

Improvement in Moods after the Practice of Yoga: A Study

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Submitted: 15 April 2024 Accepted: 22 April 2024 Published: 29 April 2024

Citation: Madhava Chandran K, Devadasan N and Beena C (2024) Improvement in Moods after the Practice of Yoga: A Study. J Psych and Neuroche Res 2(2), 01-05.

Abstract

Objective: To analyse the change in moods after yoga practice, when compared to before its practice and to understand the influence of the characteristics of the yoga practitioners on their moods after the practice of yoga.

Methodology: The study was carried out among a sample of 50 randomly selected yoga practitioners from Kozhikode District of Kerala, India using a questionnaire containing the measure of moods, with three-point Likert responses on improvement in moods after yoga practice, when compared to before its practice, and the characteristics of the respondents such as sex, age, period of yoga practice, and whether they had experienced any psychological problems before starting yoga practice. The sum of scores of individual mood parameters was worked out as the total mood score of the respondents after yoga practice. The data was analysed as mood score, proportion reporting and through statistical test.

Results: The results of the study have brought out the positive influence of yoga practice in improving all the 34 mood parameters considered under the study. The statistical influence of age and period of yoga practice of the respondents on improvement in moods is also evident.

Conclusions: After yoga practice, all the positive and negative mood parameters considered under the study have improved. It will be useful if other yoga centres in India also carry out similar type of studies and attempt to popularize their results among the public in order to help in improving the adoption of the practice of yoga, which is not much in the country at present.

Keywords: Moods, Yoga Practice, Improvement

Introduction

Mood is an affective state, which, in contrast to emotions or feelings, is less specific, less intense and less likely to be provoked or instantiated by a particular stimulus or event. Moods are typically described as having either a positive or negative valence. People usually talk about being in a good mood or a bad mood.

Yoga postures strengthen, purify, and balance the endocrine, nervous, and circulatory systems. Some yoga postures are useful for increased blood flow to the brain, which results in more availability of oxygen and glucose. This leads to increased production of certain neurotransmitters, which in turn enhances mood and state of well-being (Yoga for Mood & Well-Being. <https://caps.ucsc.edu/resources/yoga-for-mood-and-well-being.html>). People have fewer negative feelings after getting into a routine of practicing yoga (<https://www.hopkinsmedicine.org/health/wellness-and-prevention/9-benefits-of-yoga>).

Evidence shows that yoga can help improve mood and emotional regulation, both of which are associated with reductions in the stress hormone cortisol (What yoga does to your brain. <https://www.nbcnews.com/better/health/what-yoga-does-your-brain-nca794531>). In addition to lowering stress hormones in our bodies, yoga also helps to increase beneficial brain chemicals (feel-good chemicals) like endorphins and GABA (gamma-aminobutyric acid), which help to decrease anxiety and improve mood.

Methodology

The study was carried out among a sample of 50 randomly selected yoga practitioners from Kozhikode District of Kerala, India using a questionnaire containing the measure of moods [1], with three-point Likert responses on improvement in moods after yoga practice, when compared to before its practice, and the characteristics of the respondents such as sex, age, period

of yoga practice, and whether they had experienced any psychological problems before starting yoga practice. The sum of scores of individual mood parameters was worked out as the total mood score of the respondents after yoga practice. The data was analysed as mood score, proportion reporting and through statistical test.

Results

Table I gives shows the responses of the yoga practitioners on changes in mood after yoga practice, when compared to before its practice. The two responses totalling to the maximum proportion are shown in Table 1.

Table 1: Changes in mood after starting yoga practice compared to before its practice

Positive mood	Respondents (%) mentioning changes in the mood after yoga practice, when compared to before its practice			
	Experienced slightly more	Experienced moderately more	Experienced much more	Total (%)
Feeling proud	70		20	90.0
Feeling lively		30	30	60.0
Feeling energetic	60	10		70.0
Feeling competent to do things	40	20		60.0
Feeling confident		20	40	60.0
Feeling satisfied	40	20		60.0
Negative mood	Slightly reduced	Moderately reduced	Reduced much	Total (%)
Feeling vigorous	60	10		70.0
Feeling tense	50	10		60.0
Feeling exhausted		20	40	60.0
Feeling unhappy		28.6	28.6	57.2
Feeling angry		25	37.5	62.5
Feeling confused		56.8	14.4	71.2
Feeling sad		42.8	14.4	57.2
Feeling nervous / on edge		42.8	14.4	57.2
Feeling grouchy		44.4	22.2	66.6
Feeling ashamed		66.4		66.4
Feeling hopeless		42.8	14.4	57.2
Feeling uneasy	33.3	50		83.3
Feeling restless		42.8	28.6	71.4
Feeling unable to concentrate		33.3	22.2	55.5
Feeling fatigued	-	30	30	60.0
Feeling annoyed	28.6	42.8		71.4
Feeling discouraged		25	37.5	62.5
Feeling resentful		25	37.5	62.5
Feeling miserable	33.3	33.3		66.6
Feeling anxious		37.5	25	62.5
Feeling of bitterness		75.0		75.0
Feeling helpless	33.3	33.3		66.6
Feeling bewildered	42.8	28.6		71.4
Feeling furious	25	62.5		87.5
Feeling worthless		50	25	75.0
Forgetfulness	30	40		70.0
Feeling uncertain	57.1	14.4		71.5
Feeling embarrassed	57.1	14.4		71.5

Table 2 shows the range of mood scores of the respondents after the practice of yoga.

Table 2: Range of mood scores after the practice of yoga

Range of mood scores after yoga practice*	Respondents (&)
27.2 to 52.0	30.0
64.0 to 96.0	70.0

*as % of the maximum possible score under the study

Table 3 shows the results of ANOVA of mood scores based on the age of the respondents.

Table 3: ANOVA of mood scores based on age of respondents

Age (Years)	Mean mood score	F value
33 to 44	54.0	4.41 significant p <0.05
54 to 60	82.5	
61 to 63	91.7	

Table 4 shows the results of ANOVA of mood scores based on the period of yoga practice of the respondents.

Table 4: ANOVA of mood scores based on the period of yoga practice

Period of yoga practice (Months)	Mean mood score	F value
2 to 4	42	8.71 significant p <0.01
7 to 12	82	
60 to 156	84	

Discussion

Based on the responses of the yoga practitioners regarding the changes in various moods after starting yoga practice, when compared to before its practice (Table 1), the following inferences are drawn:

As far as the 7 positive moods namely, feeling proud, lively, energetic, competent to do things, confident, satisfied, and feeling vigorous are concerned, the results show that maximum proportion of yoga practitioners have experienced them either slightly more or moderately more when considered together, or moderately more and much more when considered together, or slightly more and much more when considered together after the practice of yoga, when compared to before its practice. Yoga practice helped to contemplate that the person practicing it was special, even divine, and worthy of love and respect. He transcended mere tolerance and began feeling a healthy sense of pride. (Source: Yoga & Pride: The Sacred Celebration of Self. <https://lotussf.wordpress.com/2013/06/26/yoga-pride-the-sacred-celebration-of-self/>). It always makes you proud of your growth through yoga practice, but makes sure that you stay grounded and humble at the same time. (Source: My Yoga Journey. <https://myyogateacher.com/articles/my-yoga-journey#>). Yoga reduces fatigue and negative affect, while increasing positive affect, self-esteem, and gives a feeling of being energised. (Source: Science explains why yoga can make you happier. <https://scroll.in/article/840201/science-explains-why-yoga-can-make-you-happier>). Moving your body in a sustained and focused way while doing yoga asanas clears stagnation and boosts endorphins, making you feel more energized. Yoga helps the practitioners to avoid distracting thoughts, sounds and other disturbances. This can help the brain use its energy more efficiently where it is needed. This can be expected to help in improving the compe-

tence to do things in life. The psychological and physical health benefits of yoga practice can probably make people improve their competence in life related activities. Further, these benefits may also be helping the yoga practitioners to feel that they are performing tasks in a better manner.

Knowing that one can be in control of his or her physical growth through yoga practice automatically increases your self-confidence. Psychologists consider confidence as an emotion related to self-awareness. Yoga helps in improving self-awareness, and hence could contribute to improving self-confidence. Proper functioning of the vagus nerve promotes emotion regulation, social competence, and prosocial behaviour, and dampens aggression, hostility, depression and anxiety. Yoga practice tones the vagal nerve, making us feel more satisfied and happier. (Source: How yoga makes us happy, according to science. <https://the-conversation.com/how-yoga-makes-us-happy-according-to-science-77840>). Feeling energetic, lively, contented, satisfied, proud and confident, as observed to have been experienced more in this study after starting yoga practice could also have made the practitioners feel more vigorous in their lives. Yoga is reported to improve "Prana", a subtle form of energy, which regulates your senses, the way you perceive, think and act. This can also help the yoga practitioners to feel more vigorous in their lives. Yoga stimulates endorphins, the "feel-good transmitters" in the brain, which can help the practitioners to feel more energetic.

Regarding the 27 negative moods, namely, feeling tense, exhausted, unhappy, angry, confused, sad, nervous / on edge, grouchy, ashamed, hopeless, uneasy, restless, unable to concentrate, fatigued, annoyed, discouraged, resentful, miserable, anxious, bitter, helpless, bewildered, furious, worthless, forgetful, uncertain, and feeling embarrassed, the results show that when

compared to before the practice of yoga, majority of the respondents have experienced 26 out of 27 negative moods either slightly less and moderately less when considered together, or moderately less and much less when considered together after yoga practice, when compared to before its practice (Table 1). With regard to the feeling of bitterness, 75 % have experienced it moderately less after yoga practice, when compared to before its practice.

70 % of the respondents have obtained mood scores in the range of 64 to 96% of the maximum possible total mood score in this study (Table 2). This implies that majority of the yoga practitioners have achieved significant improvement in their moods after yoga practice, when compared to before starting yoga. ANOVA test revealed statistically significant difference in the mood scores after yoga practice based on the age of the respondents, with the lowest score obtained by people in the age group of 33 to 44 years, followed by those in the age group of 54 to 60 years and the maximum mood score got by the yoga practitioners in the highest age group of 61 to 63 under the study (Table 3). Similarly, ANOVA test (Table 4) showed statistically significant influence of the period of yoga practice on the total mood scores after yoga practice, with the lowest score obtained by respondents with 2 to 4 months of yoga practice, followed by those with 7 to 12 months of practice, and a comparatively higher score obtained by respondents with the maximum period of yoga practice (60 to 156 months). This means that more period of yoga practice has helped the respondents to improve their mood states in a better manner.

A study has reported that a greater number of yoga practitioners experience peace of mind most of the time or always, when compared to those who do not practice yoga [2]. Yoga and pranayama practices activate the parasympathetic nervous system, helping to reduce stress and calm the mind. Cortisol and norepinephrine hormones in the neurochemical system play a major role in creating stress. Yoga has been found to reduce the levels of these hormones. Yoga practice helped to reduce mental stress and anxiety [3].

Yoga and pranayama oxygenate the external organs of the body, especially the nervous system. As a result, neurons in the brain become more active. Due to this, fatigue is reduced to a great extent. It has been reported that yoga combined with physical exercise and meditation was effective in reducing fatigue [4]. Respondents under the present study on mood changes due to yoga practice reported that practicing yoga increased their energy levels. This could have helped them to reduce fatigue also. Many studies have shown the fact that yoga produces "feel good" hormones such as endorphins, dopamine, oxytocin, serotonin, etc., which are helpful in reducing the feelings of sadness, anxiety and worry. Better functioning of the Vagus nerve in the body, which can be achieved through yoga practice helps in achieving greater satisfaction and happiness (Source: <https://theconversation.com/how-yoga-makes-us-happy-according-to-science-77840>). An increase in adrenalin hormone causes feelings of anger and fear. Yoga and its relaxation techniques have a beneficial effect on the hypothalamus in the brain, controlling negative emotions such as anger. Yoga reduces negative emotions such as anxiety, anger, and depression [5].

The slow rhythmic breathing practices in yoga, meditation and relaxation practices are designed to promote calmness, well-being, stress tolerance, and mental focus. These will help in reducing sadness in life. In the present study on mood changes, it was observed that due to yoga practice, negative moods such as panic, anger, and lack of happiness have reduced. The control of these mental states, which can cause discomfort in life may be the reason why those who practiced yoga did not feel much discomfort in life under this study. In a study, it was found that pranayama, a component of yoga influenced emotions in the form of decreased anxiety and increased positive emotions. Yoga is a practice that helps us to know more about ourselves (considering ourselves as a "being"). It helps to get rid of feelings like shamefulness in life (Source: <https://www.scottmooreyoga.com/blog/2017/6/5/stop-feeling-guilty-for-not-going-to-yoga>).

Problems with one's mental state is one of the major causes of disappointment in life. Since the practice of yoga causes mental stimulation, yoga could help reduce disappointment in life. (Source: <https://www.himalayanyogaashram.com/blog/2023/10/05/10-benefits-of-yoga-practice/>). Yoganidra under yoga practice helps to eliminate the negative state of restlessness by generating positive alpha waves in the brain. A study found significant improvements in focus, concentration, and memory after practicing yoga [6]. Concentration and calmness often result from meditation and similar practices [7]. Practice of yoganidra meditation, which is an integral part of yoga can decrease anxiety, stress, frustration etc., and lead to a change in the positive outlook in life and decrease in emotions such as feeling irritable etc. In the present study, yoga practitioners have indicated that negative moods such as anxiety, panic, tension, and despair have decreased after starting yoga practice. Yoga practitioners have also reported increase in energy, self-confidence and satisfaction. All of these aspects may have helped those who practiced yoga to feel less annoyed in life also. Experiencing more positive moods and less negative moods after starting yoga by the practitioners may have led to having less of discouraging thoughts for them under the present study. We do not get discouraged when we find success, achieve goals and actively strive to improve ourselves (Source: https://loganriver.com/blog-positive_psychology/). The beneficial moods experienced by people in this study may have contributed to the above-mentioned achievements in life to a good extent.

Resentment in life is an emotion characterized by a combination of frustration, disgust, and anger (Source: <https://en.wikipedia.org/wiki/Resentment>). It was observed under the present study that frustration and anger have decreased after starting yoga, reducing the feeling of resentment in life. Also, the positive states of better energy, contentment etc. achieved through yoga practice may have helped to reduce resentment. When there is a positive state of mind, there is generally less chance of having negative moods such as resentment. Feeling dissatisfied with life can be the main cause of feeling that life is difficult (Source: <https://www.healthshots.com/mind/happiness-hacks/5-ways-to-be-happy-and-how-to-avoid-being-miserable-in-life/>). However, yoga practitioners under this study on mood changes indicated that they felt more satisfied in life after doing yoga. Perhaps it was because of this satisfaction that they did not have much of a feeling that life was difficult after starting yoga practice. In addition, yoga participants reportedly experienced less depres-

sion, anxiety, panic, sadness, and stress, and had improved sense of well-being. These factors might have helped to reduce the feeling that life is difficult for the yoga practitioners under this study. Based on a study, it has been reported that yoga practice was helpful in reducing anxiety associated with the COVID pandemic [8].

The mental benefits due to yoga practice may have contributed to the awakening of the mind for people under the present study. This might have helped them to confront even their enemies in a good manner. The mindfulness practice of pranayama results in the development of the “Anahata Chakra”, also known as the Heart Chakra in the brain. The activity of the pineal gland in the brain also increases. This will help to reduce hostility and instil feelings of love. Studies have shown that practicing yoga can even help reduce the problem of Alzheimer's disease, a very serious condition of forgetfulness. (Source: <https://timesofindia.indiatimes.com/life-style/health-fitness/wellness/yoga-for-alzheimers-6-yoga-poses-that-can-prevent-memory-loss-in-old-age/articleshow/103184427.cms>). Some parts of the temporal lobe of the brain are associated with memory. Since yoga stimulates these areas, yoga practitioners are less likely to experience the problem of forgetfulness. Increased blood flow to the brain through yoga practice can help improve memory and concentration.

It was observed under the present study that yoga reduced negative moods such as tension, panic, nervousness, frustration, etc. and improved positive moods such as energy, ability to manage things well, confidence, etc. All of these factors might have helped to reduce the feeling of uncertainty in life for the yoga practitioners under this study. Negative judgment of others is a major cause of confusion in life. This happens mostly when one's skills are not that great. If we are not in a good mood, we may not be able to bring out our talents properly and hence, may feel embarrassed. However, the yoga practitioners in this study are less likely to have much of embarrassment in life, which has also been as observed from the data collected, since they have been able to develop good moods and reduce negative ones through yoga practice.

Conclusions

The study has clearly brought out the influence of yoga practice in improving all the 34 mood parameters considered under the study. The statistical influence of age and period of yoga practice of the respondents on improvement in moods is also evident. It will be useful if other yoga centres in India also carry out similar type of studies and attempt to popularize their results among the public in order to help in improving the adoption of the practice of yoga, which is not much in the country at present.

References

1. Grove JR, Prapavessis H (1992) Preliminary evidence for the reliability and validity of an abbreviated Profile of Mood States. *International Journal of Sport Psychology* 23: 93-109.
2. Madhava Chandran K, Unniraman P (2019) Influence of yoga in achieving peace of mind. *International Journal of Yoga, Physiotherapy and Physical Education* 4: 64-66.
3. Devadasan N, Madhava Chandran K (2023) Case Studies on the Benefits of Yoga Practice. *Sasthra - The Ind. J. Sci. & Technol* 4: 55-59.
4. Feuerstein G (1998) *The Yoga Tradition: Its History, Literature, Philosophy and Practice*. Hohm Press.
5. Ingunn Hagen, Solbjørg Skjelstad, Usha Sidana Nayar (2021) I Just Find It Easier to Let Go of Anger: Reflections on the Ways in Which Yoga Influences How Young People Manage Their Emotions. *Front Psychol* 12: 729588.
6. Joice PPS, Manik KA, Sudhir PK (2018) Role of yoga in attention, concentration, and memory of medical students. *Natl J Physiol Pharm Pharmacol*. 8: 1526-1528.
7. Ryan M K Chan, Winnie W S Mak, Ben C L Yu (2023) Going beyond Mindfulness: How Concentration and Tranquillity Commonly Co-Arising with Mindfulness Account for Mental Health. *International Journal of Environmental Research and Public Health* 20: 5470.
8. Madhava Chandran K, Valsan T, Vijayaraghavan N, San-geeth B (2020) Analysis of the effect of yoga practice on anxiety during the COVID-19 pandemic. *International Journal of Yoga, Physiotherapy and Physical Education* 5: 12-14.