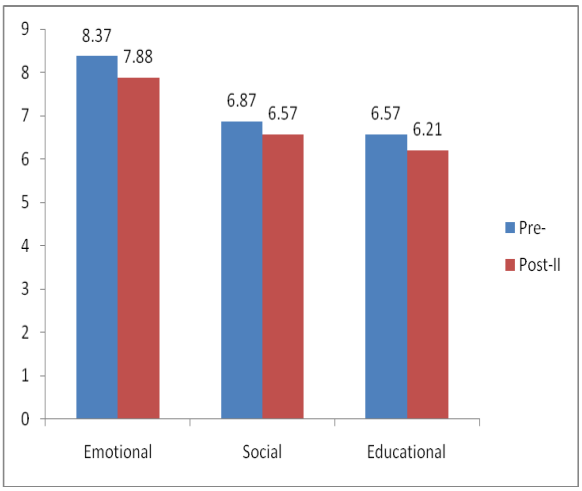


Figure 7. Mean score of Emotional, Social and Educational Adjustment at pre and post-phase -II stage of the Control group.

It is observed from Table 8 and Figure 7 that there is no significant change in the adjustment of all the three areas viz., Emotional, Social and Educational in subjects of the control group at the end of four months. The subjects of the control group have remained on their same level of adjustment in Emotional, Social and Educational areas as they were at pre-experimental stage (c.f. table 2). This reveals that the normal activity of two months and the test sensitivity have imposed no impact on subjects of the control group.

DISCUSSION AND CONCLUSION

Research studies conducted to evaluate the effect of Yoga and Meditation on Adjustment directly or indirectly reveal that these techniques are competent to develop better adjustment in subjects practicing Yoga and Meditation.

A large number of studies on meditation techniques related to personality factors also show, directly or indirectly, the effect of Meditation on adjustment.

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In the above-mentioned review, T.M. and Preksha Meditation techniques are used and it is observed that these are conducive for bringing about improvement in adjustment.

Shubhlaxmi, Saxena, Urmila and D'Souza concluded a positive impact of Nadi sodhan Pranayama on cardio vascular system and brain functioning.

The investigator here directly investigated the potential influence of Pranayama, the one of the components of Yoga on adjustment.

Here the investigator has used Pranayama technique as an adjustment variable directly and has observed similar results as discussed herein. In this investigation subjects of the experimental group now became significantly more adjustable in comparison to their pre experimental stage and also in comparison to subjects of the control group. This reveals that two months and four months practice of Pranayama improved their adjustment process of personality. The subjects now became more adjustable with their colleagues, environment and family members at home. The results of this investigation resemble the outcomes of the referred studies and all the hypotheses proposed earlier are corroborated by these findings.

The following conclusion can be drawn from the results in respect of the hypotheses proposed earlier:

1) As presented earlier in Table Table- 2 and Figure- 2, it reveals that the adjustment level in the three areas viz. Emotional, Social and Educational in both the groups show no significant difference at pre-stage of the experiment. Hence both the groups are homogeneous in their adjustment at pre-stage of the experiment, confirming hypothesis fourth proposed earlier.
2) At end of post-phase- I stage i.e. after two months of experiment, it is observed that there is a significant ($p < 0.005$) improvement in the subjects of the experimental group (Table -3 and Figure-3) in all the three areas of adjustment viz. Emotional, Social and Educational, as compared to subjects of the control group and the improvement further carried out at the end of four months of experiment (table 4 and fig. 4). The subjects of the experimental group showed a highly significant improvement in their adjustment in all the three said areas at the end of four months of Pranayama intervention. The results corroborate second hypothesis completely.
3) The improvement is carried out further at the highly significant level at the end of four months of Pranayama intervention as compared to their pre-stage (table 5 and figure 5). These results corroborate hypothesis third proposed earlier.
4) The subjects of control group did not show any significant changes after two and four month of their intervention, i.e., normal activities.

These findings suggest that longer duration of Pranayama practice brings about very significant and beneficial changes in the pattern of adjustment. These results unfold the positive potential of Pranayama in contributing to better adjustment.

It can be concluded that Pranayama technique has a potential which can bring about a positive change in the adjustment behaviour, leading to harmony and peace in the practitioners.

REFERENCES

- Aron, A., and Aron, E.N. (1982): Rehabilitation of Juvenile offenders through The T.M. program A controlled study. Journal of crime and Justice in press Aron, E.N. and Aron, A T.M. program and martial adjustment. Psychological Reports 51: 887 – 890.
- Cunningham, M., and Koch, W.(1973): The T.M. program and rehabilitation : A pilot project at the Federal correctional Institution at Lompoc, California International Meditation Society, Los Angeles, California, U.S.A.
- Desh, M. and Telles, S.(2005): Evaluation of Motor function in computer users following Yoga. *Abstract: Souvenir of 15th International Conference on Frontiers in Yoga Research and Applications December 2005.*
- Gaur B.P. and Bhargava R. (2005). Influence of P.M. on adjustment Problem of Drugs abused. Praachi Journal of Psycho – cultural dimension.
- Griggs, S.T.(1976). A preliminary study into the effect of T.M. on empathy. Master's Thesis (abbr.). School of human behavior, United States International University, Sam Diego, California, U.S.A.

- Joshi M.C., and Gaur B.P. and Singh k. (1984): T.M. and Self- realization, Department of psychology, University of Jodhpur, India. Paper presented at Sub-Continental Conference on Psychology National Development, sponsored by Indian Psychological Association, hosted by Magadh University, Bodh Gaya India in Oct. 1984.
- N.K. Subbalakshmi, S.K. Saxena, Urmimala, and Urban J.A. D'Souza Immediate Effect Of 'Nadi -Shodhana Pranayama' On Some Selected Parameters Of Cardiovascular, Pulmonary, And Higher Functions Of Brain. (2005). Thai Journal Of Physiological Sciences Volume 18 (No.2, August 2005) Page 10-16 www.tjps.org ISSN 0857-5754. 2001 by the Physiological Society of Thailand. All rights reserved. 10 Original Article.
- Ritu, C., Nagaratha, R., Latha, V. and Nagendra, H.R. (2005): Effect of Integrated approach of Yoga Therapy on Climacteric – A Randomized Control Study. Abstract: Souvenir of 15th International Conference on Frontiers in Yoga Research and Applications December 2005
- Roopa B. Ankad, Anita Herur, ShailajaPatil, G. V. Shashikala, and Surekharani
- Chinagudivanced (2011). Effect of Short-Term Pranayama and Meditation on Cardiovascular Functions in Healthy Individuals. Journal List Heart Views v.12(2); Apr-Jun 2011 PMC3221193.
- Salam, F.S.A., Bhole, M.V. and Oak, J.P. (1984-85): "Utility of Yoga For the aged blinds A pilot study, "Proceedings, International Conference on "Yoga and Research" held by Kaivalyadhama, Lonavala, December, Article no. 19, pp 165-173.
- Shafii, M., Lavely, R.A., and Jaffe, R. (1975): Meditation and the prevention of alcohol abuse. *American Journal of psychiatry* 132: 942 – 945.
- Shafii, M., Lavely, R.A., and Jaffe, R.D. (1974): Meditation and marijuana American Journal of psychiatry 131: 60 – 63.
- Shapiro, J. (1974): The relationship of the T.M. program to Self – actualization and negative personality characteristics. Doctoral thesis (Summary), Department of psychology, University of Southern California, Los Angeles, California, U.S.A.
- Sinha, A.K.P and Singh, R.P.(1984): Manual of adjustment Inventory for school student. Agra: National Psychological Center.
- Singh, Savita Singh K.P., Tandon, O.P. & Kumar Rahul (2010), "Effect of Pranayamaa & yoga-asana on cognitive brain functions in type 2 diabetes-P3 event related evoked potential (ERP)". Indian J Med Res 131, May 2010, pp 636-640 636.
- Singh, Y. Vempati, R.P. Sharma, R., Yadav, R.K. and Bijlani, R.L. (2003): Efficiency of three different integrated Yoga modules on creativity in 14th International conference on Frontiers In Yoga Research and Application school children. Paper presented at on Dec.-2003 at Prashanti Kutiram, Jigani, Banglore.
- Suarez, V.W. (1976): The relationship of the practice of T.M. to subjective evaluations of martial satisfaction and adjustment. Master's thesis (abbr.) School of Education. University of Southern California, Los Angeles, California, U.S.A.
- Wallace, R.K., et al. (1972): "Decreased drug abuse with T.M: A study of 1862 Subjects," In Drug Abuse: Proceedings of the International conference, Ed.
- Winquist, W.T. 1969): The T.M. program and drug abuse a retrospective study. Department of Sociology University of California at Los Angeles, Los Angeles. California, U.S.A.

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