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## EFFECT OF YOGA AND MEDITATION ON MOOD STATE

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**Abstract:** There are a number of difficult events in one's life that may hamper the peace of mind. Poorly managed negative emotions and feelings caused chronic stress, disturbed hormonal balance of the body, depleted brain chemicals and hence damaged immune system, resulting in poor health. Since it is important to curtail such emotions and practice self-control to stay calm and develop happy emotions this research aimed to find out the impact of practice of yoga and meditation on positive and negative emotions (Mood State). Pre-test and post-test experimental design was used. Positive and Negative Affect Schedule was used to measure level of mood state. Yoga and meditation training was given to 45 subjects of age group 30-50 years for 30 days, 60 minutes every day. Paired t - test confirmed that yoga and meditation played a significant role in enhancing positive mood state of subjects.

**Index Terms - Yoga, Meditation, Pranayama, Mood State, PANAS.**

### I. INTRODUCTION

In the pandemic situation, people have had no clarity about the realm. Several businesses have fallen apart and relationships have broken under the covid scenario. There is no perfect and specialized medication yet developed for COVID-19. People have gone chaotic and their lives are no longer in their control. As an outcome of all this uncertainty people during Covid as well as post Covid are suffering from major mental imbalances. A lot of people have been severely affected by the post-COVID symptoms both mentally as well as physically. People have experienced mixed feelings and several mood swings. They have felt afraid, distressed, upset, guilty, scared, irritable, ashamed, nervous, jittery and many other negative as well as positive mood states. Where no perfect or particular medication is available, people tend to move to alternate or supporting therapies. According to the ancient Indian literature and Bhagavad Geeta, yoga and meditation are helpful in balancing mood states. These do no harm, have several benefits and also strengthen the immune system.

### Yogasana And Pranayama

Yoga is the "union" of mind and body. A state where mind controls the senses and body acts accordingly. Yoga emphasizes mind-body connectedness and involves postures, breathing, and meditation. Yoga is an ancient practice in India. It is a preventive and cost-effective approach to overall well-being without any significant side effects. It has been said, "Yoga is the journey of the self, to the self, through the self". Yoga, if practiced properly, is an art of life for the whole life journey of a human right from birth till death. Yoga is a way of life and includes every aspect of life. The actual purpose of yoga is to enable the person to end his/her material existence and to attain the kingdom of the Almighty. Yoga imparts several benefits physically, mentally, spiritually as well as emotionally. Generally, the yoga process is explained in 8 limbs (Ashtanga Yoga) to practice. The first two limbs are physical being Yama (restraint) and Niyama (discipline). The next three are physical preparations namely Asana (posture), Pranayama (breath control) and Pratyahara (withdrawal

of senses). The last three are purely mental aids called Dharana (holding on), Dhyana (concentrated meditation) and Samadhi (self-collectedness).

## Meditation

Meditation is about focusing the mind on a particular object for gaining attention, awareness, calmness and stability. The beauty and simplicity of meditation is that no equipment is needed. Only a little space and a few minutes every day with a scheduled timing is all what is required. Meditation may significantly reduce stress, anxiety, depression, pain, and enhance peace, perception, self-concept and well-being. Various researches have been ongoing regarding the same to understand the effects of meditation on various aspects of health like psychological, neurological, cardiovascular etc in a better way. Out of diverse meditation techniques practiced, one is Mindful Meditation or focused-attention, in which a specific thing (breath, a specific sensation in body or a particular object outside) needs to be focussed. "Mindfulness meditation is a form of self-regulatory exercise for mind and body. The core concepts of mindfulness meditation include paying attention to the present moment and attaining a state of consciousness in a non-judgmental/accepting manner" (Bishop et al., 2004; Lutz et al., 2008). Another type of meditation is Open-Monitoring Meditation. In this attention needs to be focussed on all the things happening around, but without any reaction from the meditator's side.

## Mood State

Mood is a generalized feeling. It is a state of short-term feeling that results in physical and psychological changes that influence thoughts and behaviour of an individual. Moods are transient, often unrelated to external events, having varying intensities and fluctuating. Moods influence overall sense of wellbeing and affect the behaviour pattern and perceived health (Berger and Motl, 1998). The nature of emotions of an individual informs about the nature of their mood. According to the semantic pointer theory of emotions, emotions are patterns of firing in large groups of neurons that integrate neural representations of situations, cognitive appraisals of those situations, and physiological changes (Thagard and Schröder, 2014, Thagard 2018). Mood states are temperaments to have emotions. Being in a good mood means undergoing processes in the body and in brain's unconscious appraisals of situations, that together produce particular kinds of emotions in response to particular kinds of situations.

Due to covid people were very much stressed and tensed. Apart from being suffering physically, people were also suffering mentally and emotionally. Life became extremely unstable and uncertain for all. People were not able to overcome the loss of their loved ones and this issue is still persisting. Physically people suffered from damaged lungs, heart, breathing issue, weakness and weak immune which all the more added up to their mental sufferings which could not let them be in a positive mood state at any moment of time. It became comparatively easy for people to control their physical suffering but psychological factors of an individual went completely out of his/her control. Yoga helped people to reduce psychological distress, improve immune response along with several other benefits. It installed positivity in people in such uncertain times and gave them hope of recovery both on physical as well as mental aspects. Various Yoga techniques improved psychological responses, mental states and mood states of people along with physical strength and cure.

A research study examined the interventions of yogic practices on the physiological health of employees. The study investigated the impact of yoga and pranayama on functioning of heart and lungs where in a group of 120 male subjects of age group 25-35 years was randomly selected and yoga proved to be excellent on physiological health of these stressed working professionals. It was thereby concluded that yoga can be practiced at any age or stage of life and has already helped to improve the lives of many people (Sagar et al. 2022). Another important research studied the effect of yoga practice on the illness perception, and wellbeing of healthy adults during 4-10 weeks of lockdown due to COVID19 outbreak. For the research 668 adults participated in the online survey. The participants were grouped as; yoga practitioners, other spiritual practitioners, and non-practitioners based on their responses to daily practices that they follow. Multivariate analysis indicated that yoga practitioners had significantly lower depression, anxiety, & stress, and higher general wellbeing as well as higher peace of mind than the other two groups. Also, yoga practitioners significantly differed in the perception of personal control, illness concern and emotional impact of COVID19. yoga was found as an effective self- management strategy to cope with stress, anxiety and depression, and maintain wellbeing during COVID19 lockdown (Sahni et al. 2021).

**Abbreviations:** PANAS- Positive and negative affect schedule

## II. OBJECTIVES

1. To develop a Yoga Module (Asana, Pranayama and Meditation)
2. To study the effect of Yoga and Meditation on Mood State

## III. HYPOTHESIS

There will be significant effect of Yoga and Meditation on Mood State.

## IV. RESEARCH METHODOLOGY

### 4.1 Population and Sample

The sample consisted of 45 adults (age ranged from 30 to 50 years) from different professions and the male to female ratio was 12:33. The group was designed in such a manner, to include people of different nature, different locations, varying professions like architect, IT professionals, business etc. to set a better platform to study. Few of them were very much stressed and sad and afraid especially due to the ongoing covid scenario making people's life terrible. Yoga practice session was given in morning as well as evening to the subjects. They were given freedom to attend any of the sessions out of the two.

### 4.2 Theoretical framework

Variables of the study contains dependent and independent variable. The study used pre-specified method for the selection of variables. The study used the Mood States (interested, distressed, excited, upset, strong, guilty, scared, hostile, enthusiastic, proud, irritable, alert, ashamed, inspired, nervous, determined, attentive, jittery, active, afraid) as dependent variable.

Yoga Module is the only independent variable.

### 4.3 Research Design

The pre-test-post-test experimental group design was used in this research. Pretesting was done after selection of sample and post testing was done after the implementation of yoga and meditation module for 30 days on experimental group.

### 4.4 Procedure

For the measurement of different mood states of an individual, Positive and negative affect schedule (PANAS) scale was used (Watson, Clark, & Tellegen, 1988). The internal reliability of PANAS scale is consistent with scores ranging from 0.86 to 0.90 for PA and 0.84 to 0.87 for NA (Magyar-Moe, 2009). PANAS consists of 20 mood states, positive as well as negative. The positive mood states being interested, strong, enthusiastic, alert, inspired, determined, attentive, excited, proud and active. Negative mood states taken into account were distressed, upset, guilty, scared, irritable, ashamed, nervous, jittery, afraid and hostile. The scoring was done by quantifying the parameters over Panas scale which consisted of ratings from 1-5 where 1,2,3,4,5 demarcated very slight or not at all, a little, moderate, quite a bit and extreme respectively.

Table 3.1: PANAS Scale

Description	Score
Extreme	5
Quite a bit	4
Moderate	3
A little	2
Very slight or not at all	1

Yoga module was prepared consisting different sets of yogasanas for each day of the week and a total of 6 days per week. The same set was repeated for all 4 weeks. The module consisted of prayer, micro-yogic kriyas, asanas, pranayama and meditation. For Module administration two rounds of similar yoga session were made available for the participants every morning and evening 6-7 am and 5-6 pm respectively and the participants

were allowed to join any one according to their availability and suitability. A total of thirty-day yoga training was provided to participants.

#### Monday

1. Prayer (2 mins)
2. Micro yogic kriyas: Tapping top to toe, eye, ear, neck, hand, leg movement, yogic jogging (15 mins)
3. Asanas: Tadasana, Vrikshasana, Padmasana, Shashakasana, Dhanurasana, Bhujangasana, Setu bandhasana, Vipritkarni (13 mins)
4. Pranayama: Brahmari, Suryabhedhi pranayama (15 mins)
5. Meditation: Mindfulness and Spiritual Meditation (15 mins)

#### Tuesday

1. Prayer (2 mins)
2. Micro yogic kriyas: Tapping top to toe, eye, ear, neck, hand, leg movement, yogic jogging (15 mins)
3. Asanas: Tadasana, Padmasana, Dhanurasana, Setu bandhasana (13 mins)
4. Pranayama: Shankh dhvani pranayama, Kapalbhathi pranayama (10 mins)
5. Meditation: Om Mantra Meditation (20 mins)

#### Wednesday

1. Prayer (5 mins)
2. Micro yogic kriyas: Tapping top to toe, eye, ear, neck, hand, leg movement, yogic jogging (15 mins)
3. Asanas: Tadasana, Vrikshasana, Padmasana, Shashakasana, Dhanurasana, Bhujangasana, Setu bandhasana, Vipritkarni (20 mins)
4. Pranayama: Ujjayi + Bhastrika (10 mins)
5. Meditation: Focus on internal organs (10 mins)

#### Thursday

1. Prayer (2 mins)
2. Micro yogic kriyas: Tapping top to toe, eye, ear, neck, hand, leg movement, yogic jogging (15 mins)
3. Asanas: Tadasana, Padmasana, Dhanurasana, Setu bandhasana, Vipritkarni (15 mins)
4. Pranayama: Gayatri mantra chanting + Om chanting along with breath control (15 mins)
5. Meditation: Transcendental Meditation (13 mins)

#### Friday

1. Prayer (5 mins)
2. Micro yogic kriyas: Tapping top to toe, eye, ear, neck, hand, leg movement, yogic jogging (15 mins)
3. Asanas: Tadasana, Vrikshasana, Padmasana, Shashakasana, Dhanurasana, Bhujangasana, Setu bandhasana, Vipritkarni (15 mins)
4. Pranayama: Anulom villoma, Suryabhedhi (10 mins)
5. Meditation: 7 chakras meditation (15 mins)

#### Saturday

- I. Prayer (5 mins)
- II. Micro yogic kriyas: Tapping top to toe, eye, ear, neck, hand, leg movement, yogic jogging (15 mins)
- III. Asanas: Vrikshasana, Shashakasana, Bhujangasana, Vipritkarni (15 mins)
- IV. Pranayama: Shankh Dhvani + Kapalbhathi (15 mins)
- V. Meditation: Visualization (10 mins)

#### 4.5 Statistical tools

Paired t test was used to forward the study from data towards inferences.

### V. RESULTS AND DISCUSSION

#### 5.1 Results of Descriptive Statics of Study Variables

Table 5.1: Descriptive Statics

	Mood State	Pre-Test Mean Score	Standard Deviation	Post Test Mean Score	Standard Deviation	Paired t-Test Significance	t Value
<b>Positive</b>	Interested	2.93	1.21	3.84	1.11	0.0002	4.15
	Excited	2.86	1.10	3.71	0.89	0.0001	5.03
	Strong	2.91	1.36	3.95	1.00	0.0001	5.27
	Enthusiastic	3.31	1.12	3.82	1.09	0.0019	3.31
	Alert	2.88	1.01	3.53	0.99	0.0006	3.69
	Inspired	2.82	1.23	4.24	0.98	0.0001	7.21
	Determined	3.02	1.18	4.06	0.96	0.0001	5.07
	Attentive	3.06	1.30	4.11	0.91	0.0001	5.41
	Proud	2.4	1.05	3.6	1.30	0.0001	5.65
	Active	2.64	1.23	4.2	0.81	0.0001	5.96
<b>Negative</b>	Distressed	3.04	1.11	2.33	1.30	0.0015	3.39
	Upset	2.88	1.27	1.48	0.76	0.0001	6.27
	Guilty	2.08	0.97	1.53	0.92	0.0001	4.43
	Scared	2.11	1.09	1.57	0.94	0.0005	3.79
	Irritable	2.84	1.30	1.68	0.92	0.0001	5.36
	Ashamed	2.11	1.27	1.4	0.78	0.0008	3.60
	Nervous	3.42	1.29	1.68	1.12	0.0001	7.20
	Jittery	2.44	1.20	2	1.15	0.02	2.41
	Afraid	2.13	1.27	1.42	0.75	0.0005	3.75
	Hostile	2.55	1.12	1.86	1.08	0.0009	3.57

From the table 4.1, it is evident that pretest scores of positive mood states namely interested, excited, strong, enthusiastic, alert, inspired, determined, attentive, proud, active were 2.93, 2.86, 2.91, 3.31, 2.88, 2.82, 3.02, 3.06, 2.4, 2.60 respectively and their post test scores found to be 3.84, 3.71, 3.95, 3.82, 3.53, 4.24, 4.06, 4.11, 3.6 and 4.2 respectively. t value observed for positive mood states interested, excited, strong, enthusiastic, alert, inspired, determined, attentive, proud and active were 4.14, 5.02, 5.26, 3.30, 3.62, 7.21, 5.07, 5.40 and 5.65 respectively. It clearly implies that yoga module has significantly increased the positive mood states for yoga undergoing individuals of the age group 30-50 years at significance level of 0.01. The pre test scores for negative mood states namely distressed, upset, guilty, scared, irritable, ashamed, nervous, jittery, afraid and hostile were 3.04, 2.88, 2.08, 2.11, 2.84, 2.11, 3.42, 2.44, 2.13, 2.55 respectively. Their post test scores were 2.33, 1.48, 1.53, 1.57, 1.68, 1.4, 1.68, 2, 1.42, 1.86 respectively. t values observed for negative mood states were 3.38, 6.26, 4.43, 3.79, 5.36, 3.60, 7.19, 2.41, 3.74 and 3.57 respectively. It clearly implies that yoga module has significantly decreased the negative mood states for yoga undergoing individuals of the age group 30-50 years at significance level of 0.01.

As the calculated p-value of the study is greater than the tabulated 5% level of significance, hence we can reject null hypothesis. Positive mood states are statistically significant and show elevation at the end of 30 days' session and the negative the negative mood states being statistically significant shows that participants became less hostile, less afraid, less nervous, etc. as compared to initial. There was positive effect of training module on positive mood states namely interested, excited, strong, enthusiastic, alert, inspired, determined, attentive,

proud and active. mood states of people of age group 30 to 50 years. Implication of yoga, pranayama and meditation training combined in the yoga module might have boosted positive states of human mind and decreased negative mood states. Yoga module contained elements effecting human body physically as well as mentally and enhancing the good mood states of individual.

The yoga module started off with a prayer. Prayer helps our body to connect with cosmic energy. Cosmic power empowers us with positivity and creativity. It's frequencies also trigger hormones and heals the body. Micro exercises act as a warm-up support to asanas. Tapping exercise regards tapping top of the head with palms which creates pressure on back and front side of the head assisting activation of penial and pituitary gland and flourishes neurons. Eye movement and concentrating vision on a single object helps cure ailments like myopia, meteropia, astigmatism, presbyopia, age related muscular degeneration (AMD), wet eyes, dry eyes, cataract, diabetic retinopathy, proliferative retinopathy, glaucoma. Eye movement helps in strengthen extraocular muscles. Rubbing ear helps to stimulate better blood circulation and protects ear capillaries as well as small bones of the ear namely melus, inchus, stepies. Proper neck movement and rotation provides flexibility to neck muscles as it stretches the wind pipe and boosts the blood flow. It also stimulates thyroid gland and maintains body alignment. Hand movement and rotation increases flow of synovial fluid and lubricates joints for smooth movement. It also strengthens hand muscles and improves blood flow. Leg movement which involves movement of both toes and knees strengthens leg joints and muscles namely soleus, gastroenemus, hamstring, quadriceps, adducturs, extensor digitarumlongus, peroneii, tibialis anterio. It also cures osteoporosis and improves entire body alignment and fitness. Yogic jogging is a good cardio exercise and improves dynamicity (Saraswati, S.S., 1997).

Asanas should always start with standing asanas gradually moving into supine positions. Exhalation should be done while bending or squeezing and inhalation during stretching or relaxing.

Pranayama controls breathing which further helps to calm the mind and make it stable. Long practices of pranayama help to build full control over mind and body (Rao et al., 1995). This control can also be extended to mood states. Pranayama helps to enhance physical well-being, improve lung capacity, reduce anxiety, blood pressure and other psychosomatic patterns by increasing parasympathetic tone. Nasal breathing promotes activity of amygdala, piriform cortex and hippocampus of humans. Any asymmetry or disturbances causes hyperactive disorder and sleep disturbances which in turn affect mood states. Conscious breathing regulates an individual's emotional balance. Respiration rate is related to amygdala activation during fear or anxiety which in turn modulates neural activity linking cognitive processes and hence building control over mental states through breath regulation (Thagard et al., 2014). Studies of Krkovic et al. (2018) found that asanas help to strengthen muscles, stretch nerves, provide nourishing to glands and other organs by improved blood circulation in the body. It also improves lymphatic and other critical systems of the body and this physical stability in turn affects mental behaviour and mood state of an individual. It helps in making mind more stable even in critical situations and stimulates the release of happy hormones. Nguyen (2018) research indicates that Maharishi yogasanas apart from affecting our body and mind, work on the deeper self of an individual. They directly point on to one's transparent self and help in awakening souls towards a better living in terms of emotional states. Meditation consists of various stress relieving mudras namely gyan mudra, pran mudra, apan vayu mudra etc. helping an individual brighten up and elevate positive mood states. All these mudras work by regulating hormone secretion (Ren et al. 2012). Yoga overall helps to increase calmness and confidence. Penial gland activation releases melatonin hormone increasing serotonin levels making individuals more happy and cheerful.

Mindfulness, meditation, and yoga have been coined as a non-stigmatizing alternative to traditional mental health support. They are highly popular tools used for stress reduction, improve productivity and general mental health. Feuerstein (1998) insighted that yoga, mindfulness, and meditation are part of a suite of interventions called mind-body interventions. These are closely related practices and share underlying common principles and therapeutic elements grounded in religion and spirituality.

## VI. CONCLUSION

There was positive effect of yoga module training on positive mood states of individuals namely interested, excited, strong, enthusiastic, alert, inspired, determined, attentive, proud and active and has decreased the negative mood states namely distressed, upset, guilty, scared, irritable, ashamed, nervous, jittery, afraid and hostile.

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