

Title of the project:

Study on the influence of yoga on alertness of people

Implementing institution:

Patanjali Yoga Research Centre, Kozhikode, Kerala, India

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Introduction

According to the Wikipedia definition, mindfulness is the psychological process of bringing one's attention to experiences occurring in the present moment, which one can develop through the practice of meditation and other programs (<https://en.wikipedia.org/wiki/Mindfulness> - accessed on 11th September 2018).

Research has consistently shown a positive relationship between trait mindfulness and psychological health. Studies also indicate that rumination and worry contribute to the onset of a variety of mental disorders, and that mindfulness-based interventions significantly reduce them.

Mindfulness is something which all styles of Hatha yoga teach, often through an emphasis on breath awareness. The regular practice of yoga cultivates mindfulness. In a practical sense, the *asana* and *pranayama* in yoga will help to synchronise the body with the mind. It will also train the mind to remain at one point, rather than jumping from thought to thought, which takes us from one activity to another.

Alertness is a synonym for mindfulness. Patanjali Yoga Research Centre, Kozhikode, Kerala, India carried out a study to analyse the influence of the practice of yoga on alertness (mindfulness) of people.

Methodology

The study was carried out among a randomly selected sample of 100 yoga practitioners of Patanjali Yoga Research Centre, Kozhikode. Alertness / Mindfulness of the yoga practitioners was quantified using the mindfulness scale (Harald Walach *et al*, 2006). For comparison, data on alertness was collected using the mindfulness

scale from a random sample of 100 people who do not practice yoga or other relaxation techniques (control group).

Interview method using a questionnaire was adopted. In addition to the mindfulness scale, the questionnaire also collected details such as age of the respondent, number of years of yoga practice, number of days per week of yoga practice, whether yoga has been practiced continuously or not, and the benefits obtained through the practice of yoga. The results have been presented in this report as percentages and scores. Statistical *t* test was used for comparisons.

Results and Discussion

Experience of various components of alertness

It can be made out from Table 1 and Table 2 that, while about 39 % of people, who practice yoga experience alertness “almost always”, the corresponding figure for the control (non-yoga) group is only about 23.5 % (see the mean percentage of respondents reporting “almost always” - shown in the last row of Table 1 and Table 2). This result indicates the effect of yoga in making people more alert, when compared to people, who do not practice yoga

Table 1. Alertness of the yoga practitioners

SL	Components of Alertness	Respondents (%) reporting					Total
		Rarely	Occasionally	Fairly often	Almost always	Not at all	
1	I am open to the experience of the present moment	10	20	50	20	Nil	100
2	I sense my body, whether eating, cooking, cleaning or talking	35	15	15	20	15	100
3	When I notice an absence of mind, I gently return to the present state	5	10	55	30	Nil	100

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4	I am able to appreciate myself	5	10	40	40	5	100
5	I pay attention to what is behind my actions	Nil	20	20	40	20	100
6	I see my mistakes and difficulties without judging them	30	10	15	20	25	100
7	I feel connected to my experience in the here-and-now (implies- the present state)	15	20	45	20	Nil	100
8	I accept unpleasant experiences	10	15	10	55	10	100
9	I am friendly to myself when things go wrong	10	10	10	55	15	100
10	I watch my feelings without getting lost in them	5	5	35	50	5	100
11	In difficult situations, I can pause without immediately reacting	5	20	35	40	Nil	100
12	I experience moments of inner peace and ease, even when things get hectic and stressful	10	5	20	60	5	100
13	I am able to smile when I notice how I sometimes make life difficult	10	15	20	50	5	100
14	I am impatient with myself and with others	10	15	20	50	5	100
	Mean (%) reporting	10.71	13.21	29.29	38.94	7.85	100

Table 2. Alertness of the control (non-yoga) group

SL	Components of Alertness	Respondents (%) reporting					
		Rarely	Occasionally	Fairly often	Almost always	Not at all	Total
1	I am open to the experience of the present moment	5	25	55	15	Nil	100
2	I sense my body, whether eating, cooking, cleaning or talking	20	25	25	10	20	100
3	When I notice an absence of mind, I gently return to the present state	Nil	30	30	40	Nil	100
4	I am able to appreciate myself	5	45	30	20	Nil	100
5	I pay attention to what is behind my actions	10	30	25	35	Nil	100
6	I see my mistakes and difficulties without judging them	30	15	30	5	20	100
7	I feel connected to my experience in the here-and-now (implies- the present state)	10	Nil	45	45	Nil	100

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8	I accept unpleasant experiences	15	20	20	30	15	100
9	I am friendly to myself when things go wrong	20	20	30	25	5	100
10	I watch my feelings without getting lost in them	20	25	25	30	Nil	100
11	In difficult situations, I can pause without immediately reacting	Nil	35	40	25	Nil	100
12	I experience moments of Inner peace and ease, even when things get hectic and stressful	15	25	30	30	Nil	100
13	I am able to smile when I notice how I sometimes make life difficult	Nil	55	25	20	Nil	100
14	I am impatient with myself and with others	Nil	55	25	20	Nil	100
	Mean (%) reporting	12.86	25.72	30.71	23.57	7.14	100

Based on the data presented in Table 3, some inferences can be drawn with regard to the experience of various components of alertness. When compared to people who do not practice yoga, more number of yoga practitioners experiences certain components of alertness. The results, in terms of the increase in percentage of yoga practitioners experiencing them “almost always” (when compared to people who do not practice yoga) are given below

- a. 20 % more of yoga practitioners appreciate themselves
- b. 25 % more of yoga practitioners accept unpleasant experiences
- c. 30 % more of yoga practitioners are friendly to themselves, when things go wrong
- d. 20 % more of yoga practitioners watch their feelings without getting lost in them
- e. 30 % more of yoga practitioners experience inner peace and ease, even when things get hectic and stressful

- f. 30 % more of yoga practitioners are able to smile (which means maintaining a pleasant outlook) when life becomes difficult for them

Table 3. Experience of various components of alertness by yoga practitioners and non-practitioners

Components of alertness	Respondents (%) reporting					
	Fairly often			Almost always		
	Non-yoga (control) group	Yoga group	Increase (in %) of yoga practitioners reporting	Non-yoga (control) group	Yoga group	Increase (in %) of yoga practitioners reporting
I am open to the experience of the present moment	55	50	-	15	20	5
I sense my body, whether eating, cooking, cleaning or talking	25	15	-	10	20	10
When I notice an absence of mind, I gently return to the present state	30	55	25	40	30	-
I am able to appreciate myself	30	40	10	20	40	20
I pay attention to what is behind my actions	25	20	-	35	40	5
I see my mistakes and difficulties without judging them	30	15	-	5	20	15
I feel connected to my experience in the here-and-now (implies- the present state)	45	45	-	45	20	-
I accept unpleasant experiences	20	10	-	30	55	25
I am friendly to myself when things go wrong	30	10	-	25	55	30
I watch my feelings without getting lost in them	25	35	10	30	50	20
In difficult situations, I can pause without immediately reacting	40	35	-	25	40	15
I experience moments of inner peace and ease, even when things get hectic and stressful	30	20	-	30	60	30
I am able to smile when I notice how I sometimes make life difficult	25	20	-	20	50	30
I am impatient with myself and with others	20	10	-	Nil	5	5

Alertness Score

From Table 4, it can be made out that 65% of yoga practitioners have an alertness score in the range of 75.7 to 88.6 % of the maximum possible score. However, only 30% of people who do not practice yoga have alertness score in the range of 72.9 to 81.4 % of the maximum possible score (Table 3).

This result also indicates that yoga practitioners maintain a comparatively higher level of alertness than people who do not practice yoga.

Table 4. Range of score for alertness

Range of total score for alertness*	Respondents (%)	
	Yoga group	Control (non-yoga) group
61.4-71.4	-	55.0
72.9-81.4	-	30.0
84.3-97.1	-	15.0
Total (%)	-	100.0
48.6-64.3	15.0	-
68.6-74.3	20.0	-
75.7- 88.6	65.0	-
Total (%)	100.0	-

*as percentage of the maximum possible score

In the up to 60 years age group, the mean score for alertness of yoga practitioners is 51.2, while that of the more than 60 years age group is only 43.5. There exists statistically significant difference between these scores (Table 5)

Mean alertness score	
Age group (years)	
Up to 60	> 60
51.2	43.5
t stat = 1.64. Significant at 0.10 probability	

Table 5. Alertness score of yoga practitioners based on age

Even though there is no statistically significant difference in the mean alertness score of people who practice yoga continuously and those who are discontinuous in yoga practice, Table 6 shows that the score of the continuous yoga group (50.9) is slightly more than that of the group, which does not do yoga continuously (47.8)

Table 6. Alertness score of yoga practitioners based on continuity in yoga practice

Mean alertness score	
Continuity in yoga practice	
Continuous	Not continuous
50.9	47.8
Note: t test is not statistically significant	

Results of statistical t test showed that factors such as number of years of yoga practice and number of days per week of yoga practice does not influence alertness of the yoga practitioners.

Table 7 shows the benefits reported by the yoga practitioners. A very high proportion (85%) have mentioned that yoga contributes to a positive effect on their mind in terms of factors such as better mind control, less tension / anxiety, feeling more relaxed, feeling happier, feeling more peaceful, feeling more enthusiastic, better ability to face problems etc. 30 % of the yoga practitioners report health improvement, while 25 % mention that their bodies have become more flexible through doing yoga. Other benefits (Table 7) include improvement in self-confidence (15%), better concentration (15%), Weight loss (10%) and improvement in resistance to diseases (10 % respondents)

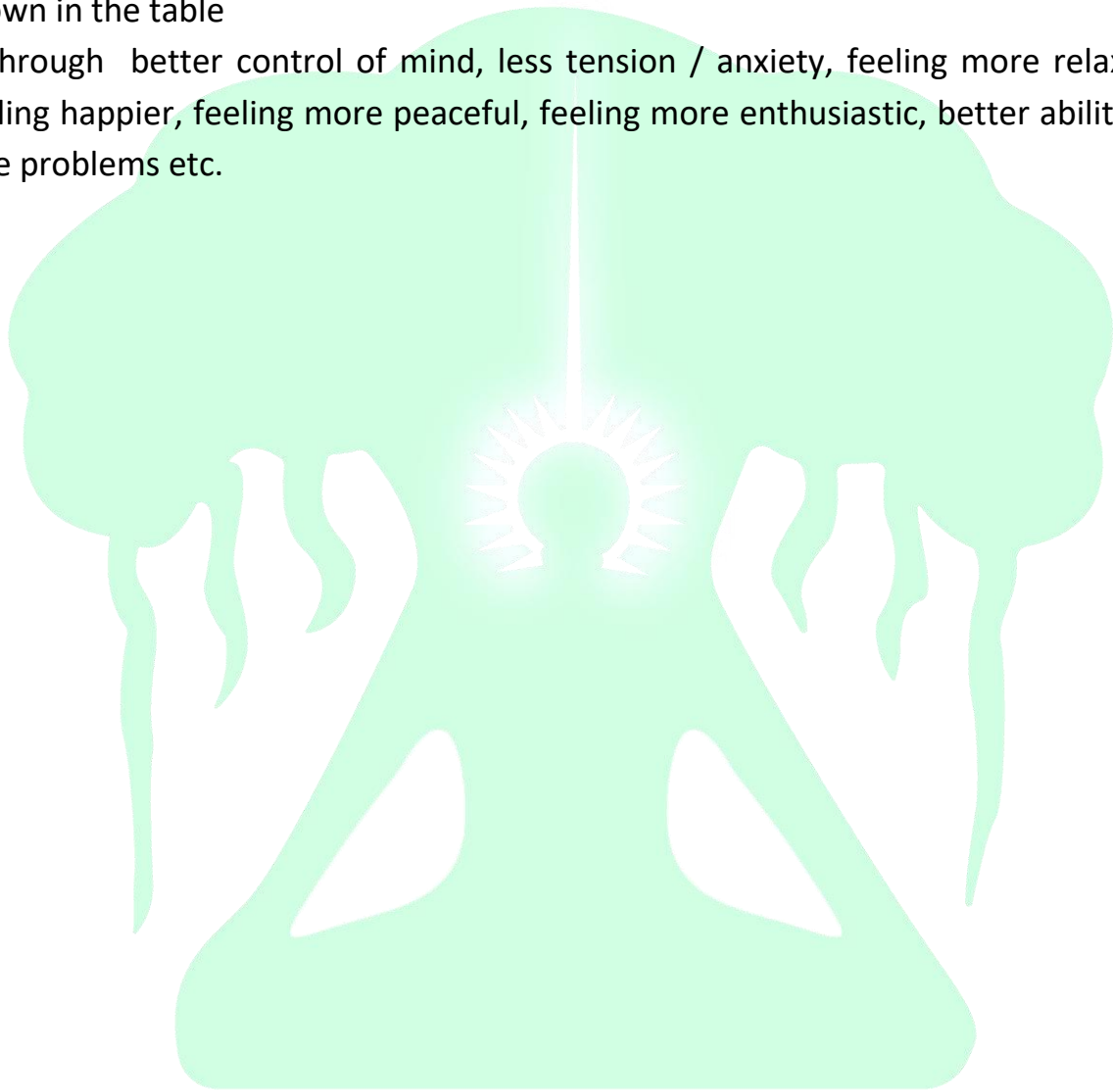
Table 7. Benefits obtained by practicing yoga

Benefits obtained*	Respondents reporting (%)
Positive effect on mind**	85
Health improved	30

Body became more flexible	25
Self-confidence increased	15
Better concentration	15
Weight loss	10
Disease resistance increased	10

*only those benefits reported by 10 percent and more of yoga practitioners are shown in the table

**through better control of mind, less tension / anxiety, feeling more relaxed, feeling happier, feeling more peaceful, feeling more enthusiastic, better ability to face problems etc.



Conclusions of the Study

1. While about 39 % of people who practice yoga experience alertness “almost always”, only about 23.5 % of people who do not practice yoga experience alertness in this manner
2. 65 % of yoga practitioners have an alertness score in the range of 75.7 to 88.6 % of the maximum possible score. However, only 30 % of people who do not practice yoga have alertness score in the range of 72.9 to 81.4 % of the maximum possible score
3. When compared to people who do not practice yoga, more number of yoga practitioners experiences certain components of alertness. The results, in terms of the increase in percentage of yoga practitioners experiencing them “almost always” (when compared to people who do not practice yoga) are given below
 - a. 20 % more of yoga practitioners appreciate themselves
 - b. 25 % more of yoga practitioners accept unpleasant experiences
 - c. 30 % more of yoga practitioners are friendly to themselves, when things go wrong
 - d. 20 % more of yoga practitioners watch their feelings without getting lost in them
 - e. 30 % more of yoga practitioners experience inner peace and ease, even when things get hectic and stressful
 - f. 30 % more of yoga practitioners are able to smile (which means- maintaining a pleasant outlook), when life becomes difficult for them
4. The results presented in item no. 1, 2 and 3 above indicate that yoga practitioners maintain more alertness, when compared to people who do not practice yoga
5. In the up to 60 years age group, the mean score for alertness of yoga practitioners is 51.2, while that of the more than 60 years age group is only 43.5. There also exists statistically significant difference between these scores

6. Even though there is no statistically significant difference in the mean alertness score of people who practice yoga continuously and those who are discontinuous in yoga practice, the alertness score of the continuous yoga group (50.9) is slightly more than that of the group, which does not continuously do yoga (47.8)
7. Results of statistical t test showed that factors such as number of years of yoga practice and number of days per week of yoga practice does not influence alertness of the yoga practitioners.
8. With regard to the benefits obtained by practicing yoga, 85% report that yoga has contributed to a positive effect on their mind in terms of factors such as better mind control, less tension / anxiety, feeling more relaxed, feeling happier, feeling more peaceful, feeling more enthusiastic, better ability to face problems etc. 30 % of the yoga practitioners report health improvement, while 25 % mention that their bodies have become more flexible through the practice of yoga. Other benefits reported are improvement in self-confidence (15% respondents), better concentration (15% respondents), weight loss (10% respondents) and improvement in resistance to diseases (10 % respondents)

Reference

Harald Walach, Nina Buchheld, Valentin Buttenmuller, Norman Kleinknecht and Stefan Schmidt (2006). Measuring mindfulness - the Freiburg Mindfulness Inventory (FMI). *Personality and Individual Differences*, 40 (2006): 1543–1555



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