

Title of the project:

Effect of yoga in reducing anxiety and achieving peace of mind

Implementing institution:

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Introduction

One of the serious problems of many people, who are exposed to various personal / social / professional stress, is the absence of enough peace of mind and the existence of anxiety. The [American Psychological Association \(APA\)](https://www.apa.org/) defines anxiety as “an emotion characterized by feelings of tension, worried thoughts and physical changes like increased blood pressure”. Peace of mind or inner peace refers to a deliberate state of psychological or spiritual calm, despite the potential presence of stressors (https://en.wikipedia.org/wiki/Inner_peace - accessed on 23rd March 2018).

The ancient scriptures suggest that Sage Patanjali assembled the Yoga Sutras and the very first line of his yoga sutra reads as Yoga chitta vritti nirodhah, which implies that yoga is intended for the cessation of mind movement. Yoga was known as a spiritual discipline for the advancement of the ultimate state of psycho-physiological health with higher mind-body consciousness (Khalsa, 2013). Yoga is well accepted by the western world as a holistic approach to health, which is also classified as a form of Complementary and Alternative Medicine (CAM) by the National Institutes of Health (Williams et al, 2003). It is also recognized as a form of integrated mind-body medicine that improves wellbeing, mostly the stress related illnesses (Atkinson et al, 2009). In view of the documented benefits of yoga in promotion of mental and physical health, numerous psychiatrists now recognize its positive role in alleviating psychiatric disorders and adapt yoga in their own practice (Rao et al, 2013). Research indicates that Asanas increase the physical flexibility, strength and coordination, while Pranayama and Meditation practices calm and focus the mind to enhance higher self-awareness and lessen anxiety, resulting in better quality of life.

A study was undertaken by Patanjali Yoga Research Centre, Kozhikode located in Kerala State, India to assess the effect of practicing yoga in achieving peace of mind and reducing anxiety, in comparison with people who do not practice yoga.

Methodology of the study

The study was carried out using a structured questionnaire among a sample of 50 yoga practitioners of Patanjali Yoga Research Centre, Kozhikode. A control group of 50 people, who do not practice yoga or any other relaxation techniques, was also interviewed using this questionnaire. The questionnaire contained items of the Peace of Mind Scale as reported by Yi-Chen Lee *et al* (2012) and a six-item short-form of the state scale of the Spielberg State-Trait Anxiety Inventory (Theresa and Hilary, 1992), the respondent's age, education, marital status, number of years of yoga practice, number of days of yoga practice per week, reasons for practicing yoga, and additional benefits obtained through yoga practice. Equal interval scoring (Likert scale) was adopted for quantifying the responses to each item in the Peace of Mind Scale and Anxiety Scale. The peace of mind score and anxiety score of the respondents were worked out as the sum of scores of various items in the scale / inventory. Higher the peace of mind score of an individual, more will be the level of peace of mind, while a higher anxiety score indicates less of anxiety.

Results and Discussion

Peace of mind and anxiety of yoga practitioners

It can be made out from Table 1 that the peace of mind score (3.47) of people who have practiced yoga for a period of up to 10 years is less than the score (4.33) of people who have done yoga for more than 10 years. This indicates the existence of better peace of mind for people practicing yoga for more than 10 years. The F value obtained through analysis of variance (ANOVA) of the mean peace of mind score of these two categories is significant at 10 % probability (Table1). However, ANOVA of the peace of mind score of up to 5 years and > 5 years yoga practice categories was not found to be statistically significant. Same was the case comparing up to 5 years and 5 to 10 years yoga categories.

A similar trend was observed in the case of ANOVA of the anxiety scores also. The mean anxiety score of up to 10 years yoga practice category is 3.04, while that of >10 years is 3.90 (Table 2), indicating less anxiety for the latter group of yoga practitioners. The analysis of variance of the anxiety score of these two categories of yoga practice is also statistically significant (Table2).

Table1. ANOVA of mean peace of mind score of two categories of yoga practice

Years of yoga practice	Mean peace of mind score	Mean score as % of maximum possible score	F value	Statistical significance
Up to 10	3.47	78	3.754	Significant at 0.10 probability
> 10	4.33			
Mean score considering all the yoga practitioners	3.90			

Table 2. ANOVA of mean anxiety score of two categories of yoga practice

Years of yoga practice	Mean anxiety score	Mean score as % of maximum possible score	F value	Statistical significance
Up to 10	3.04	86.8	10.24	Significant at 0.00 probability
> 10	3.47			
Mean score considering all the yoga practitioners	3.47			

The correlation value of 0.699 between peace of mind and anxiety scores of the yoga practitioners observed in this study indicates a very high and significant correlation between the two psychological parameters. It implies that, higher the peace of mind score (which indicates higher peace of mind), higher is the anxiety score also (indicating lesser anxiety).

Taking into consideration the entire sample of yoga respondents covered in this study, their mean peace of mind score of 3.90, which is equal to 78 % of the maximum possible score of 5 (Table 1). This indicates that good peace of mind is attained by the yoga practitioners. However, the mean anxiety score of the yoga practitioners works out to a high value, equivalent to about 87% of the maximum possible score of 4 (Table 2), indicating very less anxiety for them. As already

mentioned under methodology, more the anxiety score, less is the level of anxiety, while a higher peace of mind score indicates more peace of mind. This result implies that the level of anxiety reduction is comparatively more than the degree of peace of mind obtained by the yoga practitioners. This is a very favorable trend with respect to a mind relaxation technique like yoga.

Comparison of peace of mind and anxiety of yoga practitioners and non-practitioners

It can be made out from Table 3 that there exists a statistically significant difference between the peace of mind score of people practicing yoga and those who do not practice it. The mean peace of mind score of non-yoga (control) group is only about 90% of the score of yoga practitioners.

Similarly, there exists statistically significant difference between the anxiety score of people practicing yoga and those who do not practice it (Table 4). The mean anxiety score of non-yoga (control) group is only about 74% of the score of the yoga practitioners, implying that, people who do not practice yoga experience 26% more anxiety than people who practice it.

Table 3. ANOVA of mean peace of mind score of yoga practitioners and non- practitioners

Group	Mean peace of mind score	F value	Statistical significance
Yoga practitioners	3.90	6.09	Significant at 0.01 probability

Table 4. ANOVA of mean anxiety score of yoga practitioners and non- practitioners

Years of yoga practice	Mean anxiety score	F value	Statistical significance
Yoga practitioners	3.47	32.86	Significant at 0.00 probability

It may be made out from Table 5 that only 13% of the yoga practitioners have a low peace of mind score in the range of 20 to 40 % of the maximum possible score, while a higher proportion (19.3 %) of people, who do not practice yoga have a low

peace of mind score in the range of 20 to 40 % of the maximum possible score (Table 6). This indicates that the number of people experiencing higher peace of mind is less among those who do not practice yoga, when compared to yoga practitioners.

Table 5. Range of peace of mind score of yoga practitioners

Range of peace of mind score (as % of maximum possible score)	Respondents (%)
100	19.7
80	48.4
60	18.9
40	12.2
20	0.8
Total	100

Table 6. Range of peace of mind score of people not practicing yoga

Range of peace of mind score (as % of maximum possible score)	Respondents (%)
100	13.8
80	48.0
60	18.9
40	15.4
20	3.9
Total	100

Table 7 reveals that 83.4 % of yoga practitioners have anxiety score, which is equivalent to 75 to 100 % of the maximum possible anxiety score. Getting 75 to 100 % of the maximum possible anxiety score can be considered as indicating less anxiety. However, only 54.9 % of people not practicing yoga have anxiety score in the range of 75 to 100 % of the maximum possible score (Table 8). From this, it can be inferred that, lesser number of people who do not practice yoga are able to achieve perceptible anxiety reduction, when compared to yoga practitioners

Table 7. Range of anxiety score of yoga practitioners

Range of anxiety score (as % of maximum possible score)	Respondents (%)
100	36.3
75	47.1
50	13.7
25	2.9
Total	100

Table 8. Range of anxiety score of people not practicing yoga

Range of anxiety score (as % of maximum possible score)	Respondents (%)
100	6.9
75	48.0
50	42.2
25	2.9
Total	100

Peace of mind and anxiety related emotions experienced by the respondents

From Table 10, it can be inferred that the mean percentage of yoga practitioners reporting anxiety related negative emotions such as difficulty in feeling mentally settled, and feeling anxious and uneasy works out to 12.5 % only (considering the two responses - all the time and most of the time together). This may be the reason why Table 9 shows a high proportion (86 %) of yoga practitioners reporting the peace of mind related positive emotions (considering the responses - all the time, most of the time and often together).

This finding substantiates the effect of yoga in reducing negative emotions and promoting positive ones, which will contribute to improvement of peace of mind and reduction in anxiety

Table 9. Responses of yoga practitioners to various items in the peace of mind scale

Items in the peace of mind scale	Respondents (%)					Total (%)
	All the time	Most of the time	Often	Sometimes only	Not at all	
My mind is free and at ease	18.8	43.6	18.8	18.8	Nil	100
I feel content and comfortable with myself	31.3	43.8	12.5	6.2	6.2	100
I have feelings of peace and stability in my mind	12.5	62.5	12.5	12.5	Nil	100
I have peace and harmony in my mind	12.5	68.8	6.2	12.5	Nil	100
Mean (%)	18.8	54.7	12.5	12.5	1.5	100

Table 10. Responses of yoga practitioners to various items in the anxiety scale

Items in the anxiety scale	Respondents (%)					Total (%)
	All the time	Most of the time	Often	Sometimes only	Always feels mentally settled	
It is difficult for me to feel settled mentally	Nil	18.7	31.3	37.5	12.5	100
I feel anxious and uneasy in my mind	Nil	6.2	43.8	43.8	6.2	100
Mean (%)	Nil	12.5	37.5	40.7	9.3	100

Conclusions

This study has revealed the following:

1. The peace of mind score (3.47) of people who have practiced yoga for a period of up to 10 years is less than the score (4.33) of people who have done yoga for more than 10 years. This indicates a condition of more peace of mind for people practicing yoga for more than 10 years. The statistical test of Analysis of Variance (ANOVA) of the scores of these two categories of yoga practice showed an F value, which is significant at 10 % level of probability. Other categories (of periods of yoga practice) did not shown statistically significant difference with respect to the peace of mind of the practitioners in this study
2. The correlation value of 0.699 observed between peace of mind and anxiety scores of the yoga practitioners indicates a very high and significant correlation between the two psychological parameters. This implies that, higher the peace of mind score (implying higher peace of mind), higher is the anxiety score also (indicating lesser anxiety).
3. However, the level of anxiety reduction for yoga practitioners is found to be more than the level of peace of mind obtained by them through yoga practice
4. There exists statistically significant difference between the peace of mind score of people practicing yoga and those who do not practice it. The mean peace of mind score of non-yoga (control) group is only about 90% of the score of the yoga practitioners. Only a small proportion of yoga practitioners have a low peace of mind score, while a higher proportion of people not practicing yoga have a low peace of mind score. This indicates that less peace of mind is obtained by people who do not practice yoga, when compared to yoga practitioners.
5. Statistically significant difference exists between the anxiety score of people practicing yoga and those who do not practice it. People, who do not practice yoga, are found to have 26% more anxiety than people practicing it. Among the non-practitioners, only lesser number of people are achieving good anxiety reduction, when compared to yoga practitioners

6. The proportion of yoga practitioners experiencing anxiety related negative emotions is very less, while a high proportion of them are actually experiencing peace of mind related positive emotions. This substantiates the effect of yoga in reducing negative emotions and promoting positive ones, which will contribute to improvement of peace of mind and reduction in anxiety

This study has shown that yoga will help in reducing anxiety and promoting peace of mind among the practitioners. If such type of research can be carried out among a larger sample of yoga practitioners, it will be helpful in generating more authentic scientific data base on the psychological effects of yoga among people.

It will also be worthwhile to conduct studies on yoga among people with different cultural backgrounds, who are exposed to different living conditions, in order to come out with results on the beneficial effects of yoga, which may be more appealing to them. This requires a committed effort on the part of yoga centers, academic institutions, Department of AYUSH etc. in taking up relevant research projects on yoga. For this, the yoga centers in different parts of the country should be funded by the Government for carrying out studies.

It is also required to have mechanisms to share the results of the research among the public through awareness programs. This is something, which is found to be inadequate in the field of yoga, especially in a State like Kerala in India. Providing funds for coordinated research and awareness programs of various yoga centers by AYUSH will also be beneficial. This will ultimately help in building up partnerships between various yoga centers for promoting yoga practice in India.

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Project coordinator and Principal Investigator