

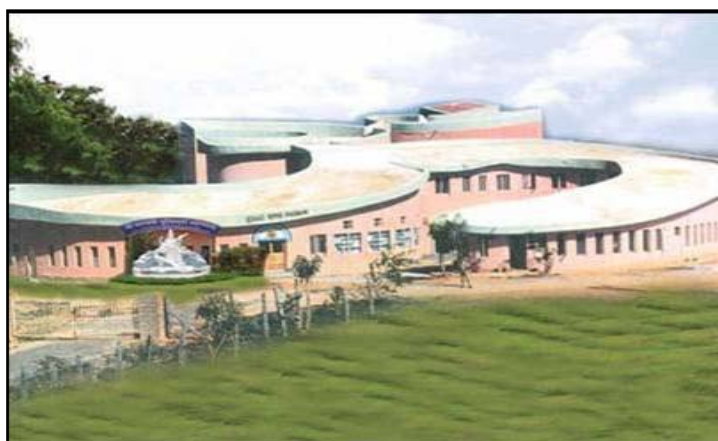
**EFFECT OF YOGA ON PERSEVERATIVE THINKING,
MIND WANDERING AND MINDFULNESS
IN UNHEALTHY VOLUNTEERS**

Dissertation submitted by

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Under the Guidance of

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Towards the partial fulfillment of

Master of Science in Yoga (MSc.Yoga)

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TO

**SWAMI VIVEKANANDA YOGA ANUSANDHANA
SAMSTHANA (S-VYASA)**

(declared as Deemed University under Section 3 of the
UGC Act, 1956)

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CERTIFICATE

This is to certify that Hayoon Jung is submitting this literature review on **“Mind and the way of being healthy mind according to different scriptures”** and Experimental Research on **“Effect of yoga on perseverative thinking, mind wandering and mindfulness in unhealthy volunteers”** in partial fulfillment of the requirement for the Master of Science (Yoga) registered in **SWAMI VIVEKANANDA YOGA ANUSANDHANA SAMSTHANA (S-VYASA UNIVERSITY) BANGALORE** and this is a record of the work carried out by her in this institution.

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Place: Bangalore

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DECLARATION

I, hereby declare that this study was conducted by me at Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA), Bangalore, under the guidance of Dr. Rajesh S.K., S-VYASA University Bangalore.

I also declare that the subject matter of my dissertation entitled “**EFFECT OF YOGA ON PERSEVERATIVE THINKING, MIND WANDERING AND MINDFULNESS IN UNHEALTHY VOLUNTEERS**” has not previously formed the basis of the award of any degree, diploma, associate-ship, fellowship or similar titles.

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Place: Bangalore

(Candidate)

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Finally, I thank that unseen Divine without whose wish, this work wouldn't have been possible.

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STANDARD INTERNATIONAL TRANSLITERATION CODEUSED
TO TRANSLITERATE SANĀKRIT WORDS

a	=	अ	na	=	न	pa	=	प
ā	=	आ	ca	=	च	pha	=	फ
i	=	इ	cha	=	छ	ba	=	ब
ī	=	ई	ja	=	ज	bha	=	भ
u	=	उ	jha	=	झ	ma	=	म
ū	=	ऊ	ñ	=	ञ	ya	=	य
ṛ	=	ऋ	ṭa	=	ट	ra	=	र
ṝ	=	ॠ	ṭha	=	ठ	la	=	ल
e	=	ए	ḍa	=	ड	va	=	व
ai	=	ऐ	ḍha	=	ढ	śa	=	श
o	=	ओ	ṇa	=	ण	ṣa	=	ष
au	=	औ	ta	=	त	sa	=	स
m̄	=	अ	tha	=	थ	ha	=	ह
ḥ	=	अः	da	=	द	kṣa	=	क्ष
ka	=	क	dha	=	घ	tr	=	त्र
kha	=	ख	na	=	न	jña	=	ज्ञ
ga	=	ग	gha	=	घ			

ABSTRACT

Contexts:

A number of different psychological disorders have been found to be related to heightened levels of repetitive negative thinking and mind wandering.

Aims:

The purpose of the present study was to assess perseverative thinking, mind wandering and mindfulness in unhealthy adults undergoing Yoga treatment (IAYT).

Settings and Design:

This is a single group Pre and Post design study. Subjects were unhealthy participants group (n = 93) those who under the YOGA (IAYT) treatment 7 days in Arogyadhama, Prashanti kutiram, Bangalore, Karnataka, India. Participants consist of 65 males and 28 females, their age ranged from 19 to 83 years with a mean age of 48.2 years (SD= 16.76).

Methods and Material:

The questionnaire packets including demographic details, Short Depression – Happiness Scale (SDHS), Perseverative Thinking Questionnaire (PTQ), Mind Wandering Questionnaire (MWQ) and Mindful Attention Awareness Scale (MAAS) were taken on the first and seventh day of one week yoga treatment.

Results:

The data analysis showed 0.62% increase ($P < 0.05$) in short depression – happiness level, 1.65% decrease ($P < 0.001$) in mind wandering, 3.36% decrease ($P < 0.001$) in perseverative thinking, 2.86% increase ($P < 0.01$) in mindful attention awareness.

Conclusions:

These results suggest that participation in a yoga treatment (IAYT) was associated with improvement in happiness, mindfulness level and reducing perseverative thinking, mind wandering scores.

Key-words: Mind, happiness, mindfulness, perseverative thinking, mind wandering.

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INTRODUCTION

Unlike other animals, human beings spend a lot of time thinking about what is not going on around them (Killingsworth & Gilbert, 2010). In daily life, one area in which emotion and cognition could overlap is through their joint contribution to the experience of thoughts unrelated to the here and now—a phenomenon that has been termed “daydreaming”, “mind wandering,” or “absentmindedness” (Smallwood, Fitzgerald, Miles, & Phillips, 2009). Although this ability is a remarkable evolutionary achievement that allows people to learn, reason, and plan, it may have an emotional cost (Killingsworth & Gilbert, 2010). Differences in the intensity and/or frequency with which the mind wanders, therefore, could provide an excellent marker of depression (Smallwood, O’Connor, Sudbery, & Obonsawin, 2007).

According to a dimensional view of psychopathology, we assume that mind wandering is not in itself a maladaptive process, but it fails to serve its function and turns into a risk factor for health whenever it takes the form of perseverative cognition. There is a wider series of more clinically oriented studies focused on rumination and worry (i.e., perseverative cognition, PC) that suggest the role of these processes in the onset and maintenance of psychopathology, and highlight their consequences on somatic health (Ottaviani, Shapiro, & Couyoumdjian, 2013). Ruminative thought has often been found to be a feature of depressive mood. For example, individuals with depressive disorders have been shown to ruminate excessively about the symptoms of depression, their causes and consequences (Ehring et al., 2011).

Many philosophical and religious traditions teach that happiness is to be found by living in the moment, and practitioners are trained to resist mind wandering and “to be here now” (Killingsworth & Gilbert, 2010). Recently, the psychological construct mindfulness has received a great deal of attention, and has even been proposed as a common factor across all schools of psychotherapy (Shapiro, Carlson, Astin, & Freedman, 2006). Literature reviews on mindfulness conclude various positive psychological effects, including increase subjective well-being, reduced psychological symptoms and emotional reactivity, and improved behavioral regulation. Mindfulness, however, is more than meditation. It is “inherently a state of consciousness” which

involves consciously attending to one's moment-to-moment experience (Shapiro et al., 2006). The ability to adaptively let our mind wander without ruminating or worrying is critical to mental health as much as mindfulness. However, in spite of the large amount of work on perseverative cognition on the one hand and mind wandering on the other, the literature on these topics is largely separate (Ottaviani et al., 2013). With growing scientific evidence, yoga is emerging as an important health behavior-modifying practice to achieve states of health, both at physical and mental levels. Several studies have demonstrated the beneficial of yoga on some psychiatric conditions such as anxiety, neurosis and depressive illness (Ganpat & Nagendra, 2011). Hence, present study attempts to integrate these concepts which perseverative thinking, mind wandering and mindfulness, and to assess the efficacy of The Integrated Approach of Yoga Therapy (IAYT) on them, those who unhealthy adults.

REVIEW OF THE ANCIENT LITERATURE

2.1 BACKGROUND AND SCOPE

Repetitive thinking is recognised as the most challenging issue of modern times. Contemporary science has understood this phenomenon from one aspect and Indian philosophy gives its traditional reasons based on classical texts.

2.2 AIM AND OBJECTIVES

To understand the concept of health, qualities of mental health, Mind, states of the Mind, causes of negative & repetitive thought and mindfulness from the perspective of the ancient text.

2.3 MATERIALS AND METHODS

In the initial stages, searches were carried out which related with the keyword–‘mind’ from various scriptural texts. The major Yoga ancient scriptures including original Sanskrit text and transliterations were used, especially from The Bhagavad Gita and Patanjali Yoga Sutra. Great commentaries of Great swamis were cited.

2.4 TEXT-WISE PRESENTATION(SLOKA, TRANSLITERATION, TRANSLATION AND EXPLANATION)

The word 'Yoga' has been derived from the Sanskrit word considered etymologically, means: 'To connect', 'to establish a link' युज्यते अनेन इति योगः. Originally used to denote the mental. 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.

It takes some time during the yoga-practice, converging 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.

2.4.1 Concept of Health in yoga

The Bhagavad Gita defines Yoga as samatvam thereby that Yoga is equanimity at all levels.

योगस्थः कुरु कर्माणि सङ्गं त्यक्त्वा धनञ्जय ।

सिद्धयसिद्धयोः समो भूत्वा समत्वं योग उच्यते ॥ भ. गी - २ । ४८ ॥

yogasthaḥ kuru karmāṇi saṅgam tyaktvā dhanañjaya ।

siddhyasiddhyoḥ samo bhūtvā samatvaṁ yoga ucyate ॥ bha. gī - 2 । 48 ॥

This maybe also understood as a perfect state of health wherein physical homeostasis and mental equanimity occur in a balance and health harmony. One of the main missing part of the WHO definition lies in the use of the term ‘state’ that implies health is something to be achieved ‘once and for all’ with no need for care about it thereafter. It is definitely not so. We need to keep working on our health with great vigour and dynamic enthusiasm for the entire span of our life. If health is to be understood as a ‘state’, then it must be understood as a dynamic state that varies from day-to-day and often from minute-to-minute. It is often actually more challenging to maintain this dynamic state of health than to even attain it in the first place (Jayadayalji, 1985).

2.4.2 Qualities of mental health according to Bhagavad Gita

वीतरागभयक्रोधः स्थितधीर्मुनिरुच्यते - भ. गी - २ । ५६ ॥

vītarāgabhayakrodhaḥ sthitadhīrṁunirucyate - bha. gī - 2 । 56 ॥

He whose consciousness is not shaken by anxiety under afflictions nor by attachment to happiness under favorable circumstance; he who is free from worldly loves, fears, and angers— he is called a muni of steady discrimination (Yogananda, 2010).

2.4.3 MIND ACCORDING TO DIFFERENT SCRIPTURES

2.4.3-1 Definition of Mind

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 (Nikhilananda, 2006).

2.4.3-2 Attribution of the Mind

यदेतद्धृदयं मनश्चैतत् । संज्ञानमाज्ञानं विज्ञानं प्रज्ञानं मेधा

दृष्टिर्धृतिमतिर्मनीषा जूतिः स्मृतिः संकल्पः क्रतुरसुः कामो

वश इति । सर्वाण्येवैतानि प्रज्ञानस्य नामधेयानि भवन्ति ॥ ऐतरेयोपनिषत् - ३.२ ॥

Yadetaddhṛdayaṁ manaścaitat | saññānamājñānaṁ vijñānaṁ prajñānaṁ
medhā

drṣṭirdhṛtimatirmanīṣā jūtiḥ smṛtiḥ saṅkalpaḥ kraturasuḥ kāmo

vaśa iti | sarvāṅnyevaitāni 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 (Sankaracharya, 2006).

2.4.3-3 Formation of 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 (Sankaracharya, 2009).

2.4.4 States of the Mind

Raja Yoga is mainly concerned with the mind, its modifications and its control. There are five states of the mind - Kshipta, Mudha, Vikshipta, Ekagra and Niruddha. Usually the mind is running in various directions; its rays are scattered. This is the Kshipta state. Sometimes it is self-forgetful, it is full of foolishness (Mudha). When you try to practice concentration, the mind seems to get concentrated but gets distracted often. This is Vikshipta. But with prolonged and repeated practice of concentration again and again, and repeating Lord's Name, it becomes one-pointed. This is called the Ekagra state. Later on, it is fully controlled (Niruddha). It is ready to be dissolved in the Supreme Purusha, when you get Asamprajnata Samadhi (Baba, 1990).

2.4.5- 1Causes of negative & repetitive thought

ध्यायतो विषयान् पुंसः सङ्गस्तेषूपजायते ।

सङ्गात् सञ्जायते कामः कामात् क्रोधोऽभिजायते ॥भ.गी - २। ६२ ॥

dhyāyato viṣayān puṁsaḥ saṅgasteṣūpajāyate ।

saṅgāt sañjāyate kāmaḥ kāmāt krodho'bhijāyate ॥bha.gī - 2 । 62 ॥

When a man thinks of the objects, attachment for them arises; from attachment desire is born; from desire anger arises.

क्रोधाद्भवति सम्मोहः सम्मोहात्स्मृतिविभ्रमः ।

स्मृतिभ्रंशादखे बुद्धिनाशो बुद्धिनाशात्प्रणश्यति ॥२। ६३ ॥

Krodhādbhavati sammohaḥ sammohāt smṛtivyibhramah ।

Smṛtibhramāśāt buddhināśo buddhināśāt praṇaśyati ॥ Bhagavad Gīā |2|63||

From anger comes delusion; from delusion loss of memory; from loss of memory the destruction of discrimination; from the destruction of discrimination he perishes (Sivananda, 2008).

2.4.5- 2Repetition of Thoughts due to Avirati and Bhrantidarshana

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 ॥

Vyādhistyānasamśayapramādālasyaāvīratibhrāntidarśanālabdhabhūmikatvān
avasthītatvāni cittavikṣepāste'ntarāyāḥ || Patañjaliyogasūtram - 1.30 ||

Nine Obstacles on the path

Vyadhi = illness, Styana = inability to comprehend, Samshaya = doubt, Pramada = carelessness, Alasya = laziness, Avirati = craving for enjoyment, Bhranti darshana = hallucination, Alabdha bhoomikatva = non-attainment of any state, Anavasthītatva = instability.

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.

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.

2.4.5- 3Causes of negative & repetitive thought

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

duḥkhadaurmanasyāṅgamejayatvaśvāsapraśvāsā vikṣepasahabhuvah

|| 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. Shvāsa-prashvāsa – 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.

2.4.6 Mindfulness – Peace of Mind

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 ॥

Abhyāsavairāgyābhyām 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 play 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 (Biliangadi, 2014).

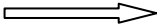
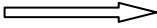
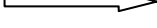

मैत्रीकरुणामुदितोपेक्षाणां सुखदुःख-पुण्यापुण्यविषयाणां भावनातः चित्तप्रसादनम्

॥ प.यो.सू - १. ३३ ॥

Maitrīkaruṇāmuditopekṣāṇām sukhaduḥkha-puṇyāpuṇyaviṣayāṇām

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, goodwill towards those who are virtuous, and indifference or neutrality towards those we perceive as wicked or evil. By these methods, you will have peace of mind. By these methods, you will have peace of mind. By these methods, you will have peace of mind (Saraswati, 1976).

Attitude	towards	Personality
Friendliness		Happiness
Compassion		Misery
Gladness		Virtue
Indifference		Vice

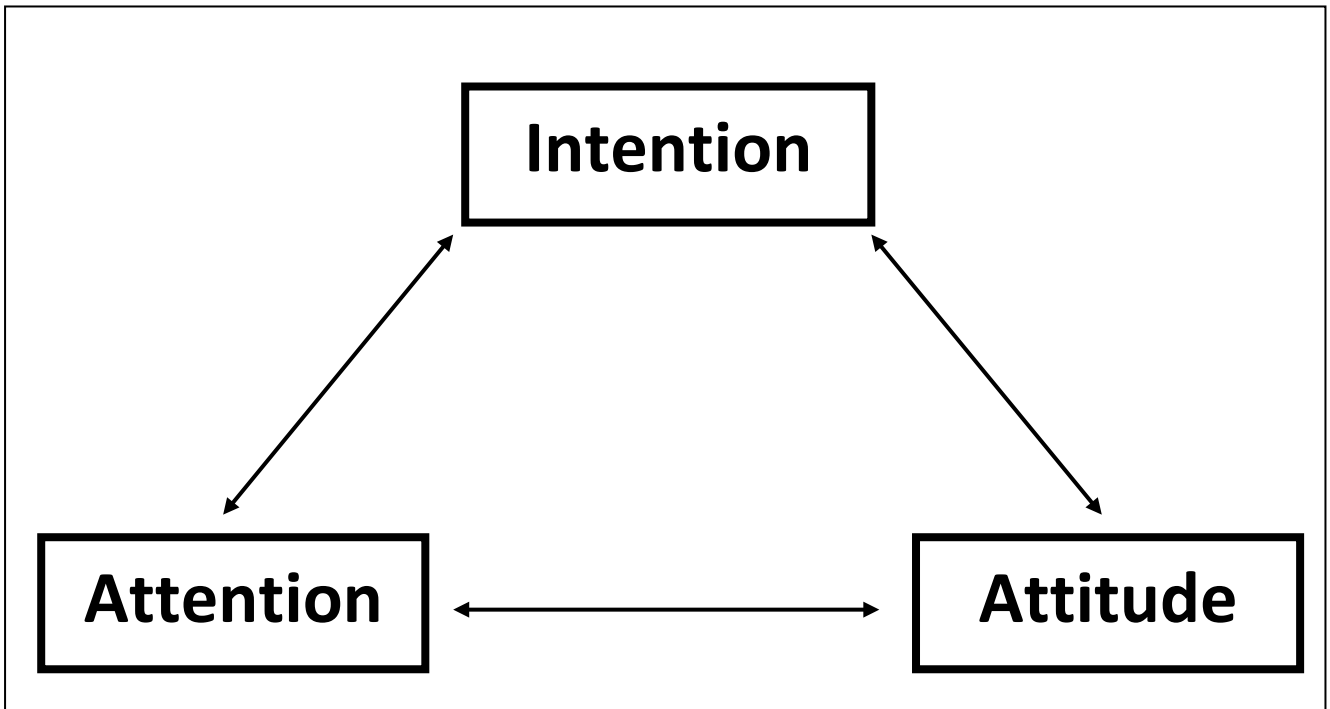


Figure 2: The three axioms of mindfulness, Intention, Attention, and Attitude, are not separate stages. They are interwoven aspects of a single cyclic process and occur simultaneously. Mindfulness is this moment-to moment process.

2.5 SUMMARY AND CONCLUSIONS

According to Yoga, the concept of health is a perfect state of physical homeostasis and mental equanimity occur in a balance and harmony. Details of the concepts of mind, its origin, attribution, manifestation, and management from the perspective of the ancient texts have been discussed. Scriptures suggest to make the mind one-pointed, as the way of removing mind wandering and repetitive negative thought. Scriptures also recommend with such an approach, it is possible to help the improving happiness and enhancing mindfulness which has used the most popular way of psychological therapy method currently.

REVIEW OF THE SCIENTIFIC LITERATURE

Mind-wandering shares a number of important similarities with thinking in depression. results provide strong evidence for the utility of mind-wandering as a marker for depressive thinking and suggest a number of important implications for therapy for depression(Smallwood et al., 2007).This study examined the effect of mood states on mind wandering. These results provide further support for the notion that a negative mood reduces the amount of attentional commitment to the task in hand and may do so by enhancing the focus on task irrelevant personal concerns(Smallwood et al., 2009).

Prolonged physiological activity is believed to be a key factor mediating between stress and later disease outcomes. Few studies, however, have investigated the crucial psychological factors that cause prolonged activity. This article proposes that conscious as well as unconscious perseverative cognition are the critical factors. Perseverative cognition indicates repetitive or sustained activation of cognitive representations of past stressful events or feared events in the future. In daily life, most prolonged physiological activity is not due to stressful events but to perseverative cognition about them. We and others have already found evidence that conscious perseverative cognition, i.e., worry, has physiological effects, in both laboratory and real life settings, and that perseverative cognition mediates prolonged responses to stressful events. Yet, there are convincing reasons to expect that unconscious perseverative cognition has an even larger role in stress-related prolonged activity. Firstly, since the greater part of cognitive processing operates without awareness, a considerable part of perseverative cognition is likely to be unconscious too. People may not be aware of most of their stress-related cognitive processes. Secondly, our recent studies have shown that increased activity of the autonomic nervous system continues after conscious perseverative cognition has stopped: It goes on for several hours and even during sleep. This and several other findings suggest that a considerable part of increased physiological activity may be due to unconscious perseverative cognition. The article concludes with stating that the notion of unconscious perseverative cognition potentially opens an entirely new area within stress research (Brosschot, Verkuil, & Thayer, 2010).

Repetitive negative thinking (RNT) has been found to be involved in the maintenance of several types of emotional problems and has therefore been suggested to be a transdiagnostic process. However, existing measures of RNT typically focus on a particular disorder-specific content. In this article, the preliminary validation of a content-independent self-report questionnaire of RNT is presented. The 15-item Perseverative Thinking Questionnaire was evaluated in two studies (total N=1832), comprising non clinical as well as clinical participants. Results of confirmatory factor analyses across samples supported a second-order model with one higher-order factor representing RNT in general and three lower-order factors representing (1) the core characteristics of RNT (repetitiveness, intrusiveness, difficulties with disengagement), (2) perceived unproductiveness of RNT and (3) RNT capturing mental capacity. High internal consistencies and high re-test reliability were found for the total scale and all three subscales. The validity of the Perseverative Thinking Questionnaire was supported by substantial correlations with existing measures of RNT and associations with symptom levels and clinical diagnoses of depression and anxiety. Results suggest the usefulness of the new measure for research into RNT as a transdiagnostic process (Ehring et al., 2011).

Mind wandering (MW) has been defined as the brain's default mode of operation. It is a common experience, however, this process can become maladaptive, and takes the form of repetitive thoughts. This study aimed to compare the cardiac and cognitive correlates of perseverative cognition (PC) and MW. Seventy-three healthy participants were engaged in two recall interviews designed to draw their attention to a neutral and a personally relevant negative episode. After each interview, participants performed a 20-minute tracking task with thought probe while the electrocardiogram was continuously recorded. Perseverative cognition was associated with higher levels of cognitive inflexibility (slower reaction times, highest intrusiveness, efforts to inhibit), autonomic rigidity (low heart rate variability), and mood worsening compared to being focused on task or MW. Results suggest that MW fails to serve its adaptive function and turns into a risk factor for health whenever it becomes a rigid and inflexible pattern (PC) (Ottaviani et al., 2013).

Mindfulness is an attribute of consciousness long believed to promote well-being. This research provides a theoretical and empirical examination of the role of mindfulness in psychological well-being. Correlational, quasi-experimental, and

laboratory studies showed that the Mindfulness Attention Awareness Scale measures a unique quality of consciousness that is related to a variety of well-being constructs, that differentiates mindfulness practitioners from others, and that is associated with enhanced self-awareness. An experience-sampling study shows that both dispositional and state mindfulness predict self-regulated behaviour and positive emotional states. Further, a clinical intervention study with cancer patients demonstrates that increases in mindfulness over time relate to declines in mood disturbance and stress (Brown & Ryan, 2003).

Relationships were investigated between home practice of mindfulness meditation exercises and levels of mindfulness, medical and psychological symptoms, perceived stress, and psychological well-being in a sample of 174 adults in a clinical Mindfulness-Based Stress Reduction (MBSR) program. This is an 8-session group program for individuals dealing with stress-related problems, illness, anxiety, and chronic pain. Participants completed measures of mindfulness, perceived stress, symptoms, and well-being at pre- and post-MBSR, and monitored their home practice time throughout the intervention. Results showed increases in mindfulness and well-being, and decreases in stress and symptoms, from pre- to post-MBSR. Time spent engaging in home practice of formal meditation exercises (body scan, yoga, sitting meditation) was significantly related to extent of improvement in most facets of mindfulness and several measures of symptoms and well-being. Increases in mindfulness were found to mediate the relationships between formal mindfulness practice and improvements in psychological functioning, suggesting that the practice of mindfulness meditation leads to increases in mindfulness, which in turn leads to symptom reduction and improved well-being (Carmody & Baer, 2008).

Research into both mindfulness and mind-wandering has grown rapidly, yet clarification of the relationship between these two seemingly opposing constructs is still absent. A first study addresses the relationship between a dispositional measure of mindfulness (Mindful Attention and Awareness Scale, MAAS) and converging measures of both self-reported and indirect markers of mind-wandering. Negative correlations between dispositional mindfulness and 4 measures of mind-wandering confirm the opposing relationship between the 2 constructs and further validate the use of the MAAS as a dispositional measure of mindfulness. A second study demonstrated that 8 minutes of mindful breathing reduces behavioural indicators of

mind-wandering during a Sustained Attention to Response Task compared with both passive relaxation and reading. Together these studies clarify the opposition between the constructs of mindfulness and mind-wandering and so should lead to greater convergence between what have been predominately separate, yet mutually relevant (Mrazek, Smallwood, & Schooler, 2012).

A study that Effect of integrated yogic practices on positive and negative emotions in healthy adults. Studies on affective wellbeing have shown the beneficial role of positive emotions on cognitive processing and harmful role of negative on coping, stress and health status. Studies have shown that yoga practices reduce anxiety and depression and improve wellbeing. The aim of study were two, 1) examine the safety and feasibility of conducting weeklong free yoga camp, and 2) assess its impact on negative and positive affect in normal healthy volunteers. 450 participants were given integrated yoga sessions including asanas, pranayama, relaxation, notional correction and devotional sessions. Assessment was carried out on the first day and last day of the camp, using a modified version of Positive Affect Negative Affect Scale (PANAS). It is feasible and safe to conduct a weeklong yoga camp in an urban setting, and integrated yoga practices can reduce the negative affect and increase the positive affect within one week (Lakshmi Narasimhan, Nagarathna & Nagendra, 2011).

Effects of Yoga and its contributions on Psycho physiology and Psychology, Psychiatry

Practicing yoga has also been shown to improve sensory perception in volunteers across diverse age groups. Some of these observations were based on studies of auditory evoked potentials, which demonstrated that specific components occurred sooner, following yoga practices such as pranayama or meditation (Telles, Nagarathna, Nagendra, & Desiraju, 1994). The error if free of illusion was less following yoga training. Apart from sensory perception, motor skills also improved following yoga. Among these, a definite improvement was shown to occur in static motor performance or ability to hold the hand steady (Shirley Telles, Hanumanthaiah & Nagendra, 1993). Other abilities that were shown to improve following Yoga are chiefly related to cognitive tasks that include spatial memory (Naveen, Nagarathna & Telles, 1997). Yoga is one of the popular practices that have the potential to promote positive affect.

According to a recent survey in 2008, conducted by the National Centre for Complementary and Alternative Medicine, 38% percent of adults and 12% of children in USA use complementary and alternative therapies and yoga is one amongst the top five of these. Yoga, developed thousands of years ago, is now recognized as a form of mind-body medicine. It addresses the full scope of a person's life including physical, mental, emotional and spiritual aspects of the individual in disease and health (Lakshmi Narasimhan, Nagarathna & Nagendra, 2011). Previous studies on yoga reported enhanced mental health as a result of the practice of yoga way of life. The results indicate the importance of yoga as an integral element in improving managerial performance in organization (Ganpat & Nagendra, 2011).The spiritual incongruence, emotional deregulation, inappropriate response to demanding situation, cognitive inflexibility in response inhibition, lack of awareness to the present moment and functional impairment in the brain region corresponding to self regulation are hallmarks of impulsive related behaviour. Yogic skills may reduce impulsivity in several ways (Rajesh S.K, 2013).

AIM AND OBJECTIVES

4.1 AIM OF THE STUDY

- To assess the effect of one week intense Integrated Approach of Yoga Therapy on perseverative thinking, mind wandering and mindfulness in unhealthy adults.

4.2 OBJECTIVES OF THE STUDY

- To evaluate the efficacy of one week intense Integrated Approach of Yoga Therapy on perseverative thinking in a sample of unhealthy adults.
- To assess the effect of one week intense Integrated Approach of Yoga Therapy on mind wandering in a sample of unhealthy adults.
- To estimate the usefulness of one week intense Integrated Approach of Yoga Therapy on mindfulness in a sample of unhealthy adults.
- To measure the outcome of one week intense Integrated Approach of Yoga Therapy on happiness level in a sample of unhealthy adults.

4.3 RATIONALE OF THE STUDY

Psychological disorders are serious problem in modern society as well as somatic health problems. Many of the studies suggest that perseverative thinking and mind wandering are based on the most of psychological disorders. Although the evidence reviewed strongly implies that mindfulness is very effective way toward reducing perseverative thinking and mind wandering, and the role of yoga is deeply interrelated with mindfulness, the majority of this research has been conducted on non-yoga field and in elsewhere. Hence current study examined the effect of Yoga on perseverative thinking, mind wandering and mindfulness in unhealthy adults.

4.4 HYPOTHESIS AND NUL HYPOTHESIS

- One week intense Integrated Approach of Yoga Therapy may reduce perseverative thinking level in sample of unhealthy adults.
- One week intense Integrated Approach of Yoga Therapy may not have effect on perseverative thinking level in sample of unhealthy adults.
- One week intense Integrated Approach of Yoga Therapy may reduce mind wandering level in sample of unhealthy adults.

- One week intense Integrated Approach of Yoga Therapy may not have effect on mind wandering level in sample of unhealthy adults.
- One week intense Integrated Approach of Yoga Therapy may enhance mindfulness level in sample of unhealthy adults.
- One week intense Integrated Approach of Yoga Therapy may not effect on mindfulness level in sample of unhealthy adults.
- One week intense Integrated Approach of Yoga Therapy may increase of happiness level in sample of unhealthy adults.
- One week intense Integrated Approach of Yoga Therapy may not effect on happiness level in sample of unhealthy adults.

4.5 DEFINITION OF KEY TERMS

- **Perseverative cognition:** The repeated or chronic activation of the cognitive representation of one or more psychological stressors.
- **Mind wandering:** The experience of thoughts not remaining on a single topic for a long period of time, particularly when people are not engaged in an attention-demanding task.
- **Happiness:** A mental or emotional state of well-being characterized by positive or pleasant emotions ranging from contentment to intense joy.
- **Mindfulness:** A receptive attention or awareness of present events and experience.

METHODS

5.1 PARTICIPANTS

5.1.1 Sample size

Participants were 93 adults (65 males, 28 females). Participants age ranged from 19 to 83 years with a mean age of 48.2 years (SD= 16.76).

5.1.2 Selection and source of subjects

Subjects were recruited from Arogyadhama placed in prashanti, Swami Vivekananda Yoga Anusandhana Samsthana at Bangalore, Karnataka, India. Subjects were participated in the different sections of Arogyadhama which are section B(hypertension & asthma), section D(arthritis), section E(spinal disorders), section F(metabolic disorders), section G(gastrointestinal disorders), and section PPH & H(promotion of positive health & obesity).

5.1.3 Inclusion criteria

- Age: above 19- years.
- Both Genders.
- Those who can read and understand English well.

5.1.4 Exclusion criteria

- Those who are not willing to participate in the study.
- Those who have severe psychiatric disorders.

5.1.5 Ethical considerations

- Informed consent of the respondents and rehabilitation centre was collected.
- The participants in the study were explained in detail about the nature of the study and the voluntary nature of participation.
- Confidentiality was assuring as part of the research process.

5.2 DESIGN OF THE STUDY

A Single Group Pre-Post design

PRE	1 week IAYT	POST
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5.3 INTERVENTION

The Upanishads are a culmination of Vedic knowledge. The Taittiriya Upanishad discusses five levels of existence in the human condition (Rajesh, Ilavarasu, Srinivasan, & Nagendra, 2014). The grossest and the outermost, the physical frame, is called the annamayakosha, followed by the pranamayakosha, manomayakosha, vijnananmayakosha, and the subtlest, the anandamayakosha [Figure 1]. The annamayakosha refers to the gross physical body which is a sheath sustained by food. The second subtler sheath is the pranaamayakosha, the sheath of energy body, featured by the predominance of prana, the life principle, which flows through invisible channels called nadis. The next sheath in order of subtlety is manomaya kosha — the sheath of sensory capacities (emotions dominate and start governing our actions). Next is the vijnananmaya kosha — the sheath of cognitive function (power of discernment and discrimination predominates). Finally, there is the anandamayakosha — the sheath of blissfulness. Further, the five koshas can be classified into three groups — the physical (annamayakosha), the subtle (pranamayakosha, manomayakosha, vijnananmaya kosha), and the causal (anandamaya kosha)

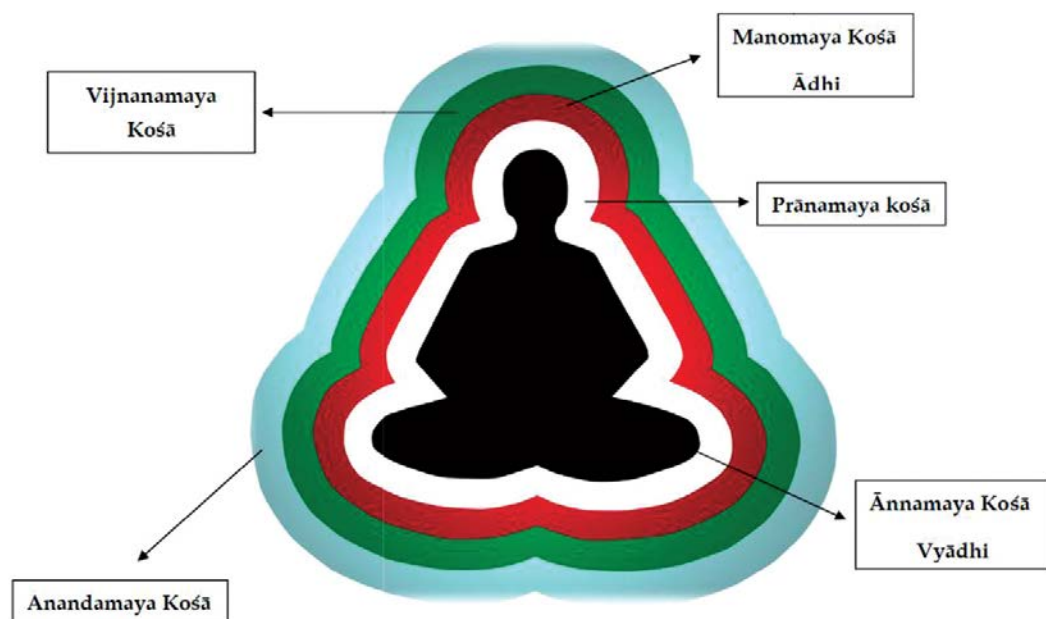


Figure 1: Five Sheaths (Pancha Koshas)

5.3.1 ANNAMAYA KOSHA (THE PHYSICAL LAYER)

A healthy Yogic diet, Kriyas, loosening exercises and Yogasanas are used to operate at the AnnamayaKosha level and to remove the physical symptoms of the ailments. These practises are not only effects on the physical level but also can affect to mental level as scattering pranas which swarmed with on head region towards under the head. Dynamic yoga practices help to physical manifestation like anxiety or depression. Kriyas and sattvic diet have optimum benefits to mind purifying. The additional contribution of yogi suksmavyayama is the relaxation techniques, which takes away the mind fatigue as well as muscle fatigue.

5.3.2 PRANAMAYA KOSHA (THE LAYER OF PRANA)

The prana imbalance is the bridge between stressed mind and sick body. This shows up an irregular breathing. When you slow down the breathing rate, the mind slows down. As we know there is direct connection between our mind and breath. Whenever you are anxious or stress or angry, your breath rate speed up vice versa. However, whenever you are calm, sleep, relaxed, comfortably or meditating - your breath become slowdown. The practice of Vibhagiyapranayama (sectional breathing) NadishuddhiPranayama, Kriyas and BhramriPranayama, was practiced to operate at Pranamaya Kosha.

5.3.3 MANOMAYA KOSHA (THE MENTAL LAYER)

A direct operation on this level is made possible by the last three limbs of Antaranga Yoga of Patanjali – Dharana, Dhyanaand Samadhi. The culturing of mind is accomplished by focusing of the mind(dharana) initially and followed by relax dwelling of the mind in a single thought(dhyana)for longer and longer duration leading ultimate to super consciousness (Samadhi). A progressive habituation allows the mind to remain relaxed during the period of meditation (dhyana)— it can be directly called the peak state of mindfulness. The practices included Mind Sound Resonance Technique (MSRT, Nadanusandhana (A-kara, U-kara, M-kara, and A-U-M), OM meditation (15 min) and Cyclic Meditation (30 min).Further to handle and gain control over the basic cause for mental agitations, we use the Yoga techniques

that control our emotions. A devotional session containing Prayers, Chants, Bhajans, Namavalis, Dhuns, Stotras etc., help to build a congenial atmosphere to evoke, recognise, attenuate and dissipate the emotions.

5.3.4VIJNANAMAYA KOSHA (THE LAYER OF WISDOM)

A basic understanding is the key to operate from Vijnanamaya kosha.Upanishads are the treasure house of knowledge which is the rescuer of all miseries and obsessions. It is the lack of that inner jnana which is responsible for many wrong habits, agitations, etc. the happiness analysis –AnandaMimamsa of Taitteriyaupanisat handles the most fundamental problem relevant to all living creatures. The systematic analysis leads to the reader to that substratum from which prana and mind emerge the Anandamayakosha. Further, the participants attended Yogic counselling and Satsangas.

5.3.4ANANDAMAYA KOSHA (THE LAYER OF BLISS)

To bring the bliss of our causal body called Anandamaya Kosha in all our actions is the key for a very happy and healthy life. This also brings our innate healing powers to effects, a complete cure of our physical and psychological ailments. The techniques used come under the heading Karma Yoga, the secret of action.

5.4 VARIABLES STUDIED

5.4.1 Short Depression Happiness Scale

(Joseph, Linley, Harwood, Lewis, & McCollam, 2004)

The Short Depression Happiness Scale (SDHS) was designed to extend existing measures of depression beyond the zero point to measure not only the absence of depression but also the presence of happiness. The SDHS consists of six items, three items measuring happiness (e.g., I felt happy) and three reverse coded items measure depressive states (e.g., I felt my life was meaningless). Participants rate how frequently they feel the way described in the item on a four point scale (0 = never, 1 = rarely, 2 = sometimes, 3 = often). When the items are summed, people can score from 0 (depressive state) through 9 (neither unhappy nor happy) to 18 (very happy)

5.4.2 Mind-Wandering Questionnaire

(Mrazek, Phillips, Franklin, Broadway, & Schooler, 2013)

MWQ is a tool to measure the behavioural errors of adult and it is the focus of extensive investigation. It has five items and 6-point Likert scale (1-almost never, 2-very infrequently, 3-somewhat infrequently, 4-somewhat frequently, 5-very frequently & 6-almost always) to compose the form scale. The MWQ is commonly used to assess mind-wandering related constructs such as daydreaming or behavioural errors. Participant's responses on each item are summed to create a total score. A high score (a total score range is 5 to 30) indicates a high level of mind wandering state. **5.4.3 Perseverative Thinking Questionnaire**

(Ehring et al., 2011)

PTQ consisted of 15 items. The item pool comprised three items for each of the assumed process characteristics of repetitive negative thinking: (1a) repetitive (e.g., "The same thoughts keep going through my mind again and again"), (1b) intrusive (e.g., "Thoughts come to my mind without me wanting them to"), (1c) difficult to disengage from (e.g., "I can't stop dwelling on them"), (2) unproductive (e.g., "I keep asking myself questions without finding an answer"), (3) capturing mental capacity (e.g. "My thought prevent me from focusing on other things"). Each items on a scale ranging from '0' (never) to '4' (almost always) and a sum of the scores for these three domains gives the total score. A high score (a total score range is 0 to 60) indicates a high degree of perseverative thinking level.

5.4.4 Mindful Attention Awareness Scale

(Brown & Ryan, 2003)

MAAS is a 15-item, 6-point Likert scale (1 = almost always to 6 = almost never) measure that assesses the quality of attention and awareness that individuals apply to their daily lives. All items of the MAAS are worded in a negative direction (e.g., I find myself doing things without paying attention, I could be experiencing some emotion and not be conscious of it until sometime later, it seems I am "running on automatic" without much awareness of what I am doing). Participant's responses on each item are summed to create a total score. A high score indicates a high degree of mindfulness.

DATA EXTRACTION AND ANALYSIS

6.1 DATA COLLECTION

The SDHS, MWQ, PTQ and MAAS data were collected before (Pre) and after (Post) the 1 week Yoga program (IAYT).

6.2 DATA SCORING

- Short depression and happiness scale calculated like this. Question number 1, 3 and 6 is reversing score (0=3, 1=2, 2=1, and 3=1). Further total score was obtained by adding up all the questions.
- Mind wandering questionnaire, summation of all the questions.
- Perseverative thinking questionnaire: There are three domains. The core characteristic of RNT (repetitive negative thinking) 1, 2, 3, 6, 7, 8, 11, 12, 13, Un-productiveness of RNT 4, 9, 14, and Mental capacity captured by RNT 5, 10, 15. The core characteristic of RNT is again divide by repetitiveness 1, 6, 11, intrusiveness 2, 7, 12, and difficulty to disengagement from 3, 8, 13. Summation of all the questions.
- Mindfulness Attention Awareness Scale, summation of all the questions.

6.3 DATA ANALYSIS

All statistical analyses were performed using the Statistical Package for Social Sciences (version 16.0). Paired t-test were used to compare means of data collected before (Pre) and after (Post) the Yoga treatment.

RESULTS

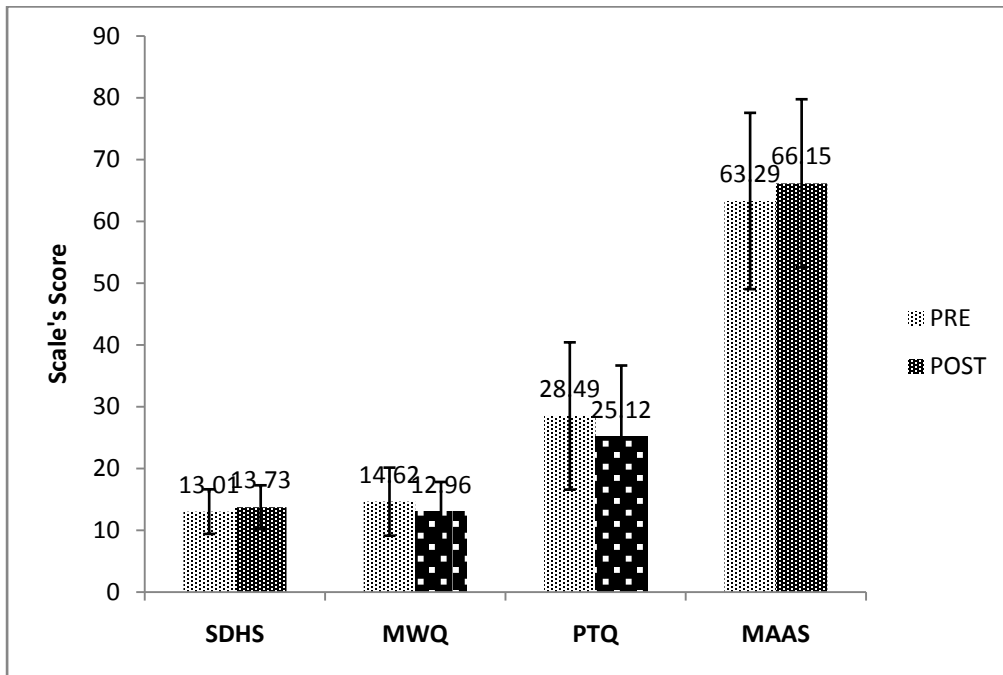
The data analysis [Table 1] showed 0.62% increase ($P<0.05$) in short depression – happiness score (SDHS), 1.65% decrease ($P<0.001$) in mind wandering score (MWQ), 3.36% significant decrease ($P<0.001$) in perseverative thinking score (PTQ)– there is three sub domains:1.95% decrease ($P<0.001$) in core features, 0.68% decrease ($P<0.05$) in unproductiveness, 0.72% decrease ($P<0.05$) in capturing of mental capacity, and 2.86% significant increase ($P<0.01$) in mindful attention awareness (MAAS).

Table 1: Data analysis

Variables	Mean ± Standard deviation		p	% increase(↑) decrease(↓)
	Before yoga (Pre)	After yoga (Post)		
SDHS	13.10±3.61	13.73±3.54	.022	↑0.62
MWQ	14.62±5.51	12.96±4.85	.000	↓1.65
PTQ	28.49±11.92	25.12±11.54	.000	↓3.36
<i>core features</i>	17.93±7.36	15.97±7.38	.000	↓1.95
<i>unproductive</i>	5.02±2.92	4.33±2.60	.003	↓0.68
<i>mental</i>	5.57±2.81	4.33±2.64	.002	↓0.72
MAAS	63.29±14.27	66.15±13.61	.004	↑2.86

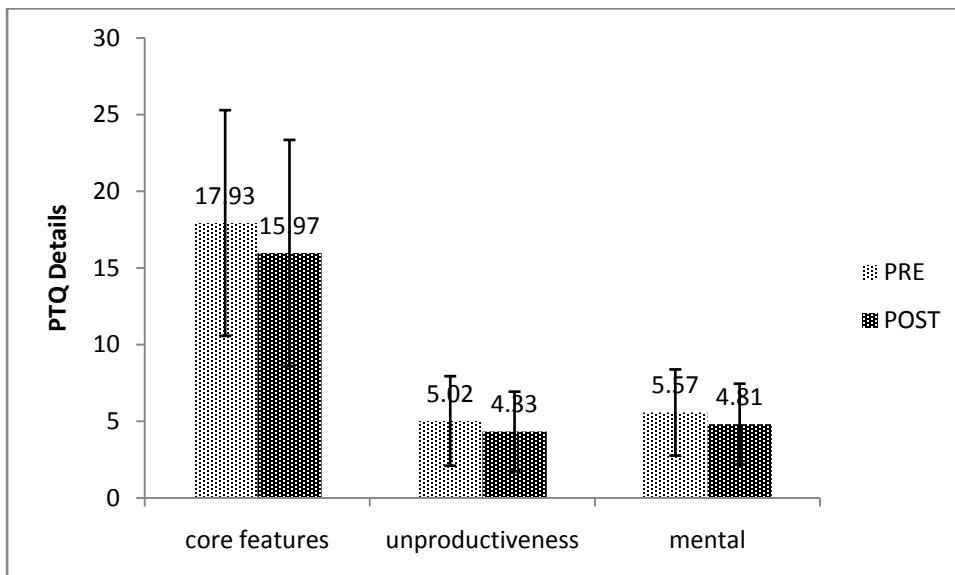
Short Depression – Happiness Scale (SDHS), Perseverative Thinking Questionnaire (PTQ)– sub domains of PTQ: core features, unproductiveness, capturing of mental capacity, Mind Wandering Questionnaire (MWQ), Mindful Attention Awareness Scale (MAAS)

Graph 1 : Total Scores



Short Depression – Happiness Scale (SDHS), Perseverative Thinking Questionnaire (PTQ)– sub domains of PTQ: core features, unproductiveness, capturing of mental capacity, Mind Wandering Questionnaire (MWQ), Mindful Attention Awareness Scale (MAAS)

Graph 2 : Domains of Perseverative Thinking Questionnaire

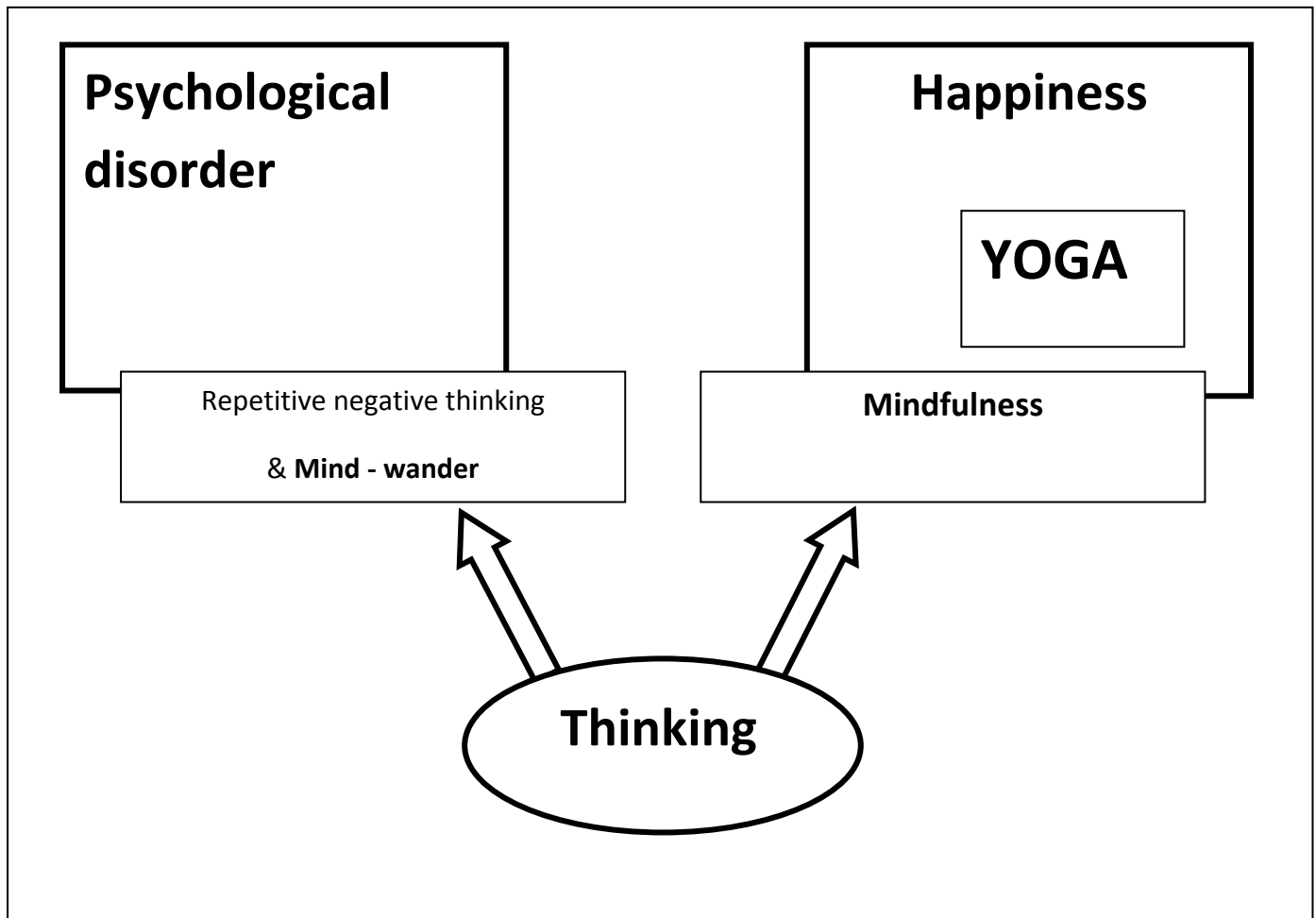


DISCUSSION

The purpose of present study was to understand of the role of short term intense yoga based intervention on mind wandering, perseverative thinking, happiness and mindfulness. A single group pre – post design in unhealthy adults shown significant reduction in Mind Wandering and Perseverative thinking. Further, results have shown significant enhancement of happiness and mindfulness following one week Integrated Approach of Yoga Therapy (IAYT). Moreover, current study result are in line with previous studies on yoga reported enhanced mental health.

The repeated or chronic activation of the cognitive representation of one or more psychological stressors and the experience of thoughts not remaining on a single topic for a long period of time, particularly when people are not engaged in an attention-demanding task are reason for the onset of psychopathology. The component of IAYT may enhanced philosophical, spiritual, physical and psychological aspects of human existence which may in turn enhanced present movement awareness. Numerous studies have shown mindfulness-enhancing interventions reduce pathological mental and physical health symptoms across a wide variety of conditions and diseases. Mindfulness develops as a result of consistent practice or attempt of yoga practices. Possible mechanism of enhancement may be due to receptive attention to and awareness of present events and experience. The results of present study indicate the importance of yoga as the integral elements in improving happiness and mindfulness with decreasing mind wandering and perseverative thinking.

Figure 4: Diagrammatic representation of the findings



APPRAISAL

9.1 CONCLUSION

The results from the present study suggest that participation in IAYT program shown significant improvement of happiness and mindfulness levels. Further significant reduction in perseverative thinking and mind wandering.

9.2 IMPLICATIONS AND APPLICATIONS OF THE STUDY

By examine the interaction between happiness and mindfulness with mind wandering and perseverative thinking, the present study make several contributions to the understanding these constructs. Results from this study offered initial information on the possible efficacy of yoga on enhancing happiness and mindfulness, and psychological wellbeing. These findings suggest psycho-spiritual and cognitive application of yoga in the management of perseverative cognition.

9.3 STRENGTH OF THE STUDY

Evaluating the effect of yoga on happiness, mind wandering, perseverative thinking and mindfulness the present study has contributed to rapidly growing streams of research into psychological therapeutic benefits of yoga and positive psychology movement. Further, to our knowledge, this is the first study to evaluated the effect of yoga on perseverative thinking, mind wandering and mindfulness in a sample of unhealthy adults.

9.4 LIMITATIONS OF THE STUDY

Pre and Post design without control limits inferences about effects of intervention due to the influence of confronting variables. Further assessment tools used was more subjective tool questionnaire, which are prone to self-bias.

9.5 SUGGESTIONS FOR FUTURE STUDIES

Further research should warrant exploring the effects of YOGA (IAYT program) for perseverative cognition and improving happiness using randomized controlled trial with large sample size. Even though the results of short intervention study have shown significant results, but it is necessary to study long term for more solid grounds. Future research should assess the effect of change with more objective measurement such as neuroimaging or neurocognitive technique.

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APPENDIXES

INFORMED CONSENT: A SAMPLE COPY

Title of the project : Effect of yoga on perseverative thinking, mind wandering and mindfulness in unhealthy adults.

Investigator : Hayoon Jung

Name of the guide : Rajesh S. K, Ph.D.

Name and Age of the Participant: ----- and -----

Date and Time : ----- and -----

About the Project:

In order to understand the efficacy of IAYT (Integrate approach of yoga treatment) on perseverative thinking, mind wandering and mindfulness, we will be recording by using these Questionnaires.

Please note:

1. All information obtained during the study will be kept confidential and individual report of the test will be given.
2. You can withdraw from the study at any point of the time unconditionally.
3. In case the study does cause any adverse effects, the institution is not liable. I hereby have understood the above and consent voluntarily to participate in the study.

Place_____

Date_____

Signature of the participant

INTERVENTION

YOGA THERAPY PARTICIPANTS DAILY TIME TABLE

Friday schedule

9.00 am – Bus starts from Prashanthi Kutiram

11.00 am – Bus service from Eknath Bhavan to Prashanti Kutiram

1.00 pm – Reception / lunch / registration

2:30 pm – DRT in Prayer hall

3:00 pm – Inauguration

3.15 pm – Section wise case history writing / parameters / special technique

4.30 pm – Integrated approach to yoga therapy (IAYT) introductory lecture (Prayer Hall)

6.00 pm – Bhajan (prayer hall)

6.30 pm – Kriya Lecture (prayer hall)

7.30 pm – Dinner (Annapurna)

8.30 pm – Kit Collection

TIME	SCHEDULE	VENUE
5.30am	Pranayama and OM Meditation	Prayer Hall
6.30am	Special Techniques	Section
7.30 am	Breakfast	Annapurna
8.00am	Maitri Milan	**Mangal Mandir
9.00 am	Parameters	Section wise
9.45am	Treatments and Counseling	Surabhi or sections
12.15pm	Lecture	**Prayer Hall
1.00pm	Lunch	Annapurna
2.00pm	Video (As per the therapist instructions)	Section wise
3.00pm	Cyclic Meditation	** Prayer Hall
4.00pm	Special Techniques	Respective sections
5.00pm	Tuning to Nature, Games	Walking path and Play ground
6.00pm	Bhajan	Prayer Hall
6.30pm	Trataka	** Prayer Hall
7.00pm	M.S.R.T	** Prayer Hall
7.30pm	Dinner	Annapurna
8.30pm	Happy Assembly	Prayer Hall
9.30 pm	Nisha Swasthi	In their respective Rooms

SAMPLE WORKSHEET

Short depression & happiness scale (SDHS): A number of statements that people have made to describe how they feel are given below. Please read each one & tick the box which best describes how frequently you felt that way in the past seven days, including today. Some statements describe positive feelings & some describe negative feeling. You may have experienced both positive & negative feelings at different times during the past seven days.

Si.no		never	rarely	some- times	Often
1	I felt dissatisfied with my life		*		
2	I felt happy				*
3	I felt cheerless			*	
4	I felt pleased with the way I am				*
5	I felt that life was enjoyable				*
6	I felt that life was meaningless	*			

MWQ

Instructions: Below is a collection of statements about your experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what really reflects your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Never	Very Infrequently	Somewhat Infrequently	Somewhat Frequently	Very Frequently	Almost Always

- | | | | | | | |
|---|---|---|---|---|---|---|
| 1. I have difficulty maintaining focus on simple or repetitive work. | 1 | 2 | 3 | 4 | 5 | 6 |
| 2. While reading, I find haven't been thinking about the text and must therefore read it again. | 1 | 2 | 3 | 4 | 5 | 6 |
| 3. I do things without paying full attention. | 1 | 2 | 3 | 4 | 5 | 6 |
| 4. I find myself listening with one ear, thinking about something else at the same time. | 1 | 2 | 3 | 4 | 5 | 6 |
| 5. I mind-wander during lectures of presentations. | 1 | 2 | 3 | 4 | 5 | 6 |

PTQ

Instruction: In this questionnaire, you will be asked to describe how you *typically* think about negative experiences or problems. Please read the following statements and rate the extent to which they apply to you when you think about negative experiences or problems.

		never	rarely	sometimes	Often	almost always
1.	The same thoughts keep going through my mind again and again.	0	1	2	3	4
2.	Thoughts intrude into my mind.	0	1	2	3	4
3.	I can't stop dwelling on them.	0	1	2	3	4
4.	I think about many problems without solving any of them.	0	1	2	3	4
5.	I can't do anything else while thinking about my problems.	0	1	2	3	4
6.	My thoughts repeat themselves.	0	1	2	3	4
7.	Thoughts come to my mind without me wanting them to.	0	1	2	3	4
8.	I get stuck on certain issues and can't move on.	0	1	2	3	4
9.	I keep asking myself questions without finding an answer.	0	1	2	3	4
10.	My thoughts prevent me from focusing on other things.	0	1	2	3	4
11.	I keep thinking about the same issue all the time.	0	1	2	3	4
12.	Thoughts just pop into my mind.	0	1	2	3	4
13.	I feel driven to continue dwelling on the same issue.	0	1	2	3	4
14.	My thoughts are not much help to me.	0	1	2	3	4
15.	My thoughts take up all my attention.	0	1	2	3	4

MAAS

Instructions: Below is a collection of statements about your everyday experience. Using the 1-6 scale below, please indicate how frequently or infrequently you currently have each experience. Please answer according to what *really reflects* your experience rather than what you think your experience should be. Please treat each item separately from every other item.

1	2	3	4	5	6
Almost Always	Very Frequently	Somewhat Frequently	Somewhat Infrequently	Very Infrequently	Almost Never
1. I could be experiencing some emotion and not be conscious of it until some times later.					
1	2	3	4	5	6
2. I break or spill things because of carelessness, not paying attention, or things of something else.					
1	2	3	4	5	6
3. I find it difficult to stay focused on what's happening in the present.					
1	2	3	4	5	6
4. I tend to walk quickly to get where I'm going without paying attention to what I experience along the way.					
1	2	3	4	5	6
5. I tend not to notice feelings of physical tension or discomfort until they really grab my attention.					
1	2	3	4	5	6
6. I forget a person's name almost as soon as I've been told it for the first time.					
1	2	3	4	5	6
7. It seems I am "running on automatic," without much awareness of what I'm doing.					
1	2	3	4	5	6
8. I rush through activities without being really attentive to them.					
1	2	3	4	5	6
9. I get so focused on the goal I want to achieve that I lose touch with what I'm doing right now to get there.					
1	2	3	4	5	6
10. I do jobs or tasks automatically, without being aware of what I'm doing.					
1	2	3	4	5	6
11. I find myself listening to someone with one ear, doing something else at the same time.					
1	2	3	4	5	6
12. I go places on 'automatic pilot' and then wonder why I went there.					
1	2	3	4	5	6
13. I find myself preoccupied with the future or the past.					
1	2	3	4	5	6
14. I find myself doing things without paying attention.					
1	2	3	4	5	6
15. I snack without being aware that I'm eating.					
1	2	3	4	5	6

RAW DATA

Slno	Gender	Age	SDHSpre	SHDSpost	MWQpre	MWQpost	PTQpre	PTQpost
1	M	28	6.00	7.00	19.00	19.00	42.00	34.00
2	M	64	15.00	15.00	11.00	13.00	21.00	25.00
3	M	45	13.00	11.00	25.00	19.00	36.00	34.00
4	F	33	8.00	14.00	30.00	13.00	58.00	32.00
5	M	61	18.00	18.00	5.00	6.00	13.00	10.00
6	M	23	17.00	17.00	24.00	24.00	25.00	25.00
7	M	76	16.00	13.00	16.00	15.00	42.00	39.00
8	M	49	12.00	13.00	13.00	13.00	42.00	28.00
9	F	29	14.00	14.00	16.00	15.00	21.00	12.00
10	M	50	13.00	12.00	22.00	12.00	33.00	30.00
11	M	56	12.00	13.00	17.00	11.00	22.00	31.00
12	M	47	15.00	16.00	10.00	13.00	23.00	24.00
13	M	38	14.00	15.00	9.00	11.00	16.00	13.00
14	M	69	10.00	12.00	7.00	6.00	17.00	17.00
15	M	50	16.00	17.00	10.00	16.00	25.00	39.00
16	F	51	7.00	17.00	25.00	16.00	57.00	55.00
17	F	58	9.00	15.00	11.00	9.00	22.00	2.00
18	M	29	17.00	15.00	15.00	17.00	24.00	20.00
19	M	65	16.00	16.00	10.00	9.00	29.00	21.00
20	F	59	12.00	12.00	19.00	22.00	51.00	48.00
21	F	27	18.00	18.00	18.00	19.00	29.00	31.00
22	F	30	7.00	9.00	22.00	19.00	38.00	39.00
23	M	44	17.00	17.00	20.00	19.00	24.00	29.00
24	F	36	14.00	15.00	12.00	12.00	17.00	17.00
25	M	23	9.00	9.00	15.00	15.00	17.00	20.00
26	M	21	14.00	15.00	10.00	10.00	24.00	25.00
27	M	69	15.00	15.00	24.00	23.00	30.00	35.00
28	M	26	13.00	13.00	5.00	5.00	29.00	28.00
29	M	59	14.00	14.00	12.00	12.00	31.00	29.00
30	M	68	17.00	17.00	10.00	9.00	18.00	16.00
31	M	32	14.00	14.00	19.00	18.00	19.00	19.00
32	M	83	9.00	11.00	16.00	15.00	18.00	19.00
33	F	54	13.00	15.00	20.00	19.00	35.00	35.00
34	M	57	8.00	5.00	10.00	19.00	12.00	12.00
35	F	49	7.00	10.00	12.00	9.00	37.00	35.00
36	M	37	4.00	6.00	13.00	11.00	18.00	22.00
37	M	49	18.00	15.00	21.00	11.00	27.00	22.00
38	M	62	15.00	15.00	11.00	5.00	5.00	4.00
39	M	54	12.00	12.00	17.00	15.00	41.00	37.00
40	M	49	16.00	18.00	12.00	11.00	30.00	27.00
41	F	76	18.00	18.00	12.00	12.00	21.00	23.00
42	M	29	15.00	15.00	16.00	11.00	35.00	33.00
43	M	65	14.00	12.00	24.00	21.00	34.00	30.00

44	F	21	12.00	9.00	16.00	20.00	45.00	45.00
45	M	42	15.00	16.00	11.00	10.00	27.00	22.00
46	M	67	16.00	14.00	15.00	12.00	31.00	25.00
47	M	56	18.00	17.00	14.00	6.00	14.00	17.00
48	F	40	16.00	13.00	5.00	6.00	8.00	10.00
49	M	23	8.00	18.00	15.00	8.00	50.00	8.00
50	F	19	12.00	11.00	21.00	16.00	51.00	42.00
51	F	28	8.00	7.00	15.00	15.00	29.00	25.00
52	M	57	11.00	15.00	20.00	15.00	34.00	25.00
53	F	30	14.00	14.00	17.00	12.00	28.00	18.00
54	M	70	15.00	18.00	9.00	10.00	28.00	23.00
55	F	27	10.00	9.00	10.00	11.00	18.00	20.00
56	M	54	7.00	8.00	10.00	11.00	42.00	39.00
57	F	55	14.00	15.00	13.00	12.00	37.00	40.00
58	F	64	14.00	18.00	15.00	9.00	21.00	13.00
59	M	67	16.00	18.00	20.00	10.00	38.00	16.00
60	F	62	15.00	18.00	15.00	10.00	25.00	15.00
61	F	32	14.00	17.00	16.00	13.00	44.00	22.00
62	M	64	18.00	18.00	10.00	9.00	11.00	13.00
63	M	64	14.00	18.00	5.00	5.00	22.00	7.00
64	M	67	15.00	18.00	8.00	8.00	30.00	26.00
65	M	59	14.00	8.10	11.00	9.00	23.00	27.00
66	M	56	12.00	10.00	13.00	12.00	22.00	36.00
67	M	34	14.00	16.00	12.00	14.00	41.00	34.00
68	M	60	16.00	16.00	11.00	11.00	12.00	9.00
69	M	30	15.00	16.00	20.00	18.00	29.00	26.00
70	F	25	18.00	18.00	10.00	10.00	18.00	15.00
71	F	65	10.00	15.00	9.00	8.00	27.00	22.00
72	F	29	17.00	17.00	17.00	15.00	16.00	12.00
73	M	59	10.00	13.00	12.00	13.00	36.00	26.00
74	M	34	14.00	14.00	14.00	12.00	14.00	11.00
75	M	26	8.00	8.00	22.00	21.00	48.00	44.00
76	F	62	15.00	14.00	21.00	19.00	31.00	27.00
77	M	49	14.00	13.00	12.00	11.00	35.00	33.00
78	M	33	12.00	11.00	24.00	23.00	43.00	39.00
79	M	22	6.00	7.00	16.00	16.00	44.00	42.00
80	M	23	11.00	10.00	10.00	9.00	29.00	26.00
81	M	36	4.00	6.00	29.00	28.00	56.00	54.00
82	M	65	15.00	15.00	5.00	5.00	0.00	0.00
83	F	59	13.00	13.00	16.00	13.00	24.00	19.00
84	M	42	16.00	16.00	22.00	18.00	34.00	29.00
85	M	39	16.00	18.00	17.00	17.00	22.00	21.00
86	M	71	18.00	18.00	9.00	10.00	29.00	28.00
87	M	73	16.00	17.00	13.00	13.00	14.00	13.00
88	M	45	7.00	11.00	13.00	12.00	35.00	35.00
89	M	72	6.00	8.00	17.00	13.00	43.00	45.00
90	M	38	18.00	18.00	6.00	6.00	15.00	1.00
91	F	52	16.00	15.00	10.00	9.00	30.00	29.00

92	F	73	15.00	7.00	11.00	7.00	19.00	17.00
93	M	64	10.00	10.00	13.00	7.00	20.00	20.00

S/no	MAASpre	MAASpost	COREpre	UNPRODpre	MENTALpre	COREpost	UNPRODpost	MENTALpost
1	34.00	42.00	24.00	7.00	11.00	20.00	6.00	8.00
2	78.00	76.00	13.00	4.00	4.00	17.00	5.00	3.00
3	58.00	62.00	23.00	9.00	4.00	20.00	7.00	7.00
4	34.00	41.00	34.00	12.00	12.00	20.00	6.00	6.00
5	87.00	86.00	7.00	2.00	4.00	6.00	0.00	4.00
6	49.00	48.00	18.00	2.00	5.00	20.00	2.00	3.00
7	54.00	52.00	26.00	8.00	8.00	25.00	7.00	7.00
8	70.00	72.00	27.00	7.00	8.00	17.00	5.00	6.00
9	50.00	62.00	10.00	2.00	9.00	5.00	2.00	5.00
10	54.00	58.00	19.00	7.00	7.00	13.00	6.00	11.00
11	75.00	77.00	14.00	2.00	6.00	17.00	4.00	10.00
12	67.00	72.00	14.00	5.00	4.00	16.00	4.00	4.00
13	76.00	78.00	8.00	3.00	5.00	8.00	1.00	4.00
14	74.00	75.00	10.00	5.00	2.00	9.00	6.00	2.00
15	68.00	60.00	18.00	4.00	3.00	31.00	2.00	6.00
16	40.00	60.00	35.00	12.00	10.00	35.00	9.00	11.00
17	62.00	75.00	13.00	5.00	4.00	0.00	1.00	1.00
18	54.00	49.00	10.00	7.00	7.00	11.00	4.00	5.00
19	75.00	77.00	19.00	5.00	5.00	15.00	3.00	3.00
20	59.00	66.00	33.00	10.00	8.00	30.00	9.00	9.00
21	51.00	39.00	20.00	6.00	3.00	20.00	7.00	4.00
22	61.00	47.00	23.00	7.00	8.00	23.00	9.00	7.00
23	31.00	34.00	16.00	3.00	5.00	19.00	3.00	7.00
24	63.00	58.00	10.00	5.00	2.00	10.00	5.00	2.00
25	78.00	70.00	11.00	2.00	4.00	13.00	3.00	4.00
26	80.00	79.00	18.00	3.00	3.00	17.00	5.00	3.00
27	47.00	51.00	19.00	5.00	6.00	21.00	6.00	8.00
28	71.00	73.00	21.00	4.00	4.00	19.00	4.00	5.00
29	78.00	80.00	18.00	7.00	6.00	16.00	7.00	6.00
30	70.00	71.00	17.00	1.00	0.00	16.00	0.00	0.00
31	62.00	58.00	12.00	3.00	4.00	12.00	2.00	5.00
32	61.00	58.00	13.00	3.00	2.00	14.00	3.00	2.00
33	51.00	48.00	22.00	6.00	7.00	22.00	7.00	6.00
34	82.00	89.00	5.00	2.00	5.00	7.00	1.00	4.00
35	64.00	82.00	19.00	7.00	11.00	19.00	10.00	6.00
36	68.00	81.00	10.00	2.00	6.00	10.00	5.00	7.00
37	78.00	71.00	18.00	3.00	6.00	15.00	3.00	4.00
38	55.00	90.00	1.00	2.00	2.00	4.00	0.00	0.00

39	67.00	48.00	25.00	8.00	8.00	25.00	4.00	8.00
40	66.00	62.00	21.00	6.00	3.00	18.00	5.00	4.00
41	75.00	71.00	16.00	2.00	3.00	19.00	1.00	3.00
42	57.00	70.00	22.00	5.00	8.00	22.00	5.00	6.00
43	43.00	60.00	19.00	8.00	7.00	16.00	6.00	8.00
44	62.00	80.00	26.00	8.00	11.00	25.00	10.00	10.00
45	72.00	67.00	17.00	4.00	6.00	15.00	3.00	4.00
46	67.00	71.00	20.00	6.00	5.00	14.00	6.00	5.00
47	76.00	77.00	9.00	3.00	2.00	14.00	2.00	1.00
48	84.00	74.00	4.00	2.00	2.00	6.00	1.00	3.00
49	44.00	78.00	29.00	11.00	10.00	5.00	1.00	2.00
50	40.00	47.00	31.00	8.00	12.00	27.00	6.00	9.00
51	41.00	46.00	17.00	7.00	5.00	13.00	9.00	3.00
52	53.00	71.00	22.00	6.00	6.00	17.00	4.00	4.00
53	64.00	74.00	19.00	5.00	4.00	13.00	3.00	2.00
54	77.00	74.00	19.00	4.00	5.00	15.00	4.00	4.00
55	74.00	74.00	11.00	3.00	4.00	12.00	4.00	4.00
56	65.00	57.00	27.00	9.00	6.00	26.00	7.00	6.00
57	50.00	57.00	21.00	8.00	8.00	26.00	5.00	9.00
58	69.00	75.00	13.00	3.00	5.00	7.00	3.00	3.00
59	74.00	73.00	19.00	9.00	10.00	10.00	3.00	3.00
60	68.00	74.00	14.00	5.00	6.00	9.00	3.00	3.00
61	60.00	69.00	27.00	9.00	8.00	13.00	5.00	4.00
62	75.00	75.00	8.00	3.00	0.00	8.00	3.00	2.00
63	88.00	85.00	15.00	1.00	6.00	3.00	4.00	0.00
64	39.00	71.00	24.00	1.00	5.00	19.00	3.00	4.00
65	69.00	62.00	16.00	5.00	2.00	18.00	5.00	4.00
66	70.00	53.00	15.00	3.00	4.00	23.00	7.00	6.00
67	76.00	74.00	29.00	6.00	6.00	23.00	5.00	6.00
68	74.00	78.00	7.00	1.00	4.00	6.00	1.00	2.00
69	61.00	67.00	18.00	5.00	6.00	17.00	4.00	5.00
70	87.00	90.00	15.00	0.00	3.00	13.00	0.00	2.00
71	69.00	73.00	17.00	5.00	5.00	15.00	3.00	4.00
72	72.00	75.00	10.00	3.00	3.00	8.00	3.00	1.00
73	70.00	67.00	24.00	10.00	2.00	17.00	5.00	4.00
74	73.00	77.00	10.00	2.00	2.00	8.00	2.00	1.00
75	25.00	28.00	28.00	12.00	8.00	28.00	9.00	7.00
76	54.00	57.00	20.00	3.00	8.00	19.00	3.00	5.00
77	62.00	65.00	22.00	4.00	9.00	18.00	7.00	8.00
78	59.00	62.00	26.00	9.00	8.00	25.00	7.00	7.00
79	61.00	64.00	30.00	7.00	7.00	28.00	7.00	7.00
80	63.00	66.00	17.00	4.00	8.00	16.00	4.00	6.00
81	31.00	35.00	34.00	10.00	12.00	33.00	10.00	11.00
82	90.00	90.00	0.00	0.00	0.00	0.00	0.00	0.00
83	69.00	75.00	13.00	5.00	6.00	12.00	4.00	3.00
84	48.00	51.00	20.00	7.00	7.00	19.00	5.00	5.00
85	53.00	64.00	17.00	3.00	2.00	12.00	5.00	4.00
86	74.00	65.00	19.00	4.00	6.00	19.00	3.00	6.00

87	57.00	57.00	12.00	1.00	1.00	8.00	0.00	5.00
88	67.00	66.00	25.00	5.00	5.00	22.00	7.00	6.00
89	40.00	40.00	25.00	9.00	9.00	26.00	9.00	10.00
90	82.00	89.00	9.00	3.00	3.00	1.00	0.00	0.00
91	78.00	75.00	18.00	6.00	6.00	18.00	6.00	5.00
92	79.00	74.00	12.00	2.00	5.00	13.00	1.00	3.00
93	54.00	66.00	17.00	0.00	3.00	12.00	2.00	6.00