Sublimation of mind through Ekatatväbhyäsah in the light of Patanjali Yoga Sutras (PYS).

Immediate effect of Om chanting on execution test in stroop task.

Dissertation submitted

By

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Towards the partial fulfilment of

Master of Science (Yoga)

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CERTIFICATION

This is to certify that Nivedita.Biliangadi is submitting this literary research titled "*Sublimation of mind through ekatatvābhyāsaḥ*" and Immediate effect of Om chanting on execution test in stroop task.

In partial fulfillment of the requirement for the Master of Science (Yoga)

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Immediate effect of *Om* recitation on execution test in stroop task.

ABSTRACT

Aim: To investigate the influence of two type recitation on colour-word and Digit Stroop Task immediately after 10 min of practice session.

Material and Method: The study consists of 27 students included (13 boys and 14 girls), in the range of 19-26 years were participated. They acted as their own controls. They were assessed on two Stroop Test (word- stroop and Digit stroop) immediately before and after two sessions (i) *Om* recitation (ii) SSS recitation with equal time (10 minutes) duration. 50% of participant performed *Om* recitation and remaining participants performed on SSS recitation on day 1. The orders of the sessions were reverse on day 2.

Results: Immediately after both sessions there were significant improvements in the both stroop scores. But the magnitudes of change in Digit stroop task scores were more following SSS recitation than *Om* recitation. After *Om* recitation, significant improvements were found in the male group in word-stroop score. Similarly, after SSS recitation both gender showed significant improvement in Digit stoop scores. Between genders there were no significant differences in any of the stroop task following of both the sessions.

Conclusions: The study suggests that recitation techniques had positive influence on response inhibition measured through stroop test.

Key words: *Om* recitation, SSS recitation, executive test, stoop task.

1. INTRODUCTION

Scientific research findings, on *yoga mantra* (sutras of scriptures) and religious chanting (prayers) had shown that positive influence on psychophysiological parameter. For example, during prayers and *mantras* were recited six times per minute had found an increased in the synchronicity of cardiovascular rhythms and also an increase in baro-reflex sensitivity. These findings suggested that the recitation of the rosary and certain *yoga mantras*, at specific frequencies, induce favorable psychological and physiological effects (Bernardi et al. 2001).The different types of meditation in Japanese Buddhism also showed activation in different brain region. The recitation of Buddha name (Nenbutsu) activated the prefrontal cortex, and the Buddhist sutra activated the left dorsolateral prefrontal cortex and right parietal cortex (Shimomura et al. 2008)

The founder of *Yoga* sage *Patanjali* describes the different techniques to controlling over the *citta* (mind). In the *Samadhi Pada* तस्य वचकः प्रनवः (Ch-1, Verse: 27) which means *Om* is denoting as the God or *Ishwara* (Swami Satyananda Saraswati 1976). Om is the symbol for *Ishwara*. One of the techniques to attain the higher state of consciousness *Patanjali* prescribed the direct path i.e. तज्जपस्तदर्थभावन means that the word *Om* should be recited repeatedly while dwelling mentally on its meaning (Ch-1, Verse: 28).

The recitation of ‘‘*Om*’’ by twelve experienced *Om* meditators’ showed that a reduction in the skin resistance. Which is an indication of changes in mental state (Telles, Nagarathna, and Nagendra 1998). An fMRI recitation of *Om* influences the neurophysiologic changes (Kalyani et al. 2011). Hence based on above back ground this study aimed to evaluate recitation of *Om* on executive function.

CHAPTER 2

2. LITERATURE SURVEY

SUBLIMATION OF MIND THROUGH EKATATVÄBHYÄSAÙ IN THE LIGHT OF PATANJALI YOGA SUTRA

The word 'Yoga' has been derived from the Sanskrit word considered etymologically, means: 'To connect', 'to establish a link युज्यते अनेन इति योग The impact of yoga is great that it brings purity and peace not only to the practitioner but changes the atmosphere when it is adhered in mass scale effecting the collective conscious by the positive vibrations. Yoga as demonstrated by Patanjali is one where there is Abstention from evil, Various observations(Niyamas), Physical Postures, Breath Control, Withdrawal, Concentration, Contemplation and Absorption or the state of Samadhi which ultimately leads the soul to Absolution.

Yoga creates a harmonious link between God, with other souls and nature. We come to know about the knowledge of the Past, the Present, and the future of the World, and of the Creator and Creation and also how one should inculcate the divine qualities in the self.

If man aspires for peace and eternal bliss, independent of sense-objects, to know the mysteries of life and beyond, then yoga is the call to world order to attain complete purity, peace and prosperity.

The highest type of consciousness which a yogi attains is the super consciousness and one's mind is attuned to the Supreme soul who is Incorporeal. This is what is known in one word as Yoga. A Yogi is conscious of himself as a soul and of God as the Supreme soul, he just withdraws his body in order to establish link with god.

It takes some time during the yoga-practice, to converge the thoughts on God, but soon with dedication, deep love one can attain the same through proper meditation and perfect stabilization the stage of self-realization is achieved. This stage is exclusive; which has to be

experienced it stands higher than the sum total of experiences of happiness in the full cycle of lives. Here, one should know that, meditation is the only means by which the soul can at once contact the Supreme Soul.

Yoga is the way for extra-sensory perception of God-realization which through linking of our mind to god brings bliss and peace.

2.1. MIND ACCORDING TO DIFFERENT SCRIPTURES

मनो नाम सङ्कल्पविकल्पात्मिकान्तःकरणवृत्तिः ॥ वेदान्तसारः - ६६ ॥

Mano nāma saṅkalpavikalpātmikāntaḥkaraṇavṛttiḥ || Vedāntasāraḥ - 66 ||

Sankalpa and Vikalpa these two terms can explained either in relation to thought or action when a person cannot determine whether a particular object is this or that or when he cannot determine whether he will perform a particular action or not, then the aspect of internal organ called Manas is said to function.

दिव्यो ह्यमूर्तः पुरुषः स बाह्याभ्यन्तरो ह्यजः ।

अप्राणो ह्यमनाः शुभ्रो ह्यक्षरात् परतः परः ॥ मुण्डकोपनिषत् - २.१.२ ॥

Divyo hyamūrtaḥ puruṣaḥ sa bāhyābhyantaro hyajaḥ |
Aprāṇo hyamanāḥ śubhro hyakṣarāt parataḥ paraḥ || Muṇḍakopaniṣat - 2.1.2||

Self-resplendent, formless, unoriginated and pure, that all-pervading Being is both within and without. Anterior both to life and **mind,** He transcends even the unmanifested causal state of the universe.

तपसा चीयते ब्रह्म ततोऽन्नमभिजायते ।

अन्नात् प्राणो मनः सत्यं लोकाः कर्मसु चामृतम् ॥ मुण्डकोपनिषत् - १.१.८ ॥

Tapasā cīyate brahma tato'nnamabhijāyate |
Annāt prāṇo manaḥ satyaṁ lokāḥ karmasu cāmṛtam || Muṇḍakopaniṣat - 1.1.8||

‘Through purposeful intensity, reality becomes constructed [as a seeming universe made up of seeming things]. ‘From that food is born. ‘From food, living energy, ‘mind,

truth; ‘worlds, and in actions the deathless. ‘That which knows in all experience, ‘and which knows all that is known, ‘whose intensity consists of knowledge; ‘from that is born all this [apparent] existence: name, form and food.’

यदेतद्धृदयं मनश्चैतत्। संज्ञानमाज्ञानं विज्ञानं प्रज्ञानं मेधा
दृष्टिर्धृतिमतिर्मनीषा जूतिः स्मृतिः संकल्पः क्रतुरसुः कामो
वश इति। सर्वाण्येवैतानि प्रज्ञानस्य नामधेयानि भवन्ति॥ ऐतरेयोपनिषत् - ३.२॥

Yadetaddhṛdayaṁ manaścaitat | sañjñānamājñānaṁ vijñānaṁ prajñānaṁ medhā
dṛṣṭirdhṛtimatirmanīṣā jūtiḥ smṛtiḥ saṅkalpaḥ kraturasuḥ kāmo
vaśa iti | sarvāṇyevaitāni prajñānasya nāmadheyāni bhavanti || Aitareyopaniṣat - 3.2 ||

It is this heart (intellect) and this mind that were stated earlier. It is sentience, rulership, secular knowledge, presence of **mind,** retentiveness, sense-perception, fortitude, thinking, genius, mental suffering, memory, ascertainment resolution, life-activities, hankering, passion and such others. All these verily are the names of Consciousness.

जागरितस्थानो बहिष्प्रज्ञः सप्ताङ्ग एकोनविंशतिमुखः स्थूलभुग्वैश्वानरः प्रथमः पादः॥
माण्डूक्योपनिषत् - ३॥

Jāgaritasthāno bahiṣprajñaḥ saptāṅga ekonaviṁśatimukhaḥ sthūlabhugvaiśvānaraḥ prathamaḥ pādaḥ || Māṇḍūkyopaniṣat - 3||

First is Waking / Gross: The first aspect of Atman is the Self in the Waking state, Vaishvanara. In this first state, consciousness is turned outward to the external world. Through its seven instruments and nineteen channels it experiences the gross objects of the phenomenal world.

स्वप्नस्थानोऽन्तः प्रज्ञाः सप्ताङ्ग एकोनविंशतिमुखः
प्रविविक्तभुक्तैजसो द्वितीयः पादः॥ माण्डूक्योपनिषत् - ४॥

Svapnasthāno'ntaḥ prajñāḥ saptāṅga ekonaviṁśatimukhaḥ

Praviviktabhuktaijaso dvitīyaḥ pādaḥ || Māṇḍūkyopaniṣat - 4||

Second is Dreaming / Subtle: The second aspect of Atman is the Self in the Dreaming state, Taijasa. In this second state, consciousness is turned towards the inner world. It also operates through seven instruments and nineteen channels, which engage the subtle objects of the mental realm.

अन्तः करणमेतेषु चक्षुरादिषु वर्ष्मणि ।

अहमित्यभिमानेन तिष्ठत्याभासतेजसा ॥ विवेकचूडामणिः - १०३ ॥

Antaḥkaraṇameteṣu cakṣurādiṣu varṣmaṇi |
Ahamityabhimānena tiṣṭhatyābhāsatejasā || Vivekacūḍāmaṇiḥ - 103||

The inner organ (mind) has its seat in the organs such as the eye etc, as well as in the body, identifying itself with them and endued with a reflection of the Atman.

अहङ्कारः स विज्ञेयः कर्ता भोक्ताभिमान्ययम् ।

सत्त्वादिगुणयोगेन चावस्थात्रयमश्नुते ॥ विवेकचूडामणिः - १०४ ॥

Ahaṅkāraḥ sa vijñeyaḥ kartā bhoktābhimānyayam |
Sattvādiguṇayogena cāvasthātrayamaśnute || Vivekacūḍāmaṇiḥ - 104||

Know that it is Egoism which, identifying itself with the "body, becomes the doer or enjoyer and in conjunction with the Atmas such as the Sattva, assumes the three different states.

अन्नमशितं त्रेधा विधीयते तस्य यः स्थविष्ठो

धातुस्तत्पुरीषं भवति यो मध्यमस्तन्मा ॥ छान्दोग्योपनिषत् - ६.५.१ ॥

Annamaśitaṁ tredhā vidhīyate tasya yaḥ sthaviṣṭho
Dhātustatpurīṣaṁ bhavati yo madhyamastanmā|| Chāndogyopaniṣat - 6.5.1||

Food (the Earth) that is eaten gets divided into three parts. The grossest portion becomes fecal matter. The middle portion becomes flesh, and the subtlest portion becomes the mind.

अन्नमयं हि सौम्य मनः आपोमयः प्राणस्तेजोमयी वागिति

भूय एव मा भगवान्विज्ञापयत्विति तथा सोम्येति होवाच ॥ छान्दोग्योपनिषत् - ६.५.४ ॥

Annamayaṁ hi saumya manaḥ āpomayaḥ prāṇastejomayī vāgiti
Bhūya eva mā bhagavānvijñāpayatviti tathā somyeti hovāca ||
Chāndogyopaniṣat - 6.5.4||

"Thus, the mind is what we eat, Prana is made up of water, and speech is fire". Svetaketu doesn't understand and asks his teacher to explain again. He agrees.

2.2. SUBLIMATION ACCORDING TO MODERN PSYCHOLOGY

Sublimation according to modern psychology is a mature type of defence mechanism where socially unacceptable impulses or idealizations are consciously transformed into socially acceptable actions or behaviour, possibly resulting in a long-term conversion of the initial impulse.

Sublimation is the transformation of unwanted impulses into something less harmful. This can simply be a distracting release or may be a constructive and valuable piece of work.

Sublimation is probably the most useful and constructive of the defence mechanisms as it takes the energy of something that is potentially harmful and turns it to doing something good and useful. Freud believed that the greatest achievements in civilization were due to the effective sublimation of our sexual and aggressive urges that are sourced in the Id and then channelled by the Ego as directed by the Super ego. In his more basic musings, he considered such as painting as a potentially sublimated desire to smear one's own faeces. Sublimation is one of Freud's original defence mechanisms

2.3. SUBLIMATION – A WAY TO RESHUFFLE THOUGHT

We have been discussing a very important principle in the practice of yoga – namely, self-restraint. Self-restraint or self-control is not a pressure of will exerted upon oneself, but a spontaneous growth inwardly experienced on account of transcendence and not by way of rejection. The term '*vairagya*' also has some relevance to the meaning of the term 'self-control'. *Vairagya* is renunciation, self-abandonment, relinquishment, etc. which is mostly interpreted as an abandonment of certain things in the world.

So, in the process of practice of yoga, whose essential ingredient is self-control or self-restraint, what is expected is a gradual blossoming of the flower of consciousness into a

deeper insight into the nature of things, tending towards a wider experience, rather than a forceful suppression of really perceived values or a crushing of desires for things which are expected to bring about real satisfaction to the individual personality. This is a very important aspect which many seekers may miss due to their enthusiasm.

2.4. PURUSHARTHAS - A NATURAL WAY OF TRANSFORMATION

In the system of Indian culture there are four aims of existence are always emphasized – *dharma, artha, kama* and *moksha*. None of them can be ignored. There are people who are fired up with an enthusiasm for *moksha*, and under this impulse of a love for *moksha* or salvation of the soul, an immature mind may apply the wrong technique of forcing the will to abandon the real values of life, namely *dharma, artha* and *kama*, under the impression that they are obstacles to the salvation of the soul or the liberation of the spirit. Most people commit this mistake, and so they achieve neither anything in this world nor anything in the other world – they live a miserable life. They have not been properly instructed, and so have taken a wrong direction altogether.

Yoga is a process of education. The principles of *dharma, artha* and *kama* are preparatory processes for the readiness of the soul to catch the spirit of salvation. How can we get salvation from bondage if bondage is really there? A real bondage cannot be escaped; if bondage is real, we have to remain in it forever. We already take for granted that bondage is real, which is why we want to run away from it; but running away from real bondage is impossible. There is no escapism in yoga – that is impossible. There is always a conditioning of the mind to the states of understanding. Again it must be emphasised that where we have not understood a principle, we will not be able to master it.

In the practice of yoga, in the understanding of *vairagya*, in self-control which is yoga, one should not be too enthusiastic. Over-enthusiasm is bad because it is mostly emotional, coupled with a kind of will-force but bereft of understanding, which creates a conflict psychologically and, consequently, even socially. It is better that a student takes note of all his desires. "Have I a desire?" It is no use saying, "I have no desire." If we have really no desires it is okay – very good, and so much the better – but we should be sure that we have no desires.

Looking within as seen by Swami Ramatirtha

Swami Rama Tirtha used to make a list of his desires. He used to go into a forest with a note-book or a diary and write, "How many desires have I got? One, two, three, four, five, six, seven, eight, nine, ten." Every day he would check, "How many have I finished? Or are they all still there?" To the extent of the diminution of desires, we are free in this world; and to the extent of the presence of these desires, we are bound in this world. Our bondage or freedom can be judged from the number of desires that are unfulfilled or fulfilled. If we have fulfilled all the desires and have no desires left, then we are free. But if we have not fulfilled our desires, if they are still there harassing us from inside, we are bound souls.

Before we take to a positive practice in the direction of yoga, a careful calculation of the number of desires, their nature, etc. is necessary. If there are desires, what is to be done with them? Are we to fulfil them, or are we not to fulfil them? The traditional religions tell us 'don't fulfil desires'. Parents tell us 'don't fulfil desires', and so on. This is all right, as far as it goes, because generally a desire is regarded as a kind of diversion of consciousness from its own centre to an object outside. So, theoretically speaking, this instruction is all right – we must control our desires and not give them a long rope. But how will we control our desires? What is the method? There is no use in merely saying 'control desires'. This is very good and this instruction can be given, but how do we control a desire? What is the technique that we adopt? Here, book-knowledge is of no use. Even our intellect will not help us much because it will waver – sometimes to this side and sometimes to that side.

A story narrating the Sublimation – Yoga Vasishtha

In the Yoga Vasishtha, it is said that there was a Brahmin couple, poor people, who were sitting on the roadside when they saw a king's procession passing. The royal man was sitting elegantly on an elephant and the poor couple, seeing the happiness of the king, thought, "How happy this king is, and we are wretchedly sitting here." That was the desire in the mind of the couple. This desire was not fulfilled, as the Brahmin could not become a king in that birth. He was reborn as a king in the next birth and the desire was fulfilled. He was born as a prince in a royal family and he became an emperor.

2.5. DIFFERENT STAGES TO DEAL - 'SUPPRESSION','SUBSTITUTION' AND 'SUBLIMATION'.

There are three ways of dealing with a desire. Psychologically, the terms used in this connection are 'suppression', 'substitution' and 'sublimation'. We can suppress a desire. Suppose we have got a desire just now, and we cannot fulfil it because we are in an audience

and cannot fulfil the desire right here; we will suppress it. We will push it inside because society does not permit it. We cannot simply start fulfilling any desire in an audience or in a parliament – it has no meaning. So we suppress it and push it inside, but this is no solution. We have pushed it inside, so it is sitting within us like a coiled-up snake, and it will show its hood when the audience is over.

Another way of dealing with a desire is substitution – instead of giving it one thing, we give it another thing. If we have a craving to smoke a cigar, we drink a strong cup of coffee instead; some milder substance is given. Or if a child is crying and throwing a tantrum, demanding a knife that we are holding, for good reason we will not give the knife to the child, so we will substitute another thing such as a sweetmeat or a toy for the knife, saying, "My dear child, this is not a good thing. I will give you something better." Instead of a knife, we give a toy. We substitute one thing for the other thing that was asked for. This is a better way, of course, than suppression, though it is not a complete solution. Merely because we have diverted the course of the river from one direction to another, it does not mean that the intensity of its flow has ceased.

The third way to handle desire, which is the only effective course, is sublimation. Sublimation is the only technique to be adopted. Sublimation means boiling, melting and transforming the desire into a new substance altogether. The desire is no longer a desire; it has become something else. The shape of the desire has changed, and it has now become something quite different from what it was. This is the most difficult of all the techniques of self-control. The emotions are the motive power behind our thoughts, will and actions. Whatever we do is generally driven from behind by an emotion, like a dynamo, and this emotion is connected with desire. The desire is inseparable from an emotion. An emotion need not necessarily be a kind of upheaval of feeling. That upheaval is felt only when the desire is very intense. Otherwise, it is like a mild ripple on the surface of a lake. When it becomes very intense it is like a strong wave on the ocean, throwing everything hither and thither – nevertheless, it is an emotion.

2.6. OBSTACLES FOR EKATATVĀBHYĀSAḤ

Obstacles are to be expected: There are a number of predictable obstacles (1.30) that arise on the inner journey, along with several consequences (1.31) that grow out of them. While these

can be a challenge, there is a certain comfort in knowing that they are a natural, predictable part of the process. Knowingly this can help to maintain the faith and conviction that were previously discussed as essential (1.20).

OBSTACLES OF YOGA

The path of yoga can be long and hard, filled with obstacles, pitfalls, and detours. Luckily, yogic philosophy provides a roadside assistance program to aid you when you become stuck. The yogis who have travelled the path before us have left us a troubleshooting guide called the 13 obstacles of yoga. The nine main obstacles of yoga are:

व्याधि-स्त्यानसंशयप्रमादालस्याविरतिभ्रान्तिदर्शनालब्धभूमिकत्वानवस्थितत्वानि चित्तविक्षेपास्तेऽन्तरायाः ॥ पतञ्जलियोगसूत्रम् - १.३० ॥

Vyādhistyānasaṁśayapramādālasyāviratibhrāntidarśanālabdhabhūmikatvānavasthitatvāani cittavikṣepāste'ntarāyāḥ || Patañjaliyogasūtram - 1.30 ||

1. Vyadhi – Illness, disease, physical or mental. It is difficult to do yoga if you are physically sick. Thus it is important to lead a healthy lifestyle for the prevention of illness and promotion of optimal health.

2. Styana – Apathy, disinclination towards performing ones kartavya or duty. By procrastinating, we avoid our practice and create excuses for not being on the path and doing the work.

3. Sanshaya – doubting ones capability or the result of yoga. We can only come to know Reality, declares the Brihad-Âranyaka-Upanishad (4.4.23), when we are free from doubt. It is important to cultivate faith in oneself as well as the yogic path.

4. Pramada – Heedlessness, carelessness, a lack of persistence. Yoga is both a science and art and approaching it without skill, care, respect and devotion will create erratic and possible negative results.

5. Alasya – Sloth, inertia of mind or body due to dominance of the tamasic element. Yoga requires discipline, zeal and tapas (will-power) to succeed on its path. Laziness will prevent you from attaining your highest potential.

6. Avirati – Overindulgence, attachment to pleasurable things. We must learn to “let go” of our attachments to desire and physical objects if we are to make progress in yoga.

7. Bhrantidarshan – False vision, a premature sense of certainty. The development of a false notion about the practice of yoga and its outcome can not only lead one off the path of yoga, but also create harm and disappointment.

8. Alabdha-bhumikatva – Non-attainment of the next yogic stage or accomplishment. This happens due to faulty or poor practice and creates a feeling of being “stuck” and leads to discouragement.

9. Anawasthitatwa – Instability, non-permanence of a yogic accomplishment or stage. Not able to maintain an attained stage can be a real drag. This again can be a result of faulty or poor practice.

When any of these primary obstacles are encountered, four minor obstacles may appear according to the circumstances:

दुःखदौर्मनस्याङ्गमेजयत्वश्वासप्रश्वासा विक्षेपसहभुवः ॥ प.यो.सू - १. ३१ ॥

duḥkhadaurmanasyāṅgamejayatvaśvāsapraśvāsā vikṣepasahabhuvaḥ

|| Pa.yo.sū - 1. 31 ||

1. Duhkha – Pain or sorrow

2. Daurmanasya – depression, pain caused by non-fulfilment of desires.

3. Angamejayatwa – the shivering of parts of the body.

4. Shvâsa-prashvâsa – disturbances in kumbhaka or breath retention causing the irregular breathing pattern that comes with mental agitation.

You will need to be able to remove all these obstacles at will to be successful in yoga. They may appear at any time, and if not conquered during their first appearance, they are most likely to return until you learn how to overcome them.

The key to the removal of any and all of the above obstacles is the cultivation of the one-pointedness of mind. These obstacles will naturally pass with time unless we allow ourselves to become entangled and bogged down in them. By focusing all of your attention on a single object the obstacles dissolve and begin to lose their importance and power.

These four arise because of the other nine: These four obstacles arise as a consequence of the nine that are given in the previous sutra. In one sense, it seems that all thirteen of these could be grouped together in one sutra. However, it's useful in practice to see that these four come as a result of the other nine. If you look at these four closely, you'll see that these are relatively easy to notice in yourself, compared to the other nine. When you see one of these four, it is a clue to you that something is going on at a subtler level. Then it is easier to see, and to adjust.

2.7. One-pointedness is the solution:

तत्प्रतिषेधार्थमेकतत्त्वाभ्यासः ॥ प.यो.सू - १. ३२ ॥

Tatpratiṣedhārthamekatattvābhyāsaḥ || Pa.yo.sū - 1. 32 ||

To prevent or deal with these nine obstacles and their four consequences, the recommendation is to make the mind one-pointed, training it how to focus on a single principle or object.

One-pointedness is the solution: There is a single, underlying principle that is the antidote for these obstacles and their consequences, and that is the one-pointedness of mind (1.32). Although there are many forms in which this one-pointedness can be practiced, the principle is uniform. If the mind is focused, then it is far less likely to get entangled and lost in the mire of delusion that can come from these obstacles (1.4).

Remember one truth or object: Repeatedly remember one aspect of truth, or one object (1.32). It may be any object, including one of the several that are suggested in the coming sutras (1.33-1.39). It may be related to your religion, an aspect of your own being, a principle, or some other pleasing object. It may be a mantra, short prayer, or affirmation. While there is great breadth of choice in objects, a sincere aspirant will choose wisely the object for this practice, possibly along with the guidance of someone familiar with these practices.

One-pointedness applies at all levels: The principle of one-pointedness of mind as the antidote to obstacles continues throughout the subtler and subtle-most of the meditation practices. While it is essential at the beginning to neutralize the gross level of mental obstacles, it remains a key tool at all of the subsequent stages of practice. The nature of the

obstacles might become subtler and subtler, but the nature of their disturbing, distracting quality is similar, as is the solution.

अभ्यासवैराग्याभ्यां तन्निरोधः ॥ प.यो.सू - १. १२ ॥

Abhyāsavairāgyābhyāṁ tannirodhaḥ || Pa.yo.sū - 1. 12 ||

One-pointedness, practice, and non-attachment: Recall that the two principles of abhyasa (practice) and vairagya (non-attachment) were presented (1.12-1.16) as the foundation for Yoga meditation. Here, in sutra 1.32 the companion principle of one-pointedness for removal of obstacles is introduced. It is extremely useful to repeatedly reflect on how these three plays together in a practical way. The commitment to practice, along with training the mind to be one-pointed, and cultivating non-attachment in relation to the many mental obstacles act together, in

Many means of one-pointedness: In the forthcoming sutras (1.33-1.39), several specific methods are suggested for one-pointedness. These include cultivation or meditation on four attitudes (1.33), breath awareness, awareness of sensing, focus on inner luminosity, contemplating on a clear mind, witnessing the stream of thoughts, or choosing whatever focus is found to be pleasing and useful.

मैत्रीकरुणामुदितोपेक्षाणां सुखदुःख-पुण्यापुण्यविषयाणां भावनातः चित्तप्रसादनम्

॥ प.यो.सू - १. ३३ ॥

Maitrīkaruṇāmuditopekṣāṇāṁ sukhaduḥkha-puṇyāpuṇyaviṣayāṇāṁ bhāvanātaḥ

cittaprasādanam || Pa.yo.sū - 1. 33 ||

In relationships, the mind becomes purified by cultivating feelings of friendliness towards those who are happy, compassion for those who are suffering, good will towards those who are virtuous, and indifference or neutrality towards those we perceive as wicked or evil.

वितर्कबाधने प्रतिपक्षभावनम् ॥ प.यो.सू - २. ३३ ॥

Vitarkabādhane pratipakṣabhāvanam || Pa.yo.sū - 2. 33 ||

When these codes of self-regulation or restraint (yamas) and observances or practices of self-training (niyamas) are inhibited from being practiced due to perverse, unwholesome,

troublesome, or deviant thoughts, principles in the opposite direction, or contrary thought should be cultivated.

वितर्काहिंसादयः कृतकारितानुमोदिता लोभक्रोधमोहपूर्वका मृदुमध्याधिमात्रादुःखाज्ञानानन्तफला इति प्रतिपक्षभावनम् ॥ प.यो.सू - २. ३४ ॥

Vitarkāhiṁsādayaḥ kṛtakāritānumoditā lobhakrodhamohapūrvakā mṛdumadhyādhimātrāduḥkhājñānānantaphalā iti pratipakṣabhāvanam || Pa.yo.sū - 2. 34 ||

Actions arising out of such negative thoughts are performed directly by oneself, caused to be done through others, or approved of when done by others. All of these may be preceded by, or performed through anger, greed or delusion, and can be mild, moderate or intense in nature. To remind oneself that these negative thoughts and actions are the causes of unending misery and ignorance is the contrary thought or principle in the opposite direction that was recommended in the previous sutra.

तस्य वाचकः प्रणवः ॥ प.यो.सू - १. २७ ॥

tasya vācakaḥ praṇavaḥ || pa.yo.sū - 1. 27 ||

The sacred word designating this creative source is the sound OM, called pranava.

One who want to sublimate in the path of yoga, it is necessary to bring the mind to a state of peace and quiet. Patanjali, in this sutra, states that Pranava (the sound of OM) is the Vacaka, the name or designator, of Isvara. However, in the context of Mantra-Yoga it is used for a name which is essentially of the nature of a Mantra and has the power of revealing the consciousness when used in a prescribed manner. Om is considered to be the most mystical, sacred and powerful Mantra by the Hindus because it is the Vacaka of Isvara.

2.8. A UNIQUE MODULE TO SUBLIMATE THE MIND – ASTANGAYOGA

यमनियमासनप्राणायामप्रत्याहारधारणाध्यानसमाधयो अष्टावङ्गानि ॥ प.यो.सू - २. २९ ॥

Yamaniyamāsanaprāṇāyāmapratyāhāradhāraṇādhyānasamādhayo aṣṭāvagṅgāni || Pa.yo.sū - 2. 29 ||

1) Yama - strong willpower for restraint
    - Ahimsa - non-violence

- Satya - truthfulness
- Asteya - non-stealing
- Brahmacharya– moderation
- Aparigraha - non-hoarding

2) Niyama - strong willpower for observance and application of truth
    - Saucha - purity, cleanliness
    - Santosha - contentment
    - Tapas - self-discipline
    - Svadhyaya - self-study
    - IsvaraPranidhana - devotion to a higher power.
3) Asana - physical and mental exercise, including postures
4) Pranayama - transformation of individual energy - physiological and psychological - into cosmic energy
5) Pratyahara - displacement and sublimation of psychic energy
6) Dharana - fixation of mind on various places, internal and external
7) Dhyana - sublimation of mind into Being
8) Samadhi - evolution of consciousness from individual to universality

2.9. CONCLUSION

So, Sublimation is the process of making emotional dynamics that are (usually) considered to be unpleasant into socially-acceptable attitudes and states of mind. It is the process whereby the emotions (and their associated beliefs and attitudes) that are considered to be 'bad' are transformed into qualities of character that are considered to be 'good'. In past times negative emotions were repressed. Now they need to be sublimated. Repression denies wholeness to a person. Sublimation enables one to fulfil oneself. The rationale of sublimation is that all emotions have a place in human development.

3. REVIEW OF SCIENTIFIC LITERATURE

In the study of immediate effect of five minutes *Nadishuddi* on stroop task found an increase of interference compare to the control session. This study consisted of 30 participants aged between 18 to 52 years. The same participants served as their own control group (in the breathe awareness session (Sharma et al. 2009).

In another study, immediate after ten minutes of *Bhramhari* on stroop task on school children found a good improvement in on stroop task (Mohanty and Pradhan 2013)

Using functional Magnetic Resonance Imaging (fMRI), the neurohemodynamic correlates of audible *'Om'* chanting were examined in healthy volunteers (***n***=12). The *'Om'* chanting condition was compared with pronunciation of "SSS" as well as a rest state. The neuro hemodynamic correlates of *Om* chanting indicate limbic deactivation. As similar observations have been recorded with vagus nerve stimulation treatment used in depression and epilepsy, the study findings argue for a potential role of this *'Om'* chanting in clinical practice (Kalyani et al. 2011).

4. AIM AND OBJECTIVES

4.1. AIM

To investigate the immediate effect of 10 min of *Om* recitation and SSS recitation on the performance of executive task on healthy students.

4.2. OBJECTIVES

To evaluate the immediate effect of *Om* recitation on the performance of executive task using stroop task.

4.3. RESEARCH QUESTION

Is immediate effect of *Om* recitation influence in strop score on healthy students?

4.4. HYPOTHESIS

The immediate effect of *Om* recitation does influence on score in the stroop task on students.

4.5. NULL HYPOTHESIS

The immediate effect of *Om* recitation does not influence on score in the stoop task on students.

4.6. RATIONALE OF STUDY

Previous interventional study on chanting *mantra* found neuro-physiological changes and cognitive function immediately following one session of *Om* meditation and different stages of meditation.

5. METHODS

5.1. SUBJECTS

Thirty-seven students in the age range of 18 to 24 years were participated in this study.

5.2. SOURCE OF SUBJECTS

All the students were from S-VYASA University, Bangalore.

5.3. INCLUSION CRITERIA

They were residential students of graduate and post graduate yoga courses.

5.4. EXCLUSION CRITERIA

Those who had any history of colour blindness.

5.5. DESIGN OF STUDY

This was a self as control design. Students were divided into two groups. On first day, Group A had the experimental session (*Om* recitation) and Group B had the control session (SSS recitation). On the second day groups the order of sessions reversed. Both the groups were assessed before and after immediately after each sessions of practices. They took the test word stroop first and then the digit stroop.

Group A

Day 1

Before Stroop	*Om* recitation (10 min)	After Stroop

Day 2

Before Stroop	SSS… sound (10 min)	After stroop

Group B

Day 1

Before Stroop	SSS… sound(10 min)	After stroop

Day 2

Before Stroop	*Om* recitation (10 min)	After stroop

5.6. STRUCTURE OF SESSIONS

The participant were undergone an orientation program which started from the 8th November to 15th November in the morning 6.10-6.20 am. For both the recitation of *Om* kara and SSS.

5.7. INTERVENTIONS

Experimental session (*Om* recitation): *Om* recitation practice was done for 10 min with the closed eyes. The participants sat with a comfortably on the ground and took deep breath in and while breath out produced *Om* kara. Control session (SSS recitation): Equal duration was

spent for SSS recitation as in *Om* recitation. Similar procedure was followed SSS recitation as it was the *Om* recitation.

5.8. VARIABLES STUDIED

Stroop test: The stroop test is a paper reading test consists of three pages. The time given for one page is 45seconds. The first page consists of the words written in black ink in second page given three colours (red, blue and green) in (xxxx) these figures. In third page the words given red, blue and green in other colour like red written in blue colour, green written in red colour and blue written in green colour. The first page students should read the words written in column wise. Second page students should recognize the colour that given in column wise in (xxxx) this type. In the third page students should recognize the colour of word not to read the word (Charles,Shwana & Zarabeth 2003)

Digit Stroop: This stroop test is a counting test consists of three pages: (i) The first page consists of the digit written in equal length, (ii) Second page given symbol in (xxxx) these figures; (iii) third page the digit and the digit length or number of a digits are different (3333, 22222) for example 2 is written 5 times, 3 is written as 4 times (Allen et.al 2004)

The first page students should read the digits written in column wise (congruent). Second page students should recognize the number of the digits present that given in column wise in (xxxx) this type (congruent). In the third page students should recognize the number of the digits present in the column not a written number (In congruent).

6. DATA EXTRACTION AND ANALYSIS

6.1. DATA EXTRACTION

Stroop colour Test

The test had three basic scores based on the number of items on each of the three stimulus sheets and subjects were asked to complete each sheet in 45 seconds. Following three scores were recorded: - The Word score (W): The number of items was completed on the Word page. The Colour score (C): The number of items was completed on the colour page. The Colour-Word score (CW): The number of items was completed on the Colour-Word page.

Digit Test

The test had three basic scores based on the number of items were completed on each of the three Stimulus sheets in 45 seconds. Following three scores were recorded: - The Digit score (D): The number of items completed on the digit page. The count score (C): The number of items completed on the counting page. The Digit-count score (DC): The number of items completed on the Digit- counting page.

6.2. DATA ANALYSIS

The raw data obtained for each subject in each recording session were tabulated separately. Statistical analysis was done using SPSS (version 18).

Normality of each variable were analysed using Kolmogorov-smirnova and Shapiro-wilk paired sample 't' test was used to find the changes within the groups (pre-post) assessments. Independent sample't' test was used for between sessions comparison, and also for the comparison between the gender (male & female).

7. RESULTS

Table 1: Group mean± SD, P value and percentage change of *Om* recitation and SSS recitation sessions.

	***Om* recitation**				**SSS recitation**			
	n = 27				**n=27**			
	Pre	**Post**	**% change**	**p value**	**Pre**	**Post**	**% change**	**P value**
Word	106 ±15.64	109.78 ±15.67***	3.32%	0.02	102.89 ±16.44	108.74 ±15.12***	7.07%	<0.001
Colour	76.37 ±12.93	77.59 ±13.12	1.81%	0.288	71.52 ±13.29	75.48 ±11.82**	6.17%	0.007
CW	51.37 ±10.78	53.74 ±9.95*	5.75%	0.048	47.96 ±10.22	52.19 ±9.85***	9.22%	<0.001
Digit	112.44 ±14.92	116.52 ±14.77*	4.18%	0.042	110 ±17.65	115.15 ±15.92***	6.46%	<0.001
Count	73.81 ±16.48	80.04 ±15.72***	8.43%	<0.001	70.11 ±16.54	78.19 ±15.22***	13.52%	<0.001
DC	61.15 ±11.64	66.37 ±10.18**	9.71%	0.005	57.93 ±12.17	63.04 ±10.65***	9.94%	<0.001

CW: Colour-word stroop, DC: Digit colour stroop, ***p<0.001, **p<0.05

Thirty-seven participants were participated in this study. Ten participants were not included in the final assessment due to their extreme score in the test. Hence, twenty-seven participants (13 males and 14 females) were included for final analysis with mean age of 22.11± 2.34 years.

Word score

There was significant improvement in word score after *Om* recitation (106±15.64 to 109.78±15.67, P=0.02, 3.32%) and SSS recitation (102.89±16.44 to 08.74±15.12, P<0.001, 7.075%).

Colour score

There was significant improvement in colour score after *Om* recitation (76.37±12.93 to 77.59±13.12, P=0.288, 1.81%) and SSS recitation (71.52±13.29 to 75.48±11.82, P=0.007, 6.17%).

Colour-word score

There was significant improvement in word-colour score after *Om* recitation (51.37±10.78 to 53.74±9.95, P=0.048, 5.75%) and SSS recitation (47.96±10.22 to 52.19±9.85, P<0.001, 9.22%).

The magnitudes of change in colour stroop task scores were more following SSS recitation than *Om* recitation.

Digit score

There was significant improvement in digit score after *Om* recitation (112.44±14.92 to 116.52±14.77, P=0.042, 4.18%) and SSS recitation (110±17.65 to 115.15±15.92, P<0.001, 6.46%).

Counting score

There was significant improvement in counting score after *Om* recitation (73.81±16.48 to 80.04±15.72, P<0.001, 8.43%) and SSS recitation (70.11±16.54 to 78.19±15.22, P<0.001, 13.52%).

Digit-counting score

There was significant improvement in digit-counting score after *Om* recitation (61.15±11.64 to 66.37±10.18, P=0.005, 9.71%) and SSS recitation (57.93±12.17 to 63.04±10.65, P<0.001, 9.94%).

The magnitude of change in Digit stroop task scores were more following SSS recitation than *Om* recitation.

Table 2: Male group mean±SD, P value and Percentage change of both sessions.

	***Om* recitation**				**SSS recitation**			
	Pre	**Post**	**P value**	**% change**	**Pre**	**Post**	**P value**	**% change**
Word	102.09 ±18.53	108.09 ±17.54	0.005	5.877	99.09 ±12.34	107.27 ±14.58**	0.008	8.25
Colour	70.45 ±12.15	72.91 ±12.02	0.238	3.48	67.45 ±11.32	73.55 ±11**	0.003	9.02

CW stroop	46.91 ±9.69	51.18 ±8.49	0.001	9.1	45.27 ±11.26	49.91 ±10.01*	0.01	10.24
Digit	108.91 ±13.04	116 ±9.58	0.008	6.51	108.45 ±12.1	115.91 ±8.88***	0.001	6.87
Count	68.36 ±16.34	78.91 ±15.75	<0.001	15.42	68.91 ±9.98	77.45 ±10.28***	<0.001	12.4
DC stroop	59.36 ±11.9	66.27 ±10.75 ***	<0.001	11.63	55 ±5.77	61.73 ±4.92***	<0.001	12.23

CW: Colour-word stroop, DC: Digit colour stroop, ***p<0.001, **p<0.05

In the above, table 2, there were significant improvement in word score (P=0.005, 5.87%), colour-word score (P<0.001, 9.1%), digit score (P=0.008, 6.51%), count score (P<0.001, 15.42%) and digit count score (P<0.001, 11.63%) after *Om* recitation. After SSS recitation there was significant improvement in word score (P=0.008, 8.25%), colour score (P=0.003, 9.02%), colour-word score (P=0.01, 10.24%), digit score (P=0.001, 6.87%), count score (P<0.001, 12.4%) and digit-count score (P<0.001, 12.23%).

Table 3:-Female group mean±SD, P value and Percentage change of both sessions.

	***Om* recitation**				**SSS recitation**			
	Pre	**Post**	**P value**	**% change**	**Pre**	**Post**	**P value**	**% change**
Word	107.57 ±13.15	110.07 ±15.62	0.255	2.32	103.5 ±19.02	108.07 ±15.97*	0.028	4.41
Colour	78.79 ±11.74	79.71 ±13.08	0.533	1.17	72.57 ±12.78	76.18 ±13.3*	0.022	4.92
CW stroop	53.36 ±11.04	55.14 ±11.48	0.373	3.34	48.36 ±9.1	52.64 ±9.22**	0.001	8.86
Digit	113.29 ±16.41	118.71 ±17.23**	0.002	4.79	109.29 ±20.37	113.14 ±19.56	0.004	3.52
Count	76.79 ±16.48	80.29 ±16.98*	0.026	4.55	70.71 ±20.37	77.79 ±18.16***	<0.001	10
DC stroop	62 ±12.35	66.29 ±10.78**	0.006	6.91	60 ±15.8	64.21 ±14.27*	0.011	7.02

CW: Colour-word stroop, DC: Digit colour stroop, ***p<0.001, **p<0.05

In the above table 3, there was significant improvement in the digit score (P=0.002, 4.79%), count score (P=0.026, 4.55%) and digit-count score (P=0.006, 6.91%), but there were no

significant improvement in word score (P=0.255, 2.32%), colour score (P=0.533, 1.17%) and colour-word score (P=0.373, 3.34%) after *Om* recitation. After SSS recitation there was significant improvement in the word score (P=0.028, 4.41%), colour score (P=0.022, 4.92%), colour-word score (P=0.001, 8.86%), digit score (P=0.004, 3.52%) and count score (P<0.001, 10%), but there were no significant improvement in the digit count score (P=0.011, 7.02%).

Gender comparisons: Male versus female group comparison showed there were no significant differences in any score of word stroop and digit stroop following of both the sessions.

Within groups comparison: Significant improvement was found in the male group immediately after *Om* recitation in word score (P=0.005, 5.87%) and colour-word stroop (P<0.001, 9.1%) whereas non-significant improvement was seen in female group after *Om* recitation.

8. DISCUSSIONS

Present study main finding

Immediately after both sessions there were significant improvements in the both stroop scores. But the magnitudes of change in Digit stroop task scores were more following SSS recitation than *Om* recitation.

Within gender comparison: Immediately after *Om* recitation, significant improvement were found in the male group whereas in female group non-significant improvement in word-stroop score. Similarly, after SSS recitation both gender showed significant improvement in Digit stoop scores. Between gender comparison: Male versus female group comparison showed there were no significant differences in any score of word stroop and digit stroop following of both the sessions.

Compared with earlier finding

A study on stroop task was showed significant improvement (2.02% in *nadishuddhi* and 4.26% in breath awareness) in the interference breath awareness (Sharma et al. 2009). On *bramhari Pranayama* was showed significant increase (18%, 17%, 28% respectively word, colour, word-colour stroop in *bramhari pranayama* and 16%, 9%, 17% respectively in word, colour, word-colour score in breath awareness group) in the attention on school children (Mohanty and Pradhan 2013).

Mechanisms

In the previous study on selective attention score found significantly high after *dharana* session of *Om* and no significant change after *dhyana* session of *Om* (Kumar and Telles 2009). Another study *Om* had shown that cortical de-activation during *Om* recitations (Kalyani et al. 2011). In previous study mental chanting of *Om* has showed significant decrease in the heart rate which suggests that physiological relaxation (Telles et al. 1994). Due to these characteristics of *Om* current study has low magnitude of changes following *Om* changing. Mindfulness is defined as bringing one's complete attention to the experiences occurring in the present moment in a nonjudgmental or accepting way. During SSS recitation participants were more involved in their mindfulness. Hence SSS recitation had shown higher magnitude of score on their score.

9. SUMMERY AND CONCLUSION

9.1 Summery

The present study of *Om* recitation has shown improvement in Stroop task. This also encourages further study of yoga intervention which may open new vista in the field of yoga and its wider practical utility in the university level.

9.2. Conclusion

The study suggests that immediate effect of both recitation techniques had showed improvement in stroop task.

9.3. Limitations

- In this study sample size was less.
- In this study we used only one variable

9.4. Strengths

- It is a self as controlled design
- Samples are taken from this (S-VYASA) university
- In this study *Om* recitation taken as intervention

9.5. Future studies

In future study, may take recitation and *Pranayama* both as an intervention to do comparison of immediate effect of both intervention on stroop task on attention.

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