

**EFFECT OF INTEGRATED YOGA MODULE ON LEADERSHIP
DEVELOPMENT OF MANAGERS**

Thesis submitted by

Padmavati Maharana, MBA

Towards the partial fulfillment of

DOCTOR OF PHILOSOPHY (YOGA)

Submitted to



NOVEMBER 2014

Swami Vivekananda yoga Anusandhana Samsthana

(Declared as deemed-to-be university under section 3 of the UGC act, 1956)

19, Eknath Bhavan, Gavipuram Circle, Kempegowdanagar, Bangalore, 560019, India

Phone: 080-26612669, 080-26608645, Email: webmaster@svyasa.org, website:

www.svyasa.org

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Under the guidance of

H R NAGENDRA, Ph.D.

T M SRINIVASAN, Ph.D.



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स्वामी विवेकानन्द योग अनुसंधान संस्थान

Swami Vivekananda Yoga Anusandhāna Samsthāna

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)

Ekmath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019

Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: svyasa@svyasa.org Website: www.svyasa.org

CERTIFICATE

The doctoral committee confirms that this is an authentic approved copy of the thesis titled "Effect of Integrated Yoga Module on Leadership Development of Managers" by Padmavati Maharana.

Name of the student : PADMAVATI MAHARANA
Title of the thesis : Effect of Integrated Yoga Module on Leadership Development of Managers
Viva Examination Details : November 29, 2014
Day: Saturday
Venue: Tarangini, S-VYASA.

Dr. H.R. Nagendra, M.E., Ph.D.
(Guide)
Chancellor,
S-VYASA Yoga University, Bengaluru.

Dr. R. Swami Narayanaswami, M.Tech., Ph.D.
(External examiner)
Chairman & Managing Director,
CSM Group Companies in USA, India & Europe
501 Country Valley Road
Westlake Village CA 91362.

Prof. T M Srinivasan, Ph.D.
(Co-guide)
Dean - Div. of Yoga & Physical Sciences,
S-VYASA Yoga University, Bengaluru.

Dr. Sudheer Deshpande, M.A., Ph.D.
(Registrar)
S-VYASA Yoga University, Bengaluru.

DECLARATION

I, hereby declare that this study was conducted by me at Swami Vivekananda Yoga Anusandhana Samsthana (S-VYASA), Bengaluru, India under the guidance of Dr. H R Nagendra, Chancellor, SVYASA University, Bengaluru, India and Dr. T M Srinivasan, esteemed Dean of Division of Yoga and Physical Sciences, S-VYASA University, Bengaluru, India.

I also declare that the subject matter of my thesis entitled “**EFFECT OF INTEGRATED YOGA MODULE ON LEADERSHIP DEVELOPMENT OF MANAGERS**” has not previously formed the basis of the award of any degree, diploma, associate-ship, fellowship or similar titles.

Date: **29.11.2014**

Padmavati Maharana

Place: Bangalore

(Candidate)

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Date: **29.11.2014**

Place: Bangalore

Padmavati Maharana

**STANDARD INTERNATIONAL TRANSLITERATION CODE USED TO
TRANSLITERATE SANSKRIT WORDS**

a	=	अ	ña	=	ढ	pa	=	प
a	=	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
ṛ	=	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
m̐	=	अं	tha	=	थ	ha	=	ह
ḥ	=	अः	da	=	द	kṣa	=	क्ष
ka	=	क	dha	=	ध	tra	=	त्र
kha	=	ख	na	=	न	jña	=	ज्ञ
ga	=	ग	gha	=	घ			

DEFINITIONS OF TECHNICAL TERMS USED IN THE THESIS

Triguna: A personality concept according to eastern philosophy with three mutually dependent sub-domains, namely, *satva*, *rajas*, and *tamas*.

Satva (balanced): Tendency of a person to express himself in terms of serenity, calmness, equipoise, purity, truthfulness, lively intelligence, etc.

Rajas (dynamic): Characterized by activity, constant planning, attachment, etc.

Tamas (inertia): Characterized by dullness, ignorance, wrong understanding, etc.

Leadership: The art of motivating a group of people to act towards achieving a common goal.

Transformational Leadership: Transformational leadership is “a process of morality to the degree that leaders engage with followers on the basis of shared motives and values and goals- on the basis that is, of the followers’ true needs as well as those of leaders”.

Idealized influence (attributed): This refers to the socialized charisma of the leader, whether the leader is perceived as being confident and powerful, and whether he/she is viewed as focusing on higher-order ideals and ethics.

Idealized influence (behavior): This refers to charismatic actions of the leader centered on values, beliefs, and a sense of mission.

Inspirational motivation: This refers to the ways leaders energizes their followers by viewing the future with optimism, stressing ambitious goals, projecting an idealized vision, and communicating to followers that their vision is achievable.

Intellectual stimulation: This refers to leader’s actions that appeal to followers’ sense of logic and analysis by challenging followers to think creatively and find solutions to difficult problems.

Individualized consideration: This refers to leader behavior that contributes to follower satisfaction by advising, supporting, and paying attention to followers' individual needs, thus promoting their development and self-actualization.

Contingent reward leadership: (i.e., constructive transactions) This refers to leader behaviors focused on clarifying the role and task requirements, and providing followers with material or psychological rewards contingent on fulfillment of contractual obligations.

Management-by-exception active: This refers to the active vigilance of a leader whose goal is to ensure that standards are met.

Management-by-exception passive: The leaders only intervene after noncompliance has occurred or when mistakes have already happened.

Laissez-faire leadership: Laissez-faire leadership represents the absence of a transaction of sorts with respect to leadership in which the leader avoids making decisions, abdicates responsibility, and does not use his/her authority. It is considered active to the extent that the leader "chooses" to avoid taking action. This component is generally considered the most passive and ineffective form of leadership.

Emotional intelligence (EI): EI is the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behavior.

ABSTRACT

BACKGROUND

Globalization, technological advances, mixing of work cultures, the 2008-11 recession and subsequent changes in the nature of work, have occurred in rapid succession and are challenging to leadership practices. Workplace stress is an obstacle to leadership development. The role and responsibility of leaders is vital in every industrial sector. To fulfill their responsibilities, leaders compromise their physical and mental health. That stress develops when leaders fail to address issues, and targets are not achieved, is quite evident, yet there is no search for a solution. Could yoga offer the required solution?

LITERARY RESEARCH

The transformational leadership style demonstrated by Sri Rama in *Valmiki Ramayana* has become a role model of leadership which has inspired and transformed millions of Indians and continues to do so even today. The Mahabharata portrays many instances of great leadership by supreme warriors and kings. The *Bhisma Parva of Mahabharata*, which contains the sacred text *Srimad Bhagavad Gita*, also focuses on the many qualities of a leader told by Supreme Lord Sri Krishna himself to *Arjuna*. The literary work of Dhananjay in his *Dasha Rupakam* clearly portrays various types of leaders. With this background, we can evaluate many scientific studies in the field of leadership and leadership development.

AIM

The aim of the study is to examine the effects of Integrated Yoga Module on leadership development of managers.

OBJECTIVES

1. To unravel the qualities of leaders identified in texts concerning yoga and spiritual lore.
2. To investigate the effects of integrated yoga module on transformation in leadership qualities,
styles and behaviors in managers assessed by the multi-factor leadership questionnaire (MLQ).
3. To assess changes in *guna* of managers.
4. To evaluate improvements in General Health (GHQ etc.) after practice of IYM.
5. To assess changes in Emotional Intelligence after Yoga practice.
6. To check the moderating effect of three *Gunas* on Emotional Intelligence and General Health.

METHODOLOGY

Subjects were eighty four business leaders (mean age 52.01years±sd 5.73) undergoing Self Management of Excessive Tension (SMET), an intensive five day short term Integrated Yoga Module (IYM) on ONGC (Oil & Natural Gasses Corporation) managers including top level managers. Data was recorded on the first and sixth days of the program and Pre-Post comparison was made using paired sample t tests with 'R' Statistical Package.

RESULTS

MLQ Components: There were positive changes in all the components of Transformational Leadership style. Idealized Influence-Attributed has increased by 5.88%, which has significantly increased from the pre score. Idealized Influence-Behaviour has increased by 0.82%, Inspirational Motivation has increased by 4.11%, Intellectual stimulation has increased by 9.3%, which statistically highly significant at $p < 0.001$, individualized consideration by 6.93%, contingent reward has increased by 2.59%. Again the Transactional Leadership which is negatively related to Transformational Leadership, there is decrease in all the components. Management -by- Exception (Active) has decreased by -0.37%, Management -by- Exception (Passive) by -52.94%, which has decreased significantly $p < 0.05$ and Laissez-faire Leadership has decreased by -50.77% and this is also statistically highly significant $p < 0.0000$. There should be a decrease in these components. We also found positive improvements in the outcomes of the leadership styles that are the last three components named Extra Effort, Effectiveness and Satisfaction. This has shown an increased score of 1.07%, 1.92% and 0.60% respectively. And, a positive trend was noticed in the Post mean scores in comparison to pre mean scores. EI Components: Perception of emotions, Managing own emotions, Managing others emotions all improved significantly ($p < 0.001$), Utilization of Emotions improved but not significantly ($p > 0.05$).

GHQ Domains: Somatic Symptoms, Anxiety and Insomnia, Social Dysfunction and Severe Depression All improved significantly ($p < 0.001$) as did total GHQ.

Other clinical variables: Trends were seen to be improved, Systolic Blood Pressure ($p < 0.001$), Pulse Rate ($p < 0.001$), Respiratory Rate ($p < 0.001$) and weight ($p < 0.05$) were significantly lower. Diastolic Blood Pressure was found to decrease ($p > 0.05$).

Personality Traits: All components changed significantly: *Satva*, *Rajas* and *Tamas* ($p < 0.001$). *Satva* (balanced trait) score was higher, whereas *Rajas* (*Dynamic traits*) and *Tamas* (Lethargy traits) score were significantly decreased after the intervention.

CONCLUSION

The SMET Integrated Yoga Module significantly improved measures in most, of all four kinds of psychological and health variables assessed: transformational leadership, *guna* (Personality trait), Emotional Intelligence, GHQ, and various Health Parameters. *Satvic guna* establishes a significant relation between general health and emotional intelligence. The module seems to induce greater depth of perception and relaxation of mind, and thus bring about a total change in managers' general health in addition to vital physiological and psychological improvements. SMET apparently developed leadership qualities, style and behavior in managers undergoing the module and it is a fine tool for leadership development in managers.

KEYWORDS

Yoga, Integrated Yoga Module, SMET, *Guna*, Emotional Intelligence, General Health

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CHAPTER- 1.0

INTRODUCTION

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1.0 INTRODUCTION

Effective leadership in academic, corporate and in other organizations is essential for guiding and shaping this evolution, providing the foundation in research, educating future practitioners, and implementing improvements in management through scientific exploration. Transformational leadership has emerged as one of the most widely researched leadership paradigms in organizational psychology. Within the various literatures on leadership, transformational leadership has attracted more empirical scrutiny than any other current theory, focusing on its nature and effects (Bass, 1985). According to Burns (1978), transformational leadership occurs when leaders and followers raise one another to higher levels of values and motivations, and results in a transforming effect on both leaders and followers. In leadership studies, traits were studied to determine what made certain people great, such as Thomas Jefferson, Napoleon, Abraham Lincoln, and Mahatma Gandhi. Subsequently, “Traits” theories of leadership have come up with the philosophy that Leadership is not limited to a few historic great men. Leaders as prophets, priests, chiefs, and kings served as symbols, representatives, and models for their people in the old and New Testaments, in the Upanishads, and in Greek and Latin classics (Bernard, 1990). “Leadership is not a matter of passive status or of the mere possession of some combination of traits” (Stogdill, 1948).

Today’s corporate world is dominated by competition, targets, and above all, personal desire to reach the highest positions in the corporate ladder, which is ultimately responsible for impairing harmonious interplay of body, mind and spirit. A deluge of chronic diseases has emerged from this stressful life (World Economic Forum, 2010, p. 9). Corporate employees suffer health problems of all kinds. Whenever there is mental stress there is

going to be a reduction in leadership qualities. The leaders will not be able to perform their task in an effective and efficient way since they experience stress. Because of stress, it's most likely that the heart rate increases, respiration increases, blood pressure increases and heart rate variability reduces along with a possible increase in *tamas* (lethargy). Work Stress is a timely and important topic for organizational leaders (Ganster, 2005). It is estimated that work stress costs the nation billions of dollars a year in lost productivity, health care expenses, and stress-related lawsuits (National Institute for Occupational Safety and Health, 2005; Sulsky & Smith, 2005). Therefore an important, yet often overlooked, component of leadership development which is to prepare leaders to manage themselves and their followers.

Scientific research reports now numbering in thousands substantiate Yoga's preventive, rehabilitative, therapeutic and excelling powers at individual and corporate levels (Becker, 2000; Jacobs, 2001; Khalsa, 2004; Ornish, 2009). Their scientific interpretation has been propounded based on a bio-psycho-socio-spiritual research model (Evans et al., 2009).

The urgent need for application of Yoga is made clear from studies of workplace life, showing that it is often dominated by organizational misbehaviors including incivility, insulting behavior, social undermining, theft of company assets, acts of destructiveness, substance abuse and misconduct perpetrated against fellow employees (Fox & Spector, 2005). Interpersonal conflict, work-life conflict, and dearth of spiritual leadership are the causes of workplace disharmony. Many successful companies in today's world have prioritized workplace yoga and spirituality as an emerging route to corporate wellness and excellence. "The reason for living and working is to act, and the reason to act is to seek excellence in everything that you do" (Sinclair, 2004 cited in Pruzen & Pruzan, 2001). This

quotation from a CEO and chairman of a leading company (Tan Range Exploration, Ltd., USA/Tanzania) portrays the relevance of spiritual insight for business management and performance excellence.

The spiritual, emotional, creative and rational intelligence acquired by an individual governs his/her behavior and thought processes. Undoubtedly, this can be regarded as a determinant of human personality and human excellence. Corporate culture needs *yoga* to meet the challenges and demands of today's workplace. So the prime theme of this study is to highlight the contemporary significance of *yoga* to enrich health, happiness and harmony leading to leadership development in the workplace.

1.1 CONCEPT OF YOGA

According to the Vedas, all facets of existence in this world, including the food we eat, the work we do, and our interpersonal style, are governed by three *gunas*. These *gunas* are *tamas* (the mode of inertia), *rajas* (the mode of activity) and *satva* (the mode of enlightenment). Incidences and descriptions portrayed in the scriptures, *Bhagavad Gita* and *Srimad Bhagavatam* explain the manifestation of *guna* and their interaction, giving a profound basis for understanding human psychology. Research shows that regular practice of *yoga* is helpful for total health promotion, disease prevention and rehabilitation. *Yoga* is recognized as a secular and cost effective, holistic tool for boosting holistic health and awakening human intelligence, and a globally applicable means for creating individual and corporate excellence. *Yoga* is a Sanskrit word meaning union, to yoke or to unify; the merging of the microcosm of our existence in our body with the macrocosm i.e. it achieves a fusion of embodied consciousness with cosmic consciousness (Chaoul & Cohen, 2010). The famous *yoga* exponent, Sage Patanjali defines *yoga* as “the elimination of psychic

modifications” (Patanjali Yoga Sutra, 1:2) Another famous ancient yoga text, *Shrimad Bhagavad-Gita* (SBG) defines yoga as “a state of mental equanimity at each moment of the life” (SBG, 2:47). Subsequently, SBG also defines yoga from the behavioral perspective as “excellence in action” (SBG, 2:48). In the West, yoga is often considered just a mind-body technique from Asia, usually categorized into meditation (for seated practices) and yoga (practices that include movement and active participation of the body) (Chaoul & Cohen, 2010). Yoga is thus perceived as an overarching category that includes all Asian mind-body practices, whether from India (Hatha yoga, etc.), Tibet (Tsa lung Trul Khor [rTsa rlung 'Phrul 'Khor]), China (T'ai chi, Qi-gong) or others of Asian origin. Nonetheless, in the Indian context, yoga is more than a mind-body practice in that it also incorporates spiritual practices.

Basically, all yoga practices given in classical texts can be classified under four major streams: Karma Yoga (the yogic path of undertaking selfless deeds by using attained wisdom, power and prosperity), Bhakti Yoga (the yogic path of devotion), Jnana Yoga (the yogic path that prioritizes rational thinking over knowledge), and Raja Yoga (the eightfold yogic path synthesized by Sage Patanjali 5000 years ago). Indeed, this path of Raja Yoga is an integral form of Karma Yoga, Bhakti Yoga, and Jnana Yoga that can be adopted by any individual for total health and spiritual advancement. Correspondingly, Satyananda (2000, p. 16) has argued that from the perspective of yoga psychology (Raja Yoga), the human personality can be categorized into four types: dynamic, emotive, rational and volitional.

Karma Yoga is the preferred yogic path for those with active personalities, who can traverse the inner journey of psychic refinement through selfless deeds. An individual with emotive personality may love *Ishwarparnidhan* (*Bhakti* Yoga) for both psychic refinement

and subsequent inhibition of psychic modifications. The path of *Jnana* Yoga is an optimal yogic way for intellectuals and highly rational personalities. Eminent yoga scholar and seer, Patanjali laid out Raja Yoga (the royal path of yoga) as applicable equally for aspirants desiring perfect health, happiness, harmony, and ultimate bliss. Yoga is life management, “an ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual” (Iyengar, 1976). The motto of life has become to seek excellence in everything. Yoga is “a practical discipline incorporating a wide variety of practices whose goal is the development of a state of mental and physical health, well-being, inner harmony, and ultimately a union of the human individual with the universal and transcendent existence” (Aurobindo, 1999).

1.2 BENEFITS OF YOGA

The popularity of yoga is increasing throughout the West, particularly in the UK and USA, where yoga has become more popular with women forming 70- 90% of yoga students. Persistent practice of yoga and allied disciplines as a part of corporate culture improves somatic, social and spiritual health and intelligence of individuals and the organizational workforce. Participation of huge numbers of women itself signifies how important yoga is for health and happiness. The trend indicates that yoga should be taken into the consideration as part of a workplace curriculum or culture to promote corporate wellness, corporate efficiency, and corporate social responsibility.

Yoga practice produces prolonged positive physical, mental, emotional, social and spiritual effects on executives, helping produce effective leadership in the corporate world. Nurturing effective leaders is one of the most important functions of corporate excellence. Yoga seems to be an emerging avenue for worldwide corporate health and wealth. The

packaging of yoga in a special module called Integrated Yoga Module (IYM) seems to have a positive impact on corporate managers. Lifestyle modifications through this are the best preventive and therapeutic measures to optimize organizational health and culture. Corporate executives make him/her life healthy and wealthy. Obviously, that is an integral and a concise yogic way for all possible personalities, and is therefore the appropriate path for a yoga practice in corporate. No method other than yoga can simultaneously make corporate executives physically fit, mentally alert, emotionally rectified, socially adapted, rationally positive, and completely self analytic and spiritually elevated. Yogic practices prove to be an art and science of life to transform corporate executive into natural leaders.

1.3 NEED FOR THE STUDY

Earlier studies have investigated the impact of different styles of leadership. Most have dealt with conventional theoretical concepts of leadership with onetime assessment. A handful based on yogic concepts study their influence on leaders, but how yoga practices enhance leadership qualities, styles, and behavior has not yet been investigated. Hence this study is aimed at determining the impact of an Integrated Yoga Module on leadership, general health, *guna* and emotional intelligence, all of which are integral and moderating factors of leadership.

1.4 SCOPE OF THE STUDY

The study could pave way to a new dimension in the field of Yoga and management in general and in particular, to help the corporate world in use of yoga for leadership development for building role model leaders.

CHAPTER- 2.0

CLASSICAL LITERARY RESEARCH

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2.0 CLASSICAL LITERARY RESEARCH

In this section, a literature review is presented based on classical Indian texts that point to leadership qualities. The objective here is to bring into focus these leadership qualities that have withstood the test of time and ultimately incorporate them into leadership development programs.

2.1 PREVIOUS WORK DONE

There are many studies which have already explored regarding *guna* and emotions. Among them, Mallikarjun's master's dissertation, 2004, compares the concepts of *triguna* and *tridosha* to bring out an understanding of holistic health and the nature of psychosomatic diseases. Ayurvedic texts and other yoga texts like *Bhagavad Gita*, and *Sankhya* philosophy are analyzed. The author highlights that for a complete understanding of a person's nature, both *guna* and *dosha* need to be considered. A recent M.Sc. dissertation by Mohan, 2008, analyses attitude using the concept of the *Gunas*. Again, *sāikhya* philosophy text and *Bhagavad Gita* were mainly used. Various attributes of attitude were studied from the perspectives of *triguna*, so that a suitable attitudinal change could be designed. Another M.Sc. dissertation (Tripathi, 2012) titled, "*Gunas* According to Yoga and Ayurveda- A comparative study" gives a detailed account of *Gunas* from the perspective of Ayurveda. Many comparisons with yoga are brought out showing the parallels and contrasts. Other texts were also referred to, including *Rāmāyaṇa*, *Bhagavadgītā*, and the *Shaddarśana*.

A study by Rao, 2013, uses an entirely new approach to correlate the natural flux of *Gunas* in nature with a Random Event Generator's (REG) output bit-stream. REG is an instrument which generates random bit streams, but seems to be influenced by various events

involving human minds in the environment. The study titled "Measuring *Guna* Prevalence with REG - A Pilot Study", attempted to explore recognizable patterns in the supposedly random bit streams.

In his 2012 Ph.D. thesis titled "Development of Human Potential through Yogic Practices assessed by Psychological and Health Variables", Khemka proposed *Guna* as one of the pillars of the model for full human potential.

A 2008 Ph.D. study assessing quality of life by Deshpande titled "A randomized control trial of the effect of Yoga on *Gunas* (personality) and Health in normal healthy volunteers", took *gunas* as a main variable to assess quality of life, while Kumari's 2010 Ph.D study titled "Effect of SMET yoga module on the emotional dynamics of managers", assessed emotional intelligence, taking *guna* and *gunatita avastha* to indicate improved emotional stability. Explanations of health in ancient texts have been summarized in another Ph.D. study by Chaudhary (2013), titled "Effect of Yoga based lifestyle program on Polycystic Ovarian Syndrome (PCOS)", which broadly explained health concepts from Ayurveda, and yoga systems. These studies have extensively reviewed the scriptures and their concepts of Health, *Guna*, and Emotional Intelligence which were all well illustrated. A summary of this previous work, including strengths and limitations are presented in the following table, TABLE 1.

TABLE 1: PREVIOUS WORK DONE

Authors & Year	Summary	Strength	Limitations
Mallikarjun, 2004 (M.Sc. Dissertation)	Explained the concept of <i>Triguna</i> and <i>Tridosha</i> to elucidate the holistic health concept and nature of psychosomatic diseases.	<ol style="list-style-type: none"> 1. Comparisons of Ayurveda and Yoga concepts 2. Comprehensive Approach towards holistic health 3. Highlight use of <i>Triguna & Tridosha</i> for complete ascertainment of individual nature 	<ol style="list-style-type: none"> 1. No theoretical model 2. Experimental work different from literary search
Mohan, 2008 (M.Sc. Dissertation)	Highlighted challenges due to modern lifestyle, and their influence in attitude formation. <i>Triguna</i> concept presented to suggest methods to overcome poor lifestyle and develop a better attitude towards life.	<ol style="list-style-type: none"> 1. Presentation of <i>Triguna</i> concept from practical perspective of life management 	<ol style="list-style-type: none"> 1. No theoretical model 2. Experimental work different from literary search
Tripathi, 2012 (M.Sc. Dissertation)	A detailed comparison is made between yoga and ayurveda in understanding the concept of <i>Triguna</i>	<ol style="list-style-type: none"> 1. Parallels and contrasts in <i>Triguna</i> according to yoga and ayurveda texts 2. Major ayurvedic texts and yoga texts were referred 	<ol style="list-style-type: none"> 1. No theoretical model was proposed related to experimental work 2. Experimental work different from literary search
Rao, 2013 (M.Sc. Dissertation)	Attempted a novel method to understand the basic equilibrium pattern in the <i>prakruti</i> , the universe. Randomness in nature due to human interaction (<i>guna</i> flux) was studied using the Random Event Generator (REG).	<ol style="list-style-type: none"> 1. Concise review of relevant verses needed to support theoretical ideas 2. New application of theory of <i>triguna</i> 3. Theoretical Frameworks proposed related to experimental Work 	Major focus on study of <i>guna</i> in inanimate <i>Prakruti</i> (i.e., external environment)

		4. Introduction of the concept of <i>gunagraphy</i>	
Deshpande, 2008 (Ph.D. Thesis)	Quality of life was studied from various dimensions, having <i>Triguna</i> as one of the main components of study.	1. Used <i>Triguna</i> as the major tool for assessing personality 2. Extensive review from major <i>upanishads</i> , yoga and ayurveda texts	1. Major focus on quality of life, <i>Triguna</i> being a part of the whole study 2. No theoretical model proposed related to experimental work
Khemka, 2012 (Ph.D. Thesis)	The study of development of human potential through practice of yoga and assessment of the changes using psychological and health variables.	1. Theoretical model proposed for development of human potential	Major focus on human potential model, <i>Triguna</i> being a part of the whole study
Sony, 2010 (Ph.D. Thesis)	In long run, only such value based business, industries can succeed and get sustained. So, E.I. should refer to that value based <i>daivi sampad</i> Intelligence.	1. Compared guna with EI. 2. Gunatita sthiti is explained.	Search was limited to one scripture.
Nidhi, 2013 (Ph.D. Thesis)	The process of maintaining state of health is 'Swastha' which according to yoga is 'Samatvam'. An unhealthy lifestyle, including our habits, the food we eat and our thoughts, can lead to loss of physiological balance or homeostasis.	Good understanding of from scriptures.	Only health aspect was focused

All previous works have emphasized health, emotion and personality traits of leaders.

However the classical texts also enunciate various other attributes of leaders and leadership

– like *dhirah*, *nayaka*, *shresthah*, *virah* etc. which are not explored. The current Leadership study first compares the leadership qualities mentioned in Multifactor Leadership Questionnaire which is the primary variable in the experiment part of the thesis with those from the texts of yoga and other spiritual lore.

2.2 AIM

The aim of the present study is to examine the qualities of leaders mentioned in ancient texts of yoga and spiritual lore and introduce Integrated Yoga Module to develop leadership qualities based on improvements in *guna* and psycho-emotional well-being of managers.

2.3 OBJECTIVES

1. Elucidating various leadership qualities from diverse works on spiritual wisdom found in ancient literature.
2. Exploring health concept of Leaders from the scriptures.
3. Unearthing the concepts of mind and leaders' emotional intelligence from ancient texts.
4. Extracting deep understanding of *guna* and *gunatita* conditions of leaders from the *sastras*.

2.4 SOURCES

1. *Shastrani* software
2. The Ancient texts such as Upanishads-10 major *Upanishad*
3. *Srimad Bhagavad-Gita*,
4. *Mahabharata, Ramayana- Valmiki Ramayana*,
5. *Dasa Rupakam*

2.5 METHOD OF SEARCH

The first step is to search for the keywords leader, leadership and *guṇā*, and their synonyms, in various texts. For this, the multimedia database *Śāstrāṇi*, a reference manual for scriptures published by the Ramakrishna Mission Ashram was used (*Śāstrāṇi*, 2004). Texts searched included: The 10 major *Upanishads*, *Bhagavad Gita*, and Yoga texts, *Haṭha Yoga Pradīpikā*, *Pātañjala Yoga Sūtra*, the *Mahābhārata*, the *Vālmiki Rāmāyaṇa*. Literary Research Grammatical treatises like *Amarakoṣa* and *Pāṇinī Aṣṭādhyāyī*, various *stotras*; and other texts like *Dasha Rupakam* by Dhananjaya were also searched. A web search called Sanskrit Documents Collection was also used. TABLE 2 compares the qualities in MLQ with those in classical texts as shown below.

TABLE 2: COMPARISONS OF QUALITIES USED IN MLQ WITH THOSE IN YOGA TEXTS

Sl no.	Qualities for Multi Factor Leadership Questionnaire	Corresponding Sanskrit Term	References Chapters & verses
1	Idealized Influence (Attributed), Idealized Influence (Behavior)	Dhriti, Tyāgī	Srimad Bhagavad Gita, Chapter-16, Verse-3 Chapter -18, Verse- 10
2	Inspirational Motivation, Intellectual Stimulation, Individual Consideration	Nitivaan, lakshavaan, vāgmī	NA, NA, Mahabharat, Adiparva, Chapter-92, Verse-7
3	Management-by-Action (Active) Management-by-Action	Shreshthah, dakṣaḥ,	Mahabharat, Adiparva Chapter-18, Verse-24 Chapter-83, Verse- 4

	(Passive) Contingent Reward	gāmbhīrya	Ramayana- Valmiki, Uttara kanda, Sarga-36, Verse- 41
4	Laissez-faire Leadership	priyamvada	Mahabharat, Adiparva, Chapter-92, Verse-28

The next study focused on verses that contained these and other leadership qualities. This search was performed using the keywords given in TABLE 3. Specific *slokas* and quotations related to leadership for the above text were identified and are presented in *Devanagari* script, Roman script transliteration and English translation.

TABLE 3: SANSKRIT TERMS USED FOR LEADERS

SL NO	TERMS USED FOR LEADERS AND LEADERSHIP	REFERENCES FROM ANCIENT TEXT
1	nāyakaḥ (नायकः)	Hathayoga Pradeepika, chapter-3, verse- 1, Adhatmya Ramayana, Yuddha Kanda, Sarga-4, Verse-32
2	dhīraḥ (धीरः)	Mahabharata Adi parva, Chapter- 87, Verse- 8
3	Netā (नेता)	NA
4	netṛtva (नेतृत्व)	Mahabharata Adi parva, Verse- Valmiki Ramayana
5	jitaḥkrodhā (जितःक्रोधा)	Mahabharata, Ramayana, Yoga Vasishtha, Patanjali Yoga Sutra
6	Tyaagii (त्यागी)	Srimad Bhagavad Gita, Upanishads
7	daxaH (दक्षः)	Mahabharata, Udyog Parva, Chapter-103, Verse-10

8	dhArmikaH (धार्मिकः)	Mahabharata, Shanti Parva, Chapter- 116, Verse- 7
9	Vaagmii (वाग्मी)	Mahabharata, Adiparva, Chapter- 92, Verse- 7, Valmiki Ramayana, Bala Kanda, Sarga- 13
10	Udaara (उदार)	Rama Charita Ramayana, Lanka Kanda, Verse- 38 'Kha'
11	śobhaa (शोभा)	Ramayana, Ayodhya Kanda, Sarga- 6, Verse- 10
12	yogyā (योग्य)	Mahabharata, Virat Parva, Chapter- 4, Verse- 36
13	gaambhIrya (गाम्भीर्य)	Mahabharata, Shanti Parva, Chapter- 167, Verse- 12
14	priyaMvada (प्रियंवद)	Mahabharata, Adi Parva, Chapter- 125, Verse- 28
15	Vinamra (विनम्र)	Ujjayini kavyam, Chapter- 6, Verse- 31
16	śūrah (शूरः)	Mahabharata, Adi Parva, Chapter- 65, Verse- 66
17	mādhuryah (माधुर्यः)	Mahabharata, Adi Parva, Chapter- 98, Verse- 45
18	Śradhāvāna (श्रधावान)	Shrimad Bhagavad Gita, Chapter- 6, Verse-47
19	Śuci (शुचि)	Mahabharata, Udyog Parva, Chapter- 34, Verse-1
20	yuktaḥ (युक्तः)	Valmiki Ramayana, Bala kanda, Sarga-1, Verse-3

2.6 SLOKAS FROM SPIRITUAL LORE

2.6.1 Upanishads

यस्तु सर्वाणि भूतानि आत्मन्येवानुपश्यन्ति ।

सर्वभूतेषु चात्मानं ततो न विजुगुप्सते ॥६॥ ॥ ई ॥ उ ॥

Yastu sarvāṇi bhūtāni ātmanyevānupaśyanti ।

Ṣarvabhuteṣu cātmānaṁ tato na vijugupsate ॥6॥ ॥ Truṭīyaddhāyaḥ Īṣā

Upaniṣad॥

Translation- The wise man who realizes all beings as not distinct from his own Self, and his own Self as the Self of all beings, does not, by virtue of that perception, hate any one.

Essence- A leader (a transformational leader) does not show his supremacy on others and takes all with him to higher states of awareness and interaction.

यदात्मतत्त्वेन तु ब्रह्मतत्त्वं

दीपोपमेनेह युक्तेः प्रपश्येत् ।

अजं ध्रुवं सर्वतत्त्वैः विशुद्धं

ज्ञात्वा देवं मुच्यते सर्वपापैः ॥१५॥ द्वितियद्ध्यायः ॥

Yadātmatattoena tu brahmatattvaṁ

Dīpopameneha yukteḥ prapaśyet ।

Ajaṁ dhruvaṁ sarvatattvaih viśuddhaṁ

Jñatvā devaṁ mucyate sarvapāpaiḥ ॥15॥ Dvitiyaddhyāyaḥ॥

Translation- When the self controlled spiritual aspirant realizes, in this very body, the truth of Brahman through the truth of the Atman, self luminous as light, then knowing the Divinity which is unborn, eternal, untouched by the modifications of nature, he is freed from all sins.

Essence- A real leader knows the divinity within himself and is free from all misdeeds.

एको वशी निष्क्रियाणां बहूना
मेकं विजं बहुधा यः करोति ।
तस्मात्मस्थं येऽनुपश्यन्ति धीरा-
स्तेषां सुखं शाश्वतं नेतरेषाम् ॥१२ षष्ठोद्ध्यायः ॥

Eko vaśī niṣkiyāṇām bahunā

Mekam bijam bahudhā yaḥ karoti ।

Tammātmastham ye'nupaśyanti dhīrā

Steṣām sukham śaśvataim netareṣām ॥12 Ṣaṣṭhoddhyāyaḥ

Translation- He is one without a second, controls everything and can make one seed grow into many. Wise people see this lord within themselves. Such people are internally happy, not others.

Essence- Wise people (real leaders) always internally happy and content. He helps in the growth of others.

कठ उपनिषद्- Kaṭha Upaniṣad-

उत्तिष्ठत जाग्रत प्राप्य वरान् निबोधत ।

क्षुरस्य धारा निषिता दुरत्यया

दुर्गं पथस्तत कवयो वदन्ति ॥१४ त्रयदशोद्ध्यायः ॥

Uttiṣṭhata jāgrata prāpya varān nibodhata ।

Kṣurasya dhārā niṣitā duratyayā ॥

Durgam pathastat kavayo vadanti ॥14 Trayadaśoddhyāyaḥ ॥

Translation- Arise! Awake! Enlighten yourself by resorting to the great (teachers); like the sharp edge of a razor is that path, so say the sages, difficult to treat and hard to cross.

Essence- A leader should always be alert and learn from other leaders.

श्रेयश्च प्रेयश्च मनुष्यमेतः
तौ सम्परीत्य विविनक्ति धीरः ।
श्रेयो हि धीरोऽभिप्रेयसो वृणीते
प्रेयो मन्दो योगक्षेमात् वृणीते ॥२ प्रथमः खण्ड । द्वितियोद्ध्यायः ॥

Śreyasca preyaśca manuṣyametaḥ

Tau samparītya vivinakti dhīrah ।

Śreyo hi dhīro'bhīpreyaso vṛṇīte

Preyo mando yogakṣemāt vṛṇīte ॥2 Prathamah khaṇḍa Dvitiyaddhyāya॥

Translation- The preferable and the pleasurable approach man. The man of intelligence, having considered them, separates the two. The intelligent one selects the electable in preference to the delectable; the non-intelligent one selects the delectable for the sake of growth and protection (of the body etc.).

Essence- The leader has the knowledge of right and wrong action.

मुण्डकोपनिषद्-Muṇḍakopaniṣad-

अविद्यामन्तरे वर्तमानाः
स्वयं धीराः पण्डितमन्यमानाः ।
दन्द्रम्यमाणाः परियन्ति मूढा
अन्धेनैव नीयमाना यथान्धाः ॥ ॥८॥ प्रथमः खण्ड । द्वितियोद्ध्यायः ॥

Avidyāyāmantare vartamānāḥ

Svayaṁ dhīrah paṇḍitammanyamānāḥ ।

Dandramyamāṇāḥ pariyanti mūḍhā

Andhenaiva nīyamānā yathāndhāḥ ॥8॥ Prathama Khaṇḍaḥ Dvitiyaddhyāyaḥ ॥

Translation- Fools dwelling in the very midst of ignorance, but fancying themselves as wise and learned, go round, staggering to and fro, like the blind led by the blind.

Essence- Without a real leader, it's more like a blind person who leads the blind in critical situation.

अलब्धावरणाः सर्वे धर्माः प्रकृतिनिर्मलाः ।

आदौ बुद्धास्तथा मुक्ता बुध्यन्त इति नायकाः ॥९८ चतुर्थोध्यायः ॥

Alabdhāvaranāḥ sarve dharmāḥ prakṛtinirmalāḥ ।

Ādau buddhāstathā muktā budhyanta iti nāyakāḥ ॥98 Caturthodhyayaḥ ॥

Translation- All Jivas are ever free from bondage and pure by nature, they are ever illumined and liberated from the very beginning. Still the wise speak of the individuals as 'capable of knowing'- the selfhood.

Essence- The leaders know the capability of the individuals (followers).

2.6.2 Bhagavad Gita

कर्मण्येवाधिकारस्ते मा फलेषु कदाचन ।

मा कर्मफलहेतुर्भूर्मा ते सङ्गोस्त्वकर्मणी ॥२१४७॥

Karmaṇyevādhikāraṣte mā phaleṣu kadācana ।

Mā karmaphalāheturbhur-mā te saṅgostvakarmaṇi ॥2147॥

Translation- To work alone, you have competence, and don't claim to the fruits of action. Let not the longing for fruits be the motive force of your action. At the same time, let not this attitude confirm you to indolent inaction.

Essence- Leaders should not delve too much into the past, but to be focused at present to create a future and leadership action and responsibility to be focused; not on potential rewards offered by the position.

प्रजहाति यदा कामान् सर्वान् पार्थ मनोगतान् ।

आत्मन्येवात्मना तुष्टः स्थितप्रज्ञस्तदोच्यते ॥५५॥

Prajaḥāti yadā kāmān sarvān pārtha manogtān ।

Ātmanyevātmanā tuṣṭaḥ sthitprajñastadocyate ॥2155॥

Translation- O Son of Pritha! When all the desires of the heart have been abandoned, and the Spirit finds joyous satisfaction in itself (without dependence on any external factor) – then is one spoken of as a person of steady wisdom.

Essence- A leader is considered to have steady wisdom when all the desires of the heart have been abandoned, and the spirit finds joyous satisfaction in itself.

तस्मादसक्तः सततं कार्यं कर्म समाचर ।

असक्तो ह्याचरन्कर्म परमाप्नोति पूरुषः ॥३॥१९॥

Tasmādasaktaḥ satataṁ kāryaṁ karma samācara ।

Asakto hyācarankarma paramāpnoti pūruṣaḥ ॥3॥19॥

Translation- Therefore, perform action always without attachment. For, by working without attachment a man attains to the Supreme.

Essence- Leaders have to be proactive and work for the common good without selfish interest; the reward of their selfless work will take them to a supreme state.

यद्यदाचरति श्रेष्ठस्तत्तदेवेतरो जनः ।

स यत्प्रमाणं कुरुते लोकस्तदनुवर्तते ॥२॥२१॥

Yadyadācarati śreṣṭhastattadevetaro janaḥ ।

Sa yatpramāṇaṁ kurute lokastadanuvartate ॥2॥21॥

Translation- Whatever the noblest person does, the ordinary man imitates. The standard they set, the ordinary men follow.

Essence- Leaders hold the ignition key to their organization's growth and prosperity since people in general will follow the standards set by the leaders.

2.6.3 Mahabharata

महाभारत

न वना नायकं सेना मुहूर्तमपि तिष्ठति ।

आहवेष्वाहवश्रेष्ठ नेतृहीनेव नौर्जले ॥८॥ ॥द्रोण पर्व । पन्चमोद्ध्यायः ॥

Mahābhārata

Na binā nāyakam senā muhūrtamapi tiṣṭati

Āhaveṣvāhavaśreṣṭha netr̥hīneva naurjale||8|| ||Droṇa Parva|

Pancamoddyayaḥ||

Translation- Like an unarmed boat in the waters, the army cannot stand in battle even for a short while without a leader.

यथा ह्यकर्णधारा नौ रथश्चासारथिर्यथा ।

द्रवेद् यथेष्टं तद्वत् स्यादते सेनापतिं बलम् ॥९॥

Yathā hyakarnadhārā nau rathaścāsārathiryathā|

Draved yatheṣṭam tadbat syādrite senāpatim balam||9||

Translation- An army without a commander is like a boat with none to steer her through or like a chariot without a driver, going nowhere.

अदेशिको यथा सार्थः सर्वः कृच्छ्रं समृच्छति ।

अनायका तथा सेना सर्वान् दोषान् समर्च्छति ॥१०॥

Adeśiko yathā sārthaḥ sarvaḥ kṛcchram samṛchati|

Anāyakā tathā senā sarvān doṣān samarchati||10||

Translation- Just as a foreign trader in an unknown country reaps all distress, so an army without a commander is exposed to all dangers.

Essence- A leader highly essential for the team to work.

2.6.4 Ramayana

The great epic Ramayana starts with the question of leadership qualities by Valmiki to Narada as follows:

को न्वस्मिन्साम्प्रतं लोके गुणवान् कश्च वीर्यवान् ।

धर्मज्ञश्च कृतज्ञश्च सत्यवाक्यो दृढव्रतः ॥१ ॥१ ॥२ ॥

चारित्र्येण च को युक्तः सर्वभुतेषु को हीते ॥

विद्वान् कः कः समर्थश्च क कश्चैप्रियदर्शन ॥१ ॥१ ॥३ ॥

आत्मवान् को जितक्रोधो द्युतिमान् कोऽनसूयकः ॥

कस्य बिभ्यति देवाश्च जातरोषस्य संयुगे ॥१ ॥१ ॥४ ॥

Ko nvasminsāmprataṁ loka guṇavān kaśca vīryavān |

Dharmajñaśca kṛtajñaśca satyavākya dr̥dhavrataḥ

||1||1||2||

Cāritreṇa ca ko yuktaḥ sarvabhuteṣu ko hite |

Vidvān kaḥ kaḥ samarthaśca kaścaikapriyadarśana

||1||1||3||

Ātmavān ko jitakrodho dyutimān ko'nasūyakaḥ |

Kasya bibhyati devāśca jātaroṣasya saṁyuge ||1||1||4||

(Valmiki Ramayana, 2012)

Translation- Valmiki, practitioner of austerities, sincerely submits the following questions to Narada, a Rishi of experimental and practical wisdom, and scriptural study and knowledge, supreme amongst knowers of Mantra and deep meditations. (2-4). “Is there a person at present in the world amongst us crowned with all virtues – a person possessed of prowess, a knower of Dharma, an exemplar of gratitude, a truthful man in word and resolute in purpose? Who is one with impeccable conduct and benign to all living beings? Who is an erudite person, capable and pleasingly handsome to look at? Who is a self -realized man, a suborder of wrath and an

effulgent person bereft of carping spirit, whose anger in battle, dreaded even by celestial?” (Valmiki Ramayana)

Essence- Ramayana starts with this query about the one person having leadership skills and qualities such as virtues, prowess, and gratitude, self-realized soul, pleasant, erudite, and effulgent, able to motivate others and show the right path to the followers.

2.6.5 Dasa Rupakam

नेता विनीतो मधुरस्त्यागी दक्षः प्रियंवदः ।

रक्तलोकः शुचिर्वाग्मी रूढवंश स्थिरो युवा ॥१॥

बुद्धयुत्साह स्मृति प्रज्ञाकलामानसमन्वितः ॥

शूरो दृढश्च तेजस्वी शास्त्रचक्षुश्च धार्मिकः ॥२॥

नेत्रविशेषानाह-

भेदैश्चतुर्धा ललितदात्तोशान्तोद्धतैरयम् ।

यथोद्देशं लक्षणमाह- निश्चिन्तो धीरललितः कलासक्तः सुखीमदुः ॥३॥

अथ शान्तः- सामान्यगुणयुक्तस्तु धीर्शान्तो द्विजदिकः ।

अथ धीरोदात्तः- महासत्त्वोऽतिगम्भीरः क्षमावानविकथनः ॥४॥

स्थिरो निगुढाहङ्कारो धीरोदात्तो दृढव्रतः ।

अथ धीरोद्धतः- दर्पमात्सर्यभूयिष्ठो मायाचक्रपरायणः ॥५॥

धीरोद्धतस्त्वहङ्कारी चल्स्वण्डो विकथनः ।

स दक्षिणः शठो घृष्टः पूर्वा प्रत्यन्यया हृतः ॥६॥

Netā vinīto madhurastyāgī dakṣaḥ priyamvadaḥ|

Raktalokaḥ śucirvāgmī rūḍhavamśaḥ sthiro yuvā||1||

Buddhayutsāhasmrati prajṣākālāmānasamanvitiḥ|

Śūro draḍhaśca tejasvī śāstracakṣuśca dharmikaḥ||2||

Netraviśeṣānāha-Bhedaiścaturghā lalitaśāntodāttoddhatairayam|

Yathoddeśam lakṣaṇamāha- Niścinto dhīralalitaḥ kalāsaktaḥ sukhī mraduḥ||3||

Atha śāntaḥ- Sāmānyaguṇayuktastu dhīrśānto dvijadikaḥ|

Atha dhīrodāttaḥ-Mahāsattvo'tigambhīraḥ kṣamāvānavikthanaḥ||4||

Sthiro nigūdhāhānkāro dhīrodātto draḍhavrataḥ|
Atha dhīroddhataḥ-Darpamātsaryabhūyiṣṭho māyācchadmaparāyaṇaḥ||5||
Dhīroddhatastvahaṅkāri calaścaṇḍo vikatthanaḥ|
Sa dakṣiṇaḥ śaṭho dhrṣṭaḥ pūrvām pratyanyayā hṛtaḥ ||6||

The Hero should be well-bred, charming, liberal, clever, affable, popular, upright, eloquent, of exalted lineage, resolute, and young; endowed with intelligence, energy, memory, wisdom, skilled in the arts and proud; heroic, mighty, vigorous, familiar, with the codes, and a just observer of the laws.’ ‘He (the Hero) is of four kinds, being light-hearted (Lalita), calm (Shanta), exalted (udata), or vehement (Udhata).’ ‘The self-controlled and light-hearted [Hero] (dhira-Lalita) is free from anxiety, fond of the art [song, dance, etc.], happy, and gentle.’ ‘The self-controlled and calm [Hero] (dhīrsānta) is a Brahman or the like, possessed of the generic merits [of a Hero].’ The self controlled and exalted [Hero] (dhīrodātta) a great excellence, exceeding serious, forbearing, not boastful, resolute, with self-assertion, suppressed and firm of purpose.’ ‘The self-controlled and passionate [Hero] (dhīroddhata) is altogether dominated by pride and jealousy, wholly devoted to magic practices and deceit, self-assertive, fickle, irascible, and boastful’

There are four types of Leaders: *Dhirolalita*, *Dhiroudata*, *Dhirouddha* and *Dhiroshanta*.

The above verses all reflect leadership characteristics.

In this section, leadership qualities were presented based on classical texts of *Upanishads* and epics. Out of this, a workable model is developed so that the concepts in the above classics could be included in it. The preferred model that emerges from Upanishads is called *pancha kosha* or five layer existence of human consciousness. This model is

expected to cater to the entire gamut of leadership qualities in managers. This *pancha kosha* model is presented in the next section.

2.7 YOGA AND UPANISAD MODEL FOR LEADERSHIP DEVELOPMENT

According to *Taittiriya Upanishad* our body is made of '*Panca Kosa*', named *Annamaya Kosa*, *Pranamaya Kosa*, *Manomaya Kosa*, *Vijnanamaya Kosa* and *Anandamaya Kosa*. Traditional Yoga texts state that imbalance starts at the *Manomaya Kosa* level. Mental imbalances and illnesses called "*Adhija*" are due to the unsettled nature of mind. Due to mental instability, *prana* flows in wrong paths without rhythm and harmony. Hence disturbances in the *Manomaya Kosa* permeate to the physical layer, *Annamaya Kosa* through *Pranamaya Kosa*, resulting in psychosomatic illnesses called "*Vyadhis*". Hence, treating psychosomatic ailments requires working at all these levels in order to bring harmony and lasting results. Healthy yogic diet, *kriyas*, loosening exercises and *yogasanas* are used to operate at the *Annamaya Kosa* (physical) level. Proper breathing practices, *kriyas* and *Pranayama* work at the *Pranamaya Kosa* (subtle energy) level. A direct operation on the *Manomaya Kosa* level is made possible by the last three limbs of Patanjali's *Astanga Yoga - Dharana, Dhyana* and *Samadhi*. Devotional sessions are used for emotional culture to eliminate emotional imbalances and upsurges (Nagarathna and Nagendra, 2008).

The Integrated Yoga Module (IYM) is meant to work on all five human sheaths. As a part of IYM, the SMET (Self Management of Excessive Tension) program was designed to help all five layers by including all Swami Vivekananda's four types of Yoga paths as follows:

1. **Raja Yoga**- The Royal path for directly achieving the highest goal. Raja yoga is also

known as *Ashtanga yoga* (yoga with eight limbs), as explained below.

- I. *Yama* (the Social Code of Conduct) – The five *Yamas* are rules and regulations for all to enjoy a healthy environment:

Ahimsa (non-violence), *Satya* (truthfulness), *Astheya* (non-stealing),
Brahmacharya (celibacy), *Aparigraha* (non-possessiveness)

- II. *Niyama*- (Code of Conduct) - *Niyamas* are five personal rules:

Saucha (cleanliness), *Santosha* (satisfaction), *Tapah* (penance),
Svadhyaya (self-study) *Isvara pranidhana* (surrender to God)

Both social codes of conduct and personal code of conduct help growth in the path of yoga and are essential to the successful practice of all eight limbs of yoga.

- III. *Asana* (Physical postures) - different classes of physical postures include:

Standing *Asanas*- *ardhakati chakrasana* (half-wheeled postures), *Sitting Asanas*- *Shashankasana* (baby postures) and *ustrasana* (camel posture), *Supine Asanas*- *shavasana* (the corpse posture), *Relaxing Asanas*- *sithila dandasana* (relaxing asana in sitting postures) and *sithila tadasana* (relaxing asana in standing asana)

- IV. *Pranayama* (breathing practices) - Four types of breathing practices are taught:

- i. Heating *pranayama*- *Surya bhavana* (right nostril breathing)
- ii. Cooling *pranayama*- *sitali*
- iii. Balancing *pranayama*- *nadi sodhana* (alternate nostril breathing)

The above stated *yogic* practices are known as *bahiranga yoga* (external practices).

- V. *Pratyahara* - *Pratyahara* is the process of withdrawing the sense organs from

their respective objects.

Pratyahara is the bridge between the *antaranga* (internal) yoga and *bahiranga* (external) yoga.

- VI. *Dharana*- Meditation
- VII. *Dhyana*- Effortless meditation on one thing.
- VIII. *Samadhi*- Super Consciousness

The above three practices are known as *antaranga* (internal) practices.

Raja yoga is practiced for different purposes, psychological, physiological and spiritual benefits.

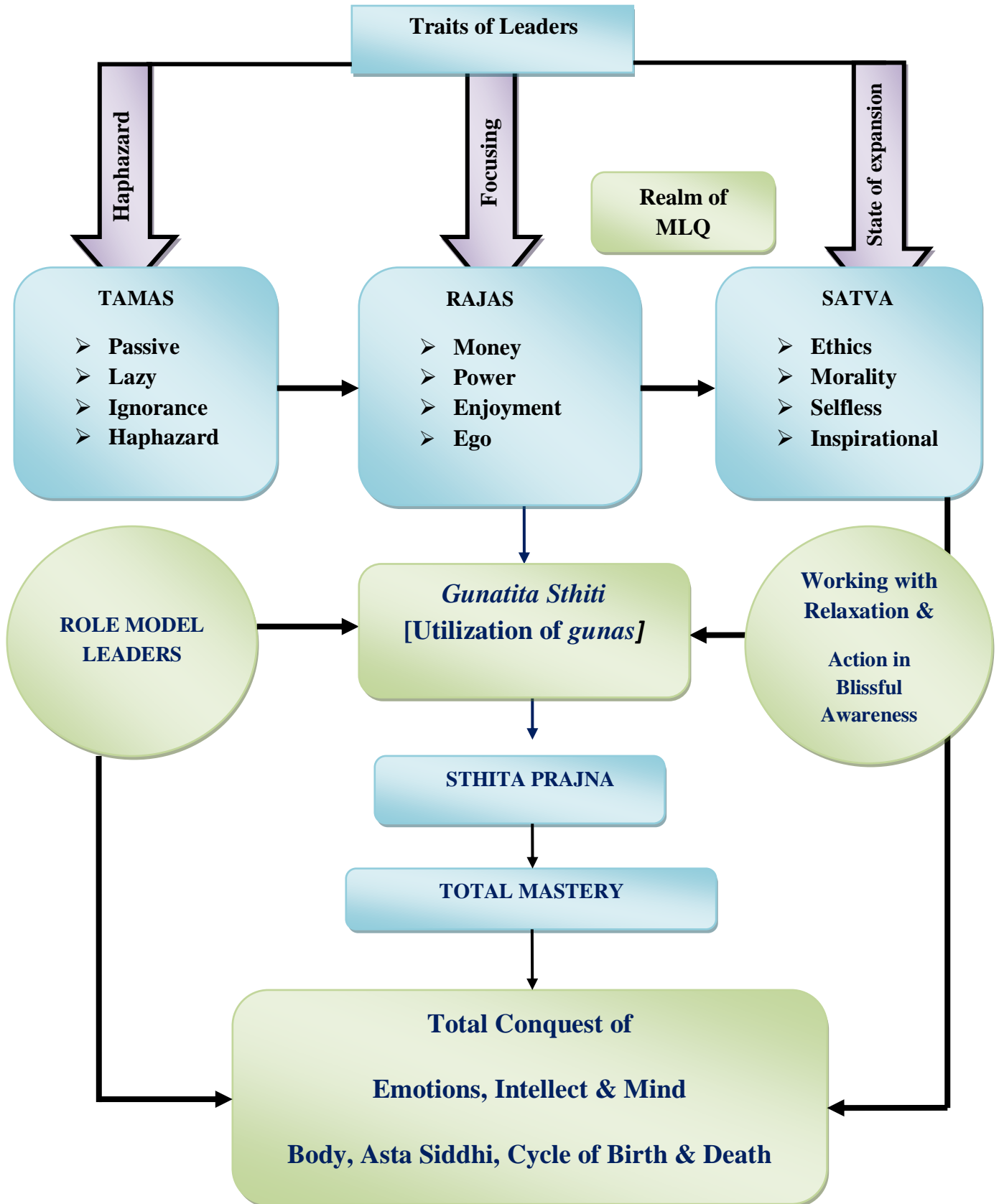
2. ***Karma Yoga***- *Karma yoga* involves selfless action, otherwise known as detached action or action without expecting results. According to *Bhagavad-Gita*, *Karma yoga* should be performed keeping oneself without desire of associated results. Such practice brings complete freedom from bondage of birth and death.
3. ***Jnana Yoga***- Jnana Yoga is the path of knowledge, which uses the three processes of *shravana* (listening), *manana* (thinking), and *nidhidhyasana* (contemplation) to gain deep intellectual understanding freeing one from bondage to achieve the highest state of spiritual liberation.
4. ***Bhakti Yoga***- Bhakti yoga is the path of devotion and emotional culture, in which the practitioner completely surrenders to the lotus feet of the supreme lord, often considered the easiest way to attain and achieve the goal of life.

According to Swami Vivekananda, a person needs to practice one or two or even all four types of yoga to become free.

2.8 DISCUSSION AND CONCLUSION

The transformational leadership style demonstrated by Sri Rama in *Valmiki Ramayana* has become a role model of leadership which continues to inspire and transform millions of Indians even today. In Mahabharata there are many instances of leadership shown by great warriors and kings. In the *Bhisma Parva* of *Mahabharata*, the great sacred text *Srimad Bhagavad-Gita* also focuses on the many qualities of a *leader* as depicted by the Supreme Lord Sri Krishna himself to *Arjuna*. The literary work of Dhananjay in his Dasha Rupakam clearly portrays different types of leaders. These leadership qualities are closely related to the personality traits of *tamas*, *rajas*, and *satva*. Most qualities used in MLQ are based on *satvic* qualities of a person through one's ethical and moral behavior to inspire others and influence the workers, motivate the team, etc. Though these qualities make a great leader, the yoga texts mentions that, these *satvic* qualities are also bondages which can lead to subtle psychological conflicts such as: conflicts between duty and ethics, ethics and ethics, duty vs. duty and questioning the basis of ethics and morality. These can cause a leader to become confused by conflicting situations (both seemingly good) leading to depression (as happened to Arjuna in Mahabharata as described in the first chapter of *Bhagavad-Gita* or to Sri Rama described in Yoga Vasistha's first *Vairagya*, and even contributing to different disease states). Hence, leadership qualities enunciated in the texts of yoga and spiritual lore, take us into realms beyond ethics to the state called ***Gunatita State*** or ***Sthitaprajna lakshana***. This is a state of total mastery over the mind, emotions and intellect developed through yoga theory and practices. Such higher transformational leadership maintains health and emotional stability at the highest level, in a state of perfect health, and leads to complete mastery over body, mind, emotions, and intellect. In short, it makes a 'complete leader'.

FIGURE 1: MODEL OF THE COMPLETE LEADER



The theoretical model proposed here is based on the concepts enunciated in said texts summarized in the above schematic (Figure 1). This shows how normal leadership traits are based on *triguna*. The *tamasic* are essentially passive, lazy and uninformed. Most leaders are *rajasic* i.e. basically money oriented, driven by lust for enjoyment, power and ego. *Satvic* leaders are more based in ethics and morality, and are selfless and inspirational. Multi-factor leadership questionnaires concern the last two, namely *rajasic* and *satvic*. The experimental part of the study described later, including the aspects of health, emotions and *guna* helps substantiate this model of ideal leadership.

Sri Krishna on the other hand does not want to be restricted to *gunas*, but rather to go beyond to '*gunatita sthiti*', and introduces '*sthita prajna*' as the quality of the ideal role-model leader. Practically speaking, it means utilizing *gunas* as per the demands of the situation while maintaining complete mastery over emotions, intellect, mind and body and getting even minor psychic powers such as reading others' minds and judging the outcome of future events and even *ashta siddhis* (supernatural powers). The leader and the followers will perform the action in total relaxation and blissful awareness, achieving the highest realms of excellence not only for the individual, but also for the organization. Based on this model, not only MLQ but also GHQ, EI and VPI of the leaders were measured in this thesis.

The above model based on the classical literature of India provides with a complete psychophysical and spiritual dimension in an ideal leader. The scientific literature provided in the next chapter gives us an overview of modern trends in leadership development. Combining these two ideas, namely the ancient wisdom and the modern views, an optimal model for ideal leader could be developed.

CHAPTER- 3.0

REVIEW OF SCIENTIFIC LITERATURE

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3.0 REVIEW OF SCIENTIFIC LITERATURE

3.1 STUDIES LEADERSHIP DEVELOPMENT

Spirituality is the goal of all existence according to the Upanishads, and karma yoga is a simple means to enhance spirituality. The need of spirituality in an organization has been recognized for long. Among the different kinds of leadership styles, transformational leadership has an approach similar to yoga. The term transformational leadership was conceptualized in 1978 by J.M. Burns in his book, 'Leadership'. Only transformational leadership is capable of motivating followers to perform more than they were originally expected to do.

Superior performance or performance beyond normal expectations is possible only by transforming followers' values and attitudes from a lower to a higher plane of motives and maturity. Hence, presently transformational leadership is viewed as the most prominent topic in the current research and theories of leadership (Bass, 1998). Transformational leadership behavior enhances their followers' karma yoga attitude and oneness with all beings in the organization (Krishnan, 2008). The transformational leader "engages with others in such a way that the leaders and followers raise one another to higher levels of motivation and morality" (Burns, 1978). A transformational leader stirs their followers to look beyond their self-interest for the good of the group. The transformational leader articulates a realistic vision of the future that can be shared, stimulates subordinates intellectually and pays attention to the differences among the subordinates. Transformational leadership consists of four factors-idealized influence, inspirational motivation or leadership, intellectual stimulation, and individualized consideration (Bass, 1985). In transformational leadership, it is important that the leader should address the true

needs of the followers, and lead followers towards fulfillment of those needs. Studies also reveal the relationship between EI and transformational leadership style among managers (Mandell and Pherwani, 2003). Transformational leadership can foster the emergence of socially desirable behaviors in employees.

Transformational leadership, when combined with karma yoga might enhance these desirable behaviors further. This leads to better 'job involvement' (Elankumaran, 2004). Karma yoga related to transformational leadership provides effectiveness, extra effort, and satisfaction positively (Menon, 2004). If a manager follows socially appreciable image (simple living) and encourages behaviors that are socially valued (selfless behavior, loyalty, culture of giving and personal touch), then the manager is more likely to emerge as a transformational leader (Niti and Krishnan, 2005).

Apart from the above, numerous studies show benefits like higher EI associated with higher leadership effectiveness (Rosete and Ciarrochi, 2005). The presence of a Vedic world view enhances transformational behavior in a leader whereas *Tamas* reduces the same (Kejriwal and Krishnan, 2006). Leadership is a vision, a strong drive to carry it out, and an ability to mobilize others around the vision. Their definitions of success most often include changing the lives of others in a sustainable way. Persistence and communication skills are important to their success. Transformational leadership enhances followers' karma yoga; both transformational leadership and karma yoga enhance followers' feeling of oneness with all beings: both transformational leadership and oneness enhance organizational identification; and both karma yoga and organizational identification enhance normative commitment (Krishnan, 2007).

The attributes needed in a leader are quite different than those needed in a manager. Transition from a manager to an effective leader is quite possible, though difficult (Ahangar, 2009).

A longitudinal study looked at the impact of a two-day leadership training program on transformational leadership in a large manufacturing organization in eastern India. Results show that pre-training ratings significantly predict post-training ratings in the case of idealized influence-behavior, inspirational motivation, intellectual stimulation, individualized consideration, contingent reward, and active management-by-exception. There is no such effect in the case of idealized influence-attributed, passive management-by-exception and laissez-faire leadership. The study suggests that sending managers for leadership training programs in an unplanned way may not make any difference (Krishnan, 2000). This study represents a multi-method, multi-source, and longitudinal evaluation of a leadership development program in Germany.

For the development of transformational leadership, the methods of leadership feedback, training, and coaching were combined into a program. The effects of this program were evaluated at three, six, nine and twelve months after training. Altogether 25 leaders participated in the program. The results revealed that transformational leadership (subordinate assessment) improved six months after training and later on. Also, leaders' performance (leaders' supervisor ratings) and Organizational Citizenship Behavior (subordinate assessment) improved.

There are about six types of conventional leadership intervention viz., leadership training, role-play, scenario, assignments & expectations, etc. and all of them could produce a positive impact on work outcomes in terms of effectiveness. Considering the overall

results, there could be only 34% chance of success (Reichard and Avolio, 2005) of the existing leadership development programs. A meta-analysis of 45 studies of transformational, transactional, and laissez-faire leadership styles found that female leaders were more transformational than male leaders and also engaged in more of the contingent reward behaviors that are a component of transactional leadership. Male leaders were generally more likely to manifest the other aspects of transactional leadership (active and passive management by exception) and laissez-faire leadership. Although these differences between male and female leaders were small, the implications of these findings are encouraging for female leadership because other research has established that all of the aspects of leadership style on which women exceeded men relate positively to leaders' effectiveness, whereas all of the aspects on which men exceeded women have negative or null relations to effectiveness and female leaders were more transformational than male leaders in their leadership style (Eagly, Johannesen-Schmidt, and Van Engen, 2003).

All previous studies are built upon various theories based on the assumption that lesser the inadequacies in leadership qualities, the better is leadership. Even if a leader demonstrates all the qualities, he is not complete since all the qualities are external and spiritual aspect is lacking. So, internal development is a vital need in the field of leadership development. Although the conventional leadership development intervention programs seem to be exciting, measured results found them to be less effective and the possible reasons could be the lack of practical and holistic approach. Hence there was a need of intervention programs having practical approach.

3.2 STUDIES ON PSYCHOLOGICAL WELL-BEING OF THE LEADERS

The World Health Organization (WHO) defines health as physical, mental and social well being and not just a lack of diseases and disabilities. Role and responsibility of a leader is vital in every industrial sector. For the sake of responsibilities, the leaders compromise with their physical and mental health. It is quite evident that stress occurs in leaders when the targets are not achieved and issues are not addressed. Fifty percent of the employees of an organization are exposed to the adverse psychosocial work environment (Kivima, et al., 2006), and these psychosocial stressors at work are relatively common (Allvin and Aronsson, 2001). Leadership is often viewed as highly stressful. Stress burn-out has been a major threat to the leaders across the world and more so in a country like India since they need to show high outputs with minimum inputs (Sharma, 2007).

Over time, their psychological stress becomes either acute or chronic and invites many health related issues. Chronic stress is associated with enhanced vulnerability to diet-related metabolic risk viz., abdominal adiposity, insulin resistance and oxidative stress (Aschbacher et al., 2014). Obesity is associated with job-associated stress viz., tension and anxiety, and these stress related disorders have been found to lead to an increased risk of Cardio Vascular Disorder (CVD) and mortality (Nishitani and Sakakibara, 2006; Valtonen et al., 2012). Recent studies have reported 77% overweight and obesity rates in high-stress professionals who respond to the customer instantly for resolving their issues (Franke et al., 2002; Hsu et al., 2007; Tsismenakis et al., 2009; Ramey et al., 2009). Importantly, obesity is shown to disturb cardiovascular responses to acute mental stress (Hamer et al., 2010), which may associate with stress-related endothelial dysfunction.

Furthermore, in response to acute mental stress, diabetic patients have a lower impairment of brachial artery flow-mediated dilation (FMD) compared to control subjects. Psychological stress can also interfere with carbohydrate metabolism, especially in the liver and skeletal muscle, and can lead to insulin resistance (Depke et al. 2008). Stress is also an environmental factor that has been associated with several immunological diseases, e.g. inflammatory bowel disease (Mawdsley and Rampton, 2005), allergic disease (Montoro et al., 2009), and atopic dermatitis. Psychological stress has a direct effect on a variety of immunological mechanisms, including the functional profile of T-cells and several immune-inflammatory markers (Marshall et al., 1998). These findings suggest that the challenges of stress experienced by high-stress occupations may lead to an increased risk of a wide range of psychosomatic ailments.

Acute stress has an impact on higher cognitive functions viz., working memory, attention and learning. It is quite evident that stress impairs subsequent attention and memory. Studies carried out largely over the past two decades have supported the idea that stress and stress induced hormones impair hippocampal dependent forms of memory (Sapolsky, 1992). Stress hormones are known to influence the prefrontal cortex (PFC), a brain region that controls higher level "executive" functions such as working memory and decision making. Previous work has shown that chronic stress impairs PFC-mediated behaviors, such as mental flexibility and attention (Eunice et al., 2012).

Yoga, with its holistic approach to improve overall quality of life, offers several self-regulatory practices that aim at correcting these psychological factors that contribute to low QOL (Quality of Life).

Integrated Yoga Module (IYM) conceptualized at Swami Vivekananda Yoga Anusandhana Samsthana, that includes practices at physical, breathing, mental, intellectual and emotional levels are found to be beneficial in improving the health in several chronic conditions such as diabetes mellitus (Shantakumari, Sequeira, EI deeb, 2013), fibromyalgia (da Silva, Lorenzi-Filho and Lage, 2012), rheumatoid arthritis (Haslock et al., 1994) and cancer (Raghavendra et al., 2008). Health based stress management practices being a key component, Yoga has been found to be effective in improving the scores of general health (Tikhe and Nagendra, 2011).

General health is an individual's physical and mental health which includes a collection of physical signs, anxiety and insomnia, social dysfunction, and depression (Ansari, 2006). SMET (Self Management of Excessive Tension) practice is found beneficial. Since the sample size was small and the study was limited to managers the current study is aimed at assessing the general health of mid life leaders in addition with conventional physiological parameters.

3.3 STUDIES ON EMOTIONAL INTELLIGENCE OF THE LEADERS

We have known for years that emotional intelligence improves results—often by an order of magnitude. Now, new research shows that a leader’s mood plays a key role in that dynamic—a discovery that should redefine what leaders do first and best. Emotional intelligence (EI) is the ability to monitor one's own and other people's emotions, to discriminate between different emotions and label them appropriately, and to use emotional information to guide thinking and behavior. There are three models of EI. The ability model, developed by Peter Salovey and John Mayer, focuses on the individual's ability to process emotional information and use it to navigate the social environment. In their popular book, Goleman (1995) has argued that those leaders with greater emotional intelligence will be more effective (Stein and Book, 2000). Emotional intelligence has been defined as an array of personalities, emotional, and social abilities and skills that determines how well the individual functions in his or her given environment (Bar-On, 1997). Research has shown that managers with better EQ suffered less subjective stress, experienced better health and well-being, and demonstrated better management performance (Slaski and Cartwright, 2002). In another study EI established the relationship between personality traits and employees’ attitudes toward change (Vakola et al., 2004). The popular perception is that a high intelligence quotient (IQ) is not necessarily a good predictor of professional and personal success. Hence, there is the need of another tool that is emotional intelligence (EI) (Adhia et al., 2010). Emotional Intelligence improved job performance beyond cognitive ability and personality (Joseph and Newman 2010). Previous studies have shown the beneficial effect of SMET program in enhancing emotional intelligence and *satva guna* (personality trait). Further, there also exists a

positive correlation, suggesting the influence of Emotional Intelligence (EI) and *Guna* over managerial effectiveness. Research in yogic intervention showed stress reduction, improved Emotional Intelligence and well-being in managers (Kumari, 2010).

EI augments positive work attitudes, altruistic behavior and work outcomes, and moderates the effect of work-culture and conflict on career commitment (Carmeli, 2011). Tikhe in 2011 reported that SMET program was associated with improvement in EQ and may have implications for executive efficiency (Tikhe et. al, 2011) and establishes positive relationship between *satva* with EQ suggesting that a *satvic* personality indicates better self-control. Further, it is found that, “thought reduction” or “mental silence” may have specific effects relevant to work stress and hence occupational health (Manocha et al., 2011).

3.4 YOGA ON MANAGERIAL EFFECTIVENESS

Workplace stress is an obstacle in leadership development. Globalization, technological advancements, intermixing of work cultures, recessions and subsequent changes in the nature of work are occurring at a fast pace. Consequently, stress is found with everyone in the workplace whether rich or poor, young or old, male or female; no one is immune to it. Stress may be the biggest single cause of illness or premature death. WHO has declared stress as worldwide epidemic and reported job stress as “the twentieth-century disease”. The American Institute of Stress (AIS) states that stress related illness costs economy more than \$ 100 billion per year. Additionally, AIS estimated in 2001 that stress costs organizations \$ 300 billion in health care, workers compensation, absenteeism, and turnover. The productivity losses hover around \$17 billion annually. Every health problem from simple headache to heart attack, from psychosomatic disorders to stroke can be linked to stress that is called the plague of the 21st century. Stress-related illness and injuries account for almost three-fourths of employee absenteeism. A growing body of research evidence supports the belief that certain yoga techniques may improve physical and mental health through down-regulation of the hypothalamic– pituitary–adrenal (HPA) axis and the sympathetic nervous system (SNS) (Ross & Thomas, 2010). The HPA axis and SNS are triggered as a response to a physical or psychological demand (stressor), leading to a cascade of physiologic, behavioral, and psychological effects, primarily as a result of the release of cortisol and catecholamines (epinephrine and norepinephrine). This response leads to the mobilization of energy needed to combat the stressor through the classic “fight or flight” syndrome. Over time, the constant state of hypervigilance resulting from repeated firing of the HPA axis and SNS can lead to dysregulation of the system and ultimately diseases such as obesity, diabetes, autoimmune disorders, depression, substance

abuse, and cardiovascular disease (Sterling, 2004; McEwen, 2000, as cited in Ross and Thomas, 2010).

Conversely, substantial studies have shown yoga to have an immediate down-regulating effect on both the SNS/HPA axis response to stress. Studies show that yoga decreases levels of salivary cortisol (Michalsen, 2005; West, 2004), blood glucose (Gokal and Shillito, 2007; Khatri et al. 2007) as well as plasma rennin levels, and 24-hour urine norepinephrine and epinephrine levels (Selvamurthy et al., 1998). Yoga significantly decreases heart rate and systolic and diastolic blood pressure (Damodaran et al., 2002; McCaffrey, Ruknui, Hatthakit and Kasetsoomboon, 2005; Selvamurthy et al., 1998) (as cited in Ross & Thomas, 2010). Studies suggest that yoga reverses the negative impact of stress on the immune system by increasing levels of immunoglobulin A (Stuck et al., 2003) as well as natural killer cells (Rao et al., 2008) (as cited in Ross and Thomas, 2010).

Yoga has been found to decrease markers of inflammation such as high sensitivity C-reactive protein as well as inflammatory cytokines such as interleukin-6 (Pullen et al., 2008) and lymphocyte-1B (Schultz et al., 2007) (as cited in Ross and Thomas, 2010). Aforementioned studies show that yoga has an immediate quieting effect on the SNS or HPA axis response to stress. The proposed hypotheses substantiate that yoga exercises cause a shift toward parasympathetic nervous system dominance, possibly via direct vagal stimulation (Innes, Bourguignon and Taylor, 2005); significant reductions in low-frequency heart rate variability (HRV), a sign of sympathetic nervous system activation, in depressed patients following an 8-week yoga intervention (Shapiro et al., 2007); decrease in anxiety (Gupta et al., 2006; Michalsen, 2005; Telles et al., 2006; West, 2004) and

increase in emotional, social, and spiritual well-being (Moadel et al., 2007) (as cited in Ross and Thomas, 2010).

3.5 CONCLUSION

However, there are no interventional studies conducted to understand the impact of yoga on leadership and also there is no model for all round development, ranging from physical to intellectual and spiritual qualities of managers. A summary of scientific review is presented in TABLE 4. It is seen that there is only one study with 2 day intervention, the limitation of the study is that the paper did not mention about the kind of program for leadership development. There are no interventional studies on leadership development using yoga. The present study is to understand the possible role of general health, predominant *guna* and EI for leadership development using IYM module.

TABLE 4: SUMMARY TABLE OF SCIENTIFIC LITERATURE REVIEW

Sl no.	Authors & years of publication	Title, Sample size (n), Experimental design, Variable studied	Findings	Critical Analysis
1	Venkat R. Krishnan, 2000	Can the Indian Worldview Facilitate the Emergence of Transformational Leaders? n- 31 subordinates, longitudinal study, Multi-factor Leadership Questionnaire	1.↑ Idealized influence-attributed, passive management-by-exception and laissez-faire leadership 2. No significant change in other 9 parameters.	Introduction and effects of different forms of yoga could have been discussed in this article
2	Venkat R. Krishnan, 2005	Impact of Transformational Leadership and Karma-Yoga on Organizational Citizenship Behavior.	1. No significant difference in the means of any of the five OCB variables between the two cells. Karma-Yoga,	Other important forms of yoga could have been introduced

		n-86 managers, 2 x2 Factorial Design, MLQ-12, Karma – Yoga Questionnaire	therefore, did not affect OCB, so long as transformational leadership was present.	
3	Singh N and Venkat R. Krishnan, 2005	Towards understanding transformational leadership in India: A grounded theory approach. n-250 managers, One Time Assessment, MLQ	If a manager follows socially appreciable image (simple living) and encourages behaviors that are socially valued (selfless behavior, loyalty, culture of giving and personal touch), then the manager is more likely to emerge as a transformational leader.	An experimental design is missing in the study.

3.6 RATIONALE FOR THE STUDY

The present work is based on the five layer model of humans as espoused in summary. It is believed only a classical model such as this could provide a solid foundation for the development of modules for leadership development and effective resolution of management problems. With this background the current study is aimed at throwing light on the possible role of an Integrated Yoga Module for total leadership in general and for Transformational leadership in particular.

CHAPTER- 4.0

AIMS AND OBJECTIVES

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4. AIM AND OBJECTIVES

4.1 AIM

The study's aim is to assess the effect of Integrated Yoga Module on leadership development of managers.

4.2 OBJECTIVES

1. To evaluate the effect of the Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) on the development of leadership qualities, style and behavior in managers.
2. To study the effect of Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) on *guna* in managers.
3. To study the effect of Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) on the general health of managers.
4. To study the effect of Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) on general clinical parameters viz. Systolic Blood Pressure, Diastolic Blood Pressure, Pulse Rate, Respiratory Rate and Weight of managers.
5. To study the effect of Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) on the emotional intelligence of managers.
6. To check the moderating effect of *triguna* on emotional intelligence and general health.

4.3 RESEARCH QUESTIONS

1. Can the Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) bring changes in the leadership qualities, styles and behaviors in managers?
2. Can the Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) bring changes in *guna* of managers?
3. Can the Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) bring changes in general health of managers?
4. Can the Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) bring changes in general clinical parameters viz., Systolic Blood Pressure, Diastolic Blood Pressure, Pulse Rate, Respiratory Rate and Weight in managers?
5. Can the Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) bring changes in emotional intelligence of managers?

4.4 HYPOTHESES & NULL HYPOTHESES

4.4.1 Hypothesis ($H_a = \text{PRE} \neq \text{POST}$)

1. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices on managers may bring changes in leadership quality, behavior and style of managers measured by Multi-factor Leadership Questionnaire.

$H_a = \text{Pre MLQ} \neq \text{Post MLQ}$

2. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices may bring changes in *guna* of managers assessed by Vedic Personality Inventory.

$H_a = \text{Pre VPI} \neq \text{Post VPI}$

3. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices may bring changes in general health of managers evaluated by General Health Questionnaire.

$H_a = \text{Pre GHQ} \neq \text{Post GHQ}$

4. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practice may bring changes in general clinical parameters viz., Systolic Blood Pressure, Diastolic Blood Pressure, Pulse Rate, Respiratory Rate and Weight of managers.

$H_a = \text{Pre} \neq \text{Post}$ (in all general clinical parameters)

5. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices may bring changes in emotional intelligence in corporate managers measured by Emotional Intelligence Questionnaire.

$H_a = \text{Pre EI} \neq \text{Post EI}$

4.4.2 Null Hypothesis (HO = PRE =POST)

1. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices will have no effect on leadership quality, behavior and style in corporate managers measured by Multi-factor Leadership Questionnaire.

Ho = Pre MLQ =Post MLQ

2. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices will have no effect on *guna* (personality traits) of corporate managers Vedic Personality Inventory.

Ho = Pre VPI =Post VPI

3. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices will have no effect on general health of corporate managers evaluated by General Health Questionnaire.

Ho = Pre GHQ =Post GHQ

4. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices will have no effect on general clinical parameters viz., Systolic Blood Pressure, Diastolic Blood Pressure, Pulse Rate, Respiratory Rate and Weight of corporate managers.

Ho = Pre = Post (in all general clinical parameters)

5. The Self Management of Excessive Tension (SMET) Integrated Yoga Module (IYM) practices will have no effect on emotional intelligence in corporate managers measured by Emotional Intelligence Questionnaire.

Ho = Pre EI =Post EI

CHAPTER- 5.0

METHODOLOGY

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5.0 METHODOLOGY

5.1 SOURCE OF PARTICIPANTS

Groups of managers of Oil and Natural Gas Corporation Limited (ONGC) enrolled for SMET (Self Management of Excessive Tension) at Prashanti Kuteeram, S-VYASA (Swami Vivekananda Yoga Anusandhana Samsthana) during the year 2012.

5.2. SAMPLE SIZE

The Effect size is calculated (it is a quantitative measure of the strength of a phenomenon and is the correlation between two variables, the regression coefficient, the mean difference) through 'G' Power Software (it is a tool to compute statistical power analyses for many different *t* tests and also be used to compute effect sizes and to display graphically the results of power analyses) from previous studies. Alpha was set at 0.05, power at 0.8, and the effect size obtained was 0.55 (Adia et al., 2010) and the calculated sample size was 28.

A sample size of eighty four was chosen for the study. Our sample size of eighty four ($n = 84$) allowed for dropouts and variability of responses to the questionnaires used in the study. Moreover, large sample size allowed not losing the power for other three variables that were used in this study.

5.3 SELECTION CRITERIA

5.3.1 Inclusion Criteria

The study included all the low, Middle and Top level executives age range was between 30 and 60 years. Both males and females were the subjects.

5.3.2 Exclusion Criteria

Individuals diagnosed with serious lifestyle disorders viz., metabolic, endocrine, psychiatric disorders and sleep disorders.

5.4 INFORMED CONSENT FORM

Written Informed Consent was obtained from the participants after explaining the complete details of the study, including benefits and possible adverse effects (in case). Subjects were informed of their right to withdraw from the study at any point of time.

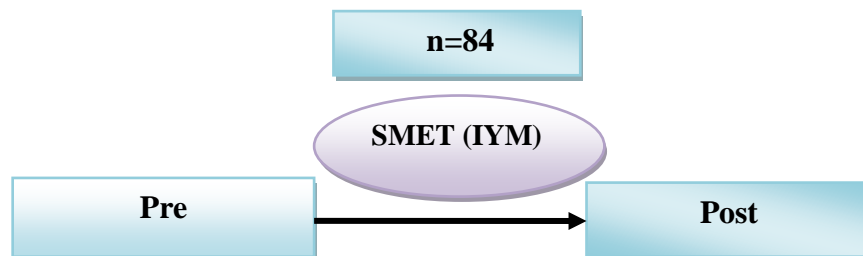
5.5 ETHICAL CONSIDERATION

The current study was approved by the Institute Ethics Committee, and all subjects had the nature of the research trial explained to them.

5.6 STUDY DESIGN

Test-retest study: The study design adopted for the current study was a pre-post, 'test-retest' design, in which all subjects were assessed before and after the intervention.

5.6.1 Study Outline



5.6.2 Study Description

This study was conducted at a university residence campus. A five day experimental intervention was given to all subjects participating in the study.

5.7 INTERVENTION

The Self Management of Excessive Tension was the intervention (SMET) for the study. This is an Integrated Yoga Module that consists of both yoga practices and discourses. It was five days intervention program given to the subjects. Intervention schedule was between 5 am and 9 pm with long breaks. The practices were as follows:

1. *Kriya*- Cleaning Practices
2. Attending *Maitri Milan (Bhagava Gita Chanting along with discourses)*
3. *Asana*- Physical postures
4. Meditation practices
5. Happiness analysis through yogic games
6. Evening prayers.
7. Karma Yoga
8. Attaining *Maitri Milan*, Bhagavad-Gita Chanting and Discourses on *Jnana* and other yogas for notional corrections.

Theory classes as follows:

1. Introduction to SMET - Self Management of Excessive Tension
2. Concepts of Stress
3. Stress and its Release
4. Executive Growth
5. Group Dynamism (Importance of Leadership)

6. A Glimpse of SMET research

Details of these interventions are given in TABLE 5, 6 and 7.

TABLE 5: DAILY ROUTINE OF SMET

Time	Activity	Time	Activity
5.00 AM	Ablution	3.00 PM	SMET Lecture Session 2
5.30 AM	Prayer (Prathasmaran)	4.00 PM	SMET (Cyclic Meditation)
6.00 AM	Asanas /Special Yoga Technique	5.00 PM	Tuning to Nature
7.15 AM	Friendship Meet (Maitri Milan) - Gita Sloka Chanting and Discourse (Satsanga)	6.00 PM	Devotional Session (Bhajan)
8.00 AM	Breakfast	6.45 PM	MSRT (Mind Sound Resonance Technique)
9.30 AM	SMET Lecture Session 1	7.30 PM	Dinner
10.30 AM	SMET practice (Cyclic Meditation)	8.30 PM	Happy assembly (yogic game Session) /cultural program
11.30 AM	Milk or Ayurvedic Tea (Malt)	9.15 PM	Group Discussion/Self
12.05 PM	Special Yoga Techniques	10.00 PM	Lights Off
1.00 PM	Lunch and rest		

TABLE 6: THEORY SESSIONS AT A GLANCE

Day	Session 1	Session 2
1	Introduction to SMET	Concept of stress, according to modern medical science & yoga
2	Recognition is half solution	Stress levels and stress release
3	Executive Growth 1 (Depth of Perception)	Executive Growth 2 (Expansion of Awareness)
4	Group Dynamics	Summary of published research works in SMET at VYASA

TABLE 7: PRACTICE SESSION AT A GLANCE

Day	Session 1	Session 2
1	IRT (Instant Relaxation Technique) Relaxation and Centering in <i>Tāḍāsana</i> <i>Ardha Kaṭi Chakrāsana</i> (Right & Left) QRT (Quick Relaxation Technique)	<i>Ardha Kaṭi Chakrāsana</i> (Right & Left) <i>QRT, sithila dandasana, Vajrāsana</i> <i>Śhśānkāsana, Ardha Ustrasana or Ustrasana</i>
2	QRT, <i>Vajrāsana, Ardha ustrasana or Ustrasana, sithila dandasana, DRT</i> (Deep Relaxation Technique)	FULL PRACTICE (starting from IRT to DRT including all standing and sitting postures) with recognition of stimulation- relaxation.
3	FULL PRACTICE, allowing for more relaxation than stimulation	FULL PRACTICE feeling the blood flow, blood pressure, synchronization of pulse and heart beat, nerve impulses
4	FULL PRACTICE, feeling the changes in the mind and emotions with pointed, linear, surface and 3 dimensional awareness of the whole body	FULL PRACTICE, enjoying the group awareness expanding to all-pervasive awareness.

Satvic diet (high-fiber low-fat vegetarian and balanced diet), devotional sessions, cultural programs and discourses from experts were the key essence of this program. The program was based on Integrated Approach of Yoga leading to the holistic development of the personality.

5.8 OUTCOME MEASURES

1. Leadership qualities, styles and behaviors (MLQ)
2. *Gunas*, the personality traits (VPI)
3. General Health (GHQ),
4. General clinical parameters Viz., Blood Pressure, Respiratory Rate, Pulse Rate and Weight
5. Emotional Intelligence (EI)

5.9 ASSESSMENT TOOLS

5.9.1 Multi factor Leadership Questionnaire (MLQ)

BACKGROUND OF MLQ: The following psychological instruments are widely used to measure leadership qualities. Many focus on the Big Five factors used in the study of individual differences (personality) viz. Extraversion, Agreeableness or Friendliness, Conscientiousness, Emotional Stability or Neuroticism, and Intellect or Openness to Experience.

LEADERSHIP SKILLS ASSESSMENT QUESTIONNAIRE

1. Big Five traits, Big Five Inventory – The Big Five Inventory (BFI) is a self-report inventory designed to measure the Big Five viz., Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness dimensions. Quite brief in comparison to multidimensional personality inventory (44 items total); it consists of short phrases with relatively accessible vocabulary (Benet-Martínez & John, 1998).
2. Big Five Questionnaire- The Questionnaire for the measurement of the Big Five Factor Model (Caprara, Barbaranelli, Borgogni, & Perugini, 1993)

3. Hogan Personality Inventory - The Hogan Personality Inventory (HPI) is a measure of normal personality. It is designed primarily for use in personnel selection, individualized assessment, and career-related decision making. It provides detailed information regarding what we call the “bright side” of personality characteristics that appear in social interaction and that facilitate or inhibit a person’s ability to get along with others and to achieve his or her educational and occupational goals. (R. Hogan & Hogan, 1995)
4. International Personality Item Pool (IPIP) - IPIP is a website intended to provide rapid access to measures of individual differences, all in the public domain, to be developed conjointly among scientists worldwide. It may later include raw data for reanalysis; in addition, it should serve as a forum for the dissemination of psychometric ideas and research findings (Goldberg, 1999).
5. NEO Personality Inventory - Revised - The Revised NEO Personality Inventory, or NEO PI-R; it is a 240-item personality inventory measuring the Big Five personality traits. Additionally, the test measures six subordinate dimensions (known as facets) of each of the "FFM" personality factors. The test was developed for use with adult (17+) men and women without overt psychopathology. (NEO-PI-R; Costa & McCrae, 1992).
6. NEO Five Factor Inventory- The 60-item NEO Five-Factor Inventory (NEO-FFI) was developed to provide a concise measure of the five basic personality factors. For each scale, 12 items were selected from the pool of 180 NEO Personality Inventory (NEO-PI) items, chiefly on the basis of their correlations with validity factor scores (NEO-FFI; Costa & McCrae, 1992).

7. MLQ (Multifactor Leadership Questionnaires) (Bass and Avolio, 1998).

For this study the MLQ 5X Short Form (45 item) is used because it has been cited 1223 times and is widely used for cross cultural proposes in Indian populations (Chatterjee & Krishnan, 2007). MLQ is mainly for studies of managers at various levels (Menon, and Krishnan, 2004).

It is the instrument most widely used to assess transformational leadership theory (Kirkbride, 2006) and “is considered the best validated measure of transformational and transactional leadership” (Ozaralli, 2003, p. 338). Leadership styles (transformational) is measured using the Multifactor Leadership Questionnaire (MLQ) Leader Form 5x-Short, as it assesses nine leadership factors and three leadership outcomes: viz., Idealized Influence (Attributed) (IIA), Idealized Influence (Behavior) (IIB), Inspirational Motivation(IM), Intellectual Stimulation (IS), Individual Consideration(IC), Contingent Reward (CR), Management-by-Exception (Active) (MBE-A), Management-by-Exception (Passive) (MBE-P), Laissez-faire Leadership (LL) and three leadership outcomes: extra effort (EE), effectiveness (EFF), and satisfaction (SAT).

The MLQ yields 12 scores. It's Form 5X is a valid and reliable instrument that can adequately measure the nine components comprising the full-range theory of transformational leadership and transactional leadership with three outcome measures. The Cronbach alpha produced, alpha = 0.86 for the original MLQ. It is a 5 point Likert scale ranging from 0-4, '0' representing 'Not at all,' and the score 4 representing 'frequently, if not always.' The tool assesses the previously indicated nine leadership factors viz., Inter correlations of 0.80 to 0.90 have been reported using the MLQ 5X with different scales representing each of these factors (Bass and Avolio, 1993).

The current study only uses the Leader form which is validated in Indian context and already used in Indian population (Ekkirala, Madhubala, and Goute, 2013 and Bass, 1997). MLQ is used in both genders. The mean and standard deviation are 5.11 ± 0.73 for male and 5.21 ± 0.60 for female and normative values of transformational leadership is 2.99 ± 0.54 (Preethy and Krishnan, 2012). The 12 scores or the components of MLQ are explained below.

The current study used MLQ Leader Form 5x-Short which is a 45-item questionnaire that attempts to determine the multiple factors constituting a person's leadership style in 12 areas.

DESCRIPTION AND SIGNIFICANCE OF 12 COMPONENTS OF MLQ

The following are 6 components of Transformational Leadership. All are having 4 items in it.

Idealized influence (attributed) (II-A): This refers to the socialized charisma of the leader, whether the leader is perceived as being confident and powerful, and whether he/she is viewed as focusing on higher-order ideals and ethics. In MLQ 5X, 47 item II-A is consisted of four items

Idealized influence (behavior): This refers to charismatic actions of the leader centered on values, beliefs, and a sense of mission.

Inspirational motivation: This refers to the ways leaders energize their followers by viewing the future with optimism, stressing ambitious goals, projecting an idealized vision, and communicating to followers that their vision is achievable.

Intellectual stimulation: This refers to leader's actions that appeal to followers' sense of logic and analysis by challenging followers to think creatively and find solutions to difficult problems.

Individualized consideration: This refers to leader behavior that contributes to follower satisfaction by advising, supporting, and paying attention to followers' individual needs, thus promoting their development and self-actualization.

Contingent reward leadership: (i.e., constructive transactions) This refers to leader behaviors focused on clarifying the role and task requirements, and providing followers with material or psychological rewards contingent on fulfillment of contractual obligations. The following are the three components of Transactional leadership. Each component has 4 items.

Management-by-exception active: This refers to the active vigilance of a leader whose goal is to ensure that standards are met.

Management-by-exception passive: The leaders only intervene after noncompliance has occurred or when mistakes have already happened.

Laissez-faire leadership: Laissez-faire leadership represents the absence of a transaction of sorts with respect to leadership in which the leader avoids making decisions, abdicates responsibility, and does not use his/her authority. It is considered active to the extent that the leader "chooses" to avoid taking action. This component is generally considered the most passive and ineffective form of leadership.

Extra Effort: This refers to the leader's ability to make the follower to go an extra mile to achieve the goal. In MLQ it has 3 items. This is the transformational leadership outcomes on followers.

Effectiveness: This component refers to the effectiveness of transformational style on followers. ‘I lead a group that is effective’ and ‘I am effective in representing others to higher authority’ are the kind of items that define transformational leadership. In MLQ effectiveness component is consisted of 4 items

Satisfaction: ‘I use methods of leadership that are satisfying’ and ‘I work with others in a satisfactory way’ are the 2 items that defines Satisfaction component of MLQ

5.9.2 General Health Questionnaire (GHQ)

Goldberg’s GHQ is a self-administered questionnaire (English version) identifying psychiatric morbidity in general practice. It consists of four 7- item four sub-scales: somatic symptoms (SS), anxiety & insomnia (AI), social dysfunction (SF) and severe depression (SP). It allows for mental health assessment of the four dimensions corresponding to these sub-scales. The subject is asked to assess changes in his/her mood, feelings and behaviors over the most recent four week period. It helps subjects to evaluate these occurrences on a 4-point response scale. Scale points are described as follows: “less than usual”, “no more than usual”, “rather more than usual”, and “much more than usual”.

The standard scoring method recommended by Goldberg for the need of case identification is called “GHQ method”. The test uses a binary method of scoring (0, 0, 1, 1), and has acceptable psychometric properties, good internal consistency and reliability, Cronbach's alpha, 0.85, and validity, 0.76. Test-retest reliability has been reported to be high (0.78 to 0.9) (Robinson and Price 1982) and inter-rater and intra-rater reliability have both been shown to be excellent (Cronbach’s α 0.9-0.95). High internal consistency has also been reported. Inter-correlations between sub-scales are quite high, with a mean correlation about 0.52 (range 0.40-0.62). This implies that the sub-scales are not independent of each other. The correlation coefficients between the sub-scales and the GHQ-28 total scale,

ranging from 0.75 (severe depression) to 0.89 (anxiety and insomnia), indicate the unidimensionality of the scale. The correlation coefficient between the sub-scale anxiety/insomnia and the GHQ-28 total scale is similar to figures previously reported by Goldberg and Hillier (1979); supporting the proposal that anxiety is the core phenomenon of psychological distress (Goldberg and Hillier, 1979).

5.9.3 Emotional Intelligence

The Assessing Emotions Scale, sometimes called the Emotional Intelligence Scale, the Self-reported Emotional Intelligence Test, or the Schutte Emotional Intelligence Scale, is based on Salovey and Mayer's (1990) original model of emotional intelligence, which proposed that emotional intelligence consists of appraisal of emotion in self and others, the expression of emotion, regulation of emotion in self and others, and utilization of emotion in solving problems. Subsumed under these branches are functions like verbal and non-verbal appraisal, expression of emotion and use of emotions to motivate, as part of utilization of emotions.

This study uses Schutte's EI scale, the EIS, which is based on a 4 point scale rating on 4 different scales. Items in the original Assessing Emotions scale were in English (Schutte et al., 1998), and most studies of the scale have used its English version. It is a 33-item self-report inventory focusing on typical emotional intelligence. Respondents rate themselves on items using a five-point scale, requiring, on average, five minutes for completing the scale. Its Cronbach's alpha is 0.90. Numerous studies have reported its internal consistency for diverse samples. The mean alpha across samples is 0.87.

The scale has four factors described as perception of emotions, managing emotions in the self, social skills or managing other's emotions, and utilizing emotions (Clarke, 2005).

Items in the sub-scales based on these factors are: Perception of Emotion (5, 9, 15, 18, 19, 22, 25, 29, 32, 33), Managing Own Emotions (2, 3, 10, 12, 14, 21, 23, 28, 31), Managing Others' Emotions (1, 4, 11, 13, 16, 24, 26, 30), and Utilization of Emotions (6, 7, 8, 17, 20, 27). All items occur once.

5.9.4 Vedic Personality Inventory (VPI)

The Vedic Personality Inventory (VPI), developed by Dr. David Wolf, is the most extensively researched and validated psychological assessment tool based on the three *gunas*. Further, the results from the VPI can serve as a foundation for scientific monitoring of systematic elevation of spiritual consciousness. The inventory assesses three personality constructs, the three *gunas Satva, Rajas* and *Tamas*, based on their descriptions in the most ancient Indian scriptures, the Vedas; hence, the inventory's name, VPI. It contains 15 items for *Satva Guna*, 19 for *Rajas* and 22 for *Tamas*, 56 in all. It has good internal consistency and reliability, Cronbach alpha values being 0.85 for *Satva*, 0.92 for *Rajas* and 0.70 for *Tamas*. In terms of discriminate validity, all but one facet had significant differences. VPI can assess the strength of the Vedic *Triguna* personality concepts, *Satva, Rajas* and *Tamas*, or modes of nature. Its items are derived from descriptions of each *Guna* compiled from *Bhagavad Gita* chapters 14, 17, & 18. Inter-sub-scale correlation shows a positive association between items of *Tamas* and *Rajas*. The VPI was devised to assess the validity of the Vedic concept of the three *gunas* or modes of nature as a psychological categorization system. Cronbach alpha for the three sub-scales ranged from 0.93 to 0.94, and the corrected item-total correlation of every item score with its sub-scale score was greater than 0.50. Three measures of convergent validity and four measures of discriminant validity provide evidence for construct validity. The loading of every item on its scale is

stronger for the intended sub-scale than for any other sub-scale. Although each sub-scale contains congeneric items, the factors are not independent. Wolf (1999) commented that the VPI requires psychometric development and cross-cultural testing as well as be experimental implementation in individual assessment and in group research.

5.10 DATA COLLECTION

Data was collected over a period of two months in three different camps of SMET conducted in Prashanti Kuteeram in the year 2012. SVYASA, Bangalore and India. The pre data were collected on day 1 before the five days of the intervention and post data were collected on day 6 after the intervention. Intervention was given by expert yoga trainers and data was collected by different people. Details are given in the below table format.

Camp No.	Dates	N		Age Range	Mean age±Sd	Type of Manager
		Male	Female			
1	11 th -15 th June, 2012	15	7	32-58	50.59±7.31	Low level
2	25 th -25 th June, 2012	31	5	36-59	51.67±5.80	Middle Level
3	9 th -13 th July, 2012	24	2	46-59	53.69±3.52	Top level

CHAPTER- 6.0

DATA EXTRACTION AND ANALYSIS

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6.0 DATA EXTRACTION AND ANALYSIS

Scores for leadership qualities, emotional intelligence, *gunas* and general health were obtained from subjects given the above mentioned questionnaires. Data were collected by different people, so several rounds of random cross check were performed after transforming the raw data into excel for analysis.

6.1 DATA EXTRACTION

- **Multi-factor Leadership Questionnaires** -The MLQ Leader Form 5x-Short is a 45- item questionnaire that attempts to determine the multiple factors constituting a person's leadership style and uses a 5-point Likert-type scale (0-4) indicating the frequency of use of each of the 12 areas being measured. Highest score indicates more leadership characteristics.
- **General health** data were extracted from the General Health Questionnaire, using its binary method of scoring (0, 0, 1, and 1). The cutoff score is 4; scores above cutoff, indicate poor health.
- **EI** is a 33 item questionnaire with its 5 point Likert scale (1-5) determining scores on its four sub-scales. Calculations of total scale scores, range from 33 to 165, require reverse coding of items 5, 28 and 33, and then summing all items. Larger scores indicate higher levels of emotional intelligence.
- **VPI** is a 56 item questionnaire with three domains, *satva*, *rajas*, and *tamas*. Its 7 point Likert-type scale indicates 1 = Very Strongly Disagree, 2 = Strongly Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6 = Strongly Agree, 7 = Very Strongly Agree.

6.2 DATA ANALYSIS

Data were analyzed using the 'R' statistical package. The packages required and used for the analysis are 'Rcmdr', 'fBasics', 'Quantpsych', 'ggplot2', 'car', 'boot' and 'Amelia'. Experts checked correct data entry by random cross checking. Pre-post comparisons used 'Paired Sample t-tests' 'Independent sample t-test' for demographic based group comparison. The partial correlation test was used for the moderating effects of various variables. Pre and Post Mean \pm Standard Deviation, Confidence Interval, and t- and p-values, and Effect Size are presented in the tables under Results section.

CHAPTER- 7.0

RESULTS

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7.0 RESULTS

7.1 DESCRIPTIVE STATISTICS

The detailed results are given in the tables below with the Pre and Post Mean, Standard Deviation, Sample Size, t-value, p-value, Confidence Interval and Effect Size. TABLES 8 and 9 explain the descriptive details of all the variables used in the study.

TABLE 9 shows, out of the study's eighty four subjects, 34.5% were healthy and 65.5% were unhealthy; 39.3% were under medication, whereas 60.7% were not; 29.8% were having habits while 70.2% were not; 17.8% subjects took regular exercise: 28.6% walking and jogging, and the other 53.6% subjects did nothing. None of the participants had prior exposure to yoga. The chi squared test was used to analyze categorical variables to check the proportions within the variables and goodness of fit. Among eight variables the proportions are equally distributed, except in two variables (medication and diet).

7.2 VARIABLE-WISE RESULTS

TABLE 10 summarizes the Multi factor Leadership Questionnaire results in the current study. There were positive changes in all the components of Transformational Leadership style. Idealized Influence-Attributed has increased by 5.88%, which has significantly increased from the pre score. Idealized Influence-Behaviour has increased by 0.82%, Inspirational Motivation has increased by 4.11%, Intellectual stimulation has increased by 9.3%, which statistically highly significant at $p < 0.001$, individualized consideration by 6.93%, contingent reward has increased by 2.59%. Again the Transactional Leadership which is negatively related to Transformational Leadership, there is decrease in all the components. Management -by- Exception (Active) has decreased by -0.37%, Management

-by- Exception (Passive) by -52.94%, which has decreased significantly $p < 0.05$ and Laissez-faire Leadership has decreased by -50.77% and this is also statistically highly significant $p < 0.000$. There should be a decrease in these components. The last three components, namely, Effectiveness, Extra effort and Satisfaction had shown an increased score of 1.07%, 1.92% and 0.60% respectively. And, a positive trend was noticed in the Post mean scores in comparison to pre mean scores.

Clinical Variables: There were improvements in all the objective parameters of general health. Systolic BP ($p < 0.001$), PR ($p < 0.001$), RR ($p < 0.001$) and weight ($p < 0.05$) changed significantly, while Diastolic BP ($p > 0.05$) was not significant, overall indicating better health. See TABLE 12.

Personality: Following the intervention, all *guna* personality traits *Satva*, *Rajas* and *Tamas* changed significantly ($p < 0.001$). The *Satva* and *Rajas* components increased by 5.33% and 8.53%, respectively, whereas *Tamas* was 18.20% lower. TABLE 14 presents details of Mean \pm SD, Percent change, confidence interval, and 't' and p values.

EI: All the components of Emotional Intelligence changed significantly; Perception of Emotions increased by 4.98 %, Managing own Emotions increased by 4.44%, Managing Others Emotions increased by 3.04%, all with significance $p < 0.001$, whereas the 1.95% observed increase in Utilization of Emotions was not statistically significant. TABLE 15 presents Mean \pm SD, percentage change, confidence interval of the mean difference, and 't' and p values.

**TABLE 8: DESCRIPTIVE STATISTICS OF MEDICAL PARAMETERS, EI, GHQ
AND VPI**

Variables	Sample Size (n)	Pre Mean±sd	Post Mean±sd
BP Systolic	84	130.08±12.92	125.55±12.5
BP Diastolic	84	82.17±10.66	81.29±7.65
Pulse Rate	84	77.62±8.23	75.17±6.93
Respiratory Rate	84	18.11±3.68	16.7±2.67
Weight	84	73.67±11.37	73.44±11.15
Perceptions of Emotions	84	33.31±3.62	34.96±3.75
Managing one's own Emotions	84	33.06±2.8	34.52±3.14
Managing others' Emotions	84	30.92±3.27	31.86±3.28
Utilization of Emotions	84	23.62±2.58	24.08±2.82
Total Emotional Intelligence	84	120.9±8.94	125.43±10.74
Somatic Symptoms	84	0.93±1.46	0.24±0.69
Insomnia and Anxiety	84	1.37±1.85	0.24±0.75
Social Dysfunction	84	0.7±1.41	0.14±0.38
Severe Depression	84	0.35±0.86	0.12±0.48
GHQ Total	84	3.35±4.07	0.74±1.47
<i>Tamas</i>	84	25.56±4.72	21.98±4.97
<i>Rajas</i>	84	30.31±3.64	29.32±3.53
<i>Satva</i>	84	44.13±6.65	48.7±6.63

The table depicts the descriptive statistics of different variables used in the study like *Guna* components, general health parameters, emotional intelligence and general health. The sample size were eighty four. The Pre-Post mean with Standard deviation is stated in the

TABLE

TABLE 9: CHI SQUARE RESULTS OF DEMOGRAPHIC DETAILS

Variables Name	Level	Frequency	Percentage	x-Squared	p-value
Health Status	Healthy	28	34.52%	9.33	<0.01
	Unhealthy	56	65.47%		
Medication	Yes	34	39.28%	3.04	0.08
	No	50	60.71%		
Diet	Vegetarian	46	54.76%	0.76	0.38
	Non-vegetarian	38	45.23%		
Habits	Yes	25	29.76%	13.76	<0.001
	No	59	70.23%		
Activities	Exercise	24	17.85%	16.92	<0.001
	Walking & Jogging	15	28.57%		
	None	45	53.57%		
Gender	Male	70	83%	37.33	<0.001
	Female	14	17%		
Education status	Undergraduate	67	80%	29.76	<0.05
	Postgraduate	17	20%		
Designation	Low	12	14%	14.85	<0.001
	Middle	40	48%		
	Top	32	38%		

7.2 VARIABLE WISE RESULTS

TABLE 10: RESULTS OF MLQ PRE-POST SCORES

Sl. No	Variables Studied	Pre Mean \pm SD	Post Mean \pm SD	% Change	t-Value	ES	P-Value
1	Idealized Influence-Attributed	2.89 \pm 0.67	3.06 \pm 0.61	5.88%	2.12	0.27	0.03*
2	Idealized Influence-Behaviour	3.11 \pm 0.51	3.13 \pm 0.62	0.82%	0.26	0.03	0.79
3	Inspirational Motivation	3.16 \pm 0.55	3.29 \pm 0.65	4.11%	1.46	0.19	0.14
4	Intellectual Stimulation	2.87 \pm 0.60	3.13 \pm 0.65	9.3%	3.44	0.43	0.001**
5	Individualized Consideration	2.74 \pm 0.64	2.93 \pm 0.71	6.93%	1.7	0.22	0.09
6	Contingent Reward	3.09 \pm 0.85	3.17 \pm 0.61	2.59%	0.99	0.10	0.32
7	Management by exception - Active	2.70 \pm 0.80	2.69 \pm 0.85	-0.37%	-0.13	0.01	0.89
8	Management by exception- Passive	2.21 \pm 0.64	1.04 \pm 0.76	-52.94%	-2.14	1.55	0.03*
9	Laissez-faire Leadership	1.34 \pm 0.68	0.66 \pm 0.73	-50.74%	-6.71	0.83	0.000***
10	Extra Effort	2.89 \pm 0.43	2.92 \pm 0.81	1.04%	0.25	0.04	0.79
11	Effectiveness	3.12 \pm 0.58	3.18 \pm 0.71	1.92%	0.62	0.08	0.53
12	Satisfaction	3.32 \pm 0.55	3.34 \pm 0.69	0.60%	0.19	0.03	0.84

* p<0.05, **p<0.001, significance of paired sampled t-test, ES-Effect Size

p - Values suggest that Idealized Influence – Attributed, Intellectual Stimulation (IS) increased. MBE-A and LL decreased following SMET.

TABLE 11: RESULTS GENERAL HEALTH QUESTIONNAIRE

Variables	Pre Mean ± SD	Post Mean ± SD	% Change	95%CI	t-Value	Effect Size
Somatic Symptoms	0.93±.68	0.24±1.46	71.19%	(-1.02) to (0.35)	-4.1***	0.16
Insomnia and Anxiety	1.37±1.85	0.24±.75	82.48%	(-1.51) to (0.74)	-5.83***	0.63
Social dysfunction	0.7±1.41	0.14±.38	80%	(-0.85) to (2.26)	-3.8***	0.41
Severe Depression	0.35±.85	0.12±.47	65.71%	(-0.39) to (0.05)	-2.65**	0.29
Total	3.35±4.06	0.74±1.46	77.91%	(-3.42) to (1.79)	-6.37***	0.68

Note: Significance of p-value: **p<0.01, ***p<0.001, CI- Confidence Interval

GHQ: Following SMET workshop, all GHQ domains were higher. SS (p<0.001), AI (p<0.001), SF (p<0.001) and SP (p<0.01); significance of the total GHQ change was p<0.001.

TABLE 12: RESULTS OF GENERAL CLINICAL PARAMETERS

Variables	Pre Mean ± SD	Post Mean ± SD	% Change	95% CI	t-value	Effect Size
Systolic Blood Pressure	130.08±7.64	125.55±10.65	3.84%	(-6.5) to (-2.56)	- 4.47***	0.63
Diastolic Blood Pressure	82.17±12.92	81.29±12.05	3.48%	(-3.29) to (1.52)	-0.72	0.05
Pulse Rate	77.62±8.22	75.17±6.93	3.15%	(-3.88) to (- 1.01)	-3.4***	0.37
Respiratory Rate	18.11±3.68	16.7±2.66	7.78%	(-2.25) to (- 0.55)	- 3.29***	0.36
Weight	73.67±11.36	73.44±11.14	0.3%	(-0.45) to (0.001)	-2*	0.20

Note: Significance of p-value: * p<0.05, **p<0.01, ***p<0.001, CI- Confidence Interval

TABLE 13: RESULTS OF VEDIC PERSONALITY INVENTORY

Variables	Pre Mean ± SD	Post Mean ± SD	% Change	95%CI	Effect Size	t-Value
<i>Tamas</i>	70.26±19.76	57.47±17.91	18.20%	9.02 to 16.3	0.71	6.77***
<i>Rajas</i>	71.47±14.55	65.85±13.16	8.53%	2.91 to 8.32	0.47	4.13***
<i>Satva</i>	80.58±8.63	84.88±8.65	5.33%	(-6.2) to (- 2.33)	0.56	- 4.35***

Note: Significant level of P: value- * p<0.05, **p<0.01, ***p<0.001, CI- Confidence Interval.

FIGURE 2: TRIANGLE PLOT OF PRE GUNA

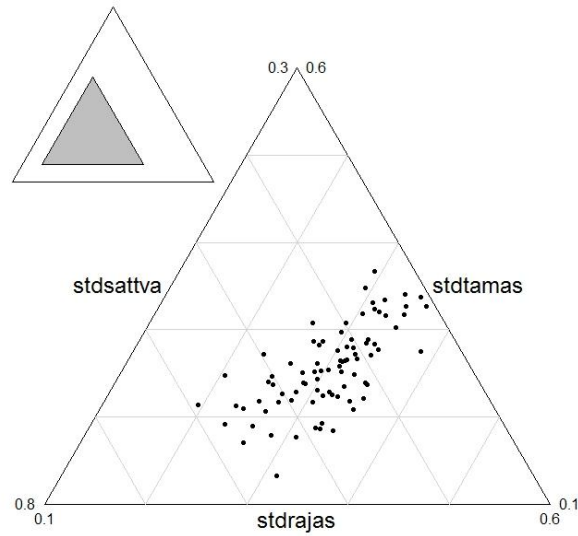
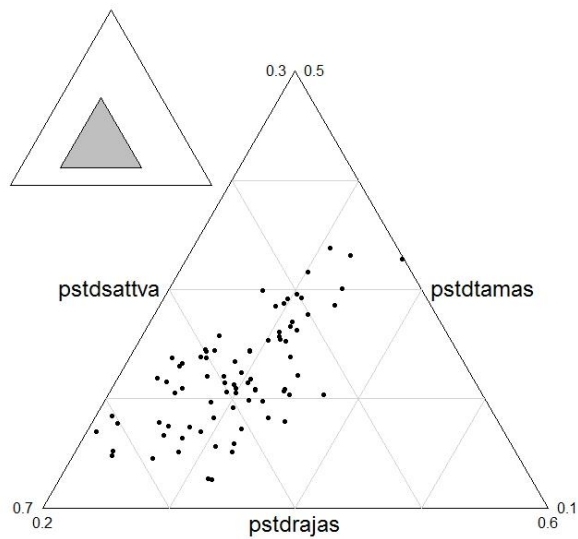


FIGURE 3: TRIANGLE PLOT OF POST GUNA



The Pre Guna scores were at the middle values for *Rajas* and *Tamas*. After the intervention the scores shifted to the higher values towards *Satva*.

TABLE 14: RESULTS OF EMOTIONAL INTELLIGENCE

Variables	Pre Mean ± SD	Post Mean ± SD	% Change	95% CI	t-value	Effect Size
Perception of Emotions	33.30±3.62	34.96±3.14	4.98%	(-2.41)to (0.89)	- 4.35***	0.51
Managing own Emotions	33.05±2.79	34.52±3.75	4.44%	(-2.17) to (0.75)	- 4.09***	0.39
Managing others Emotions	30.91±3.26	31.85±3.27	3.04%	(-1.68) to (0.19)	-2.5**	0.27
Utilizations of Emotions	23.61±2.57	24.08±2.82	1.95%	(-1.19) to (0.26)	-1.27	0.14
Total	120.9±8.93	125.42±10.73	3.73%	(-6.76) to (2.28)	- 4.02***	0.43

Note: Significance of p-value: * p<0.05, **p<0.01, ***p<0.001, CI- Confidence Interval.

7.3 RESULT OF MODERATING VARIABLES

The correlation between Post GHQ total and Post EI total is (-0.25) which is a total effect.

The corresponding p-value is p<0.01 which is statistically highly significant. In the presence of *satva guna* as a moderating variable, the correlation between the above stated variable is decreased to (-0.16) which is a partial effect. The corresponding p-value is p>0.05 (0.12). In the presence of *rajas guna* as a moderating variable the correlation between the above stated variable is decreased to (-0.20) which is a partial effect. The corresponding p-value is p=0.05. Similarly, in the presence of *tamas guna* as a moderating variable the correlation between the above stated variable is decreased to 0.08 which is a partial effect. And the corresponding p-value is p>0.05 (0.16). *Tamas* is completely

moderating the relation between the General Health and Emotional Intelligence significantly than *satva* and *rajas*. *Rajas* has a medium role in moderation and *satva* is low moderation. It is concluded that *tamas* weakens the relation between emotional intelligence and general health, whereas the presence of *satva* guna makes the relation stronger.

7.4 RELIABILITY

The Scale reliability of all the questionnaires used for the study were calculated from obtained post data. The alpha reliability for the Multifactor Leadership Questionnaire (MLQ) was 0.89 from our study, similarly reliability score obtained for 12 components of MLQ were as follows. Idealized Influence (Attributed) - 0.53, Idealized Influence (Behaviour) - 0.63, Inspirational Motivation - 0.74, Intellectual Stimulation - 0.68, Individualized Consideration - 0.74, Contingent Reward - 0.45, Management-by-Exception (Active) - 0.73, Management-by-Exception (Passive) - 0.53, Laissez-faire Leadership - 0.58, Extra Effort - 0.66, Effectiveness - 0.76.

For Vedic Personality Inventory, the alpha reliability obtained was 0.80, in which *satva* component - 0.72, *rajas* - 0.76 and *tamas* - 0.85.

For General Health Questionnaire, alpha was 0.88, in which the four component alpha obtained were Somatic Symptoms - 0.74, Anxiety and Depression - 0.82, Social Dysfunction - 0.75, Severe Depression - 0.72.

For Emotional Intelligence, alpha obtained was 0.84, in which the four components Perception of Emotions - 0.59, Managing own Emotions - 0.61, Managing Others' Emotions - 0.58 and Utilizations of Emotions - 0.60.

CHAPTER- 8.0

DISCUSSION

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8.0 DISCUSSIONS

8.1 SUMMARY OF RESULTS

Recapitulating the findings of MLQ study, there were positive changes in all the components of Transformational leadership style. Idealized Influence-Attributed has increased by 5.88%, which has significantly increased from the pre score. Idealized Influence-Behaviour has increased by 0.82%, Inspirational Motivation has increased by 4.11%, Intellectual stimulation has increased by 9.3%, which is statistically highly significant at $p < 0.001$, individualized consideration by 6.93%, contingent reward has increased by 2.59%. Again the Transactional Leadership which is negatively related to Transformational Leadership, there is decrease in all the components. Management -by- Exception (Active) has decreased by -0.37%, Management -by- Exception (Passive) by -52.94%, which has decreased significantly $p < 0.05$ and Laissez-faire Leadership has decreased by -50.77% and this is also statistically highly significant $p < 0.000$. There should be a decrease in these components. The last three components, namely, Effectiveness, Extra effort and Satisfaction had shown an increased score of 1.07%, 1.92% and 0.60% respectively. And, a positive trend was noticed in the Post mean scores in comparison to Pre mean scores.

In the current study of General Health, Somatic Symptoms improved by 71%, Anxiety and Insomnia by 82%, Social Dysfunction by 80% and Severe Depression by 66% and overall GHQ scores increased by 78%. To measure the results effectively, we assessed MLQ by carrying out a post-hoc power analysis (Power analysis can assist in study design by determining what sample size would be required in order to have a reasonable

chance of rejecting the null hypothesis when the alternative hypothesis is true), with G* Power software. This showed that the study had achieved a correlational effect size of 0.51 and a power of 0.98. This clearly shows the power of the intervention. The stated objective of this study was to evaluate the effect of an intensive Yoga intervention module on transformational leadership development; the above findings adequately satisfy this aim and its various objectives. Similarly, there were significant changes in the general health parameters. All the components of emotional intelligence were higher after the intervention. In the *guna* (VPI) variable *satva* was found highly increased, *rajas* and *tamas* significantly decreased. From the results we conclude that all the variables are showing significant changes as a result of short term integrated yoga module.

8.2 COMPARISON WITH EARLIER STUDIES

Similar observations were also noticed in previous studies, significant changes were observed in inspirational motivation by 8.28%, management by exception by 43.22%, effectiveness by 8.66%, attributed and satisfaction by 28.57% (Cunningham and Kitson, 2000). Improvements noticed in the earlier study with conventional training programs as intervention were quite different from the current findings with Integrated Yoga Module intervention. In another interventional study, conventional training program of two days of leadership development with 6 months of follow-up showed improvement in eight domains of MLQ, idealized influence-behavior, inspirational motivation, intellectual stimulation, individualized consideration, contingent reward, and active management-by-exception (Krishnan, 2000). In the earlier studies of transformational leadership with MLQ as a measurement tool, there were no significant changes in all of the 12

components. In the current study, Idealized Influence- attributed, Intellectual Stimulation improved significantly. Again components like management -by- Exception (Active), Management -by- Exception (Passive) and Laissez-faire Leadership are negatively related to transformational leadership decreased significantly. There should be a decrease in these components, which is seen in the current study. The last three components such as Effectiveness, Extra effort and Satisfaction whose outcomes of transformational leadership are more relevant and effective in the workplace, where the leaders have subordinates to show their improvements and rather sub-ordinates can better rate the changes in their leader's interventional effect. As the post data were collected in the intervening place itself, there was no statistical significance. But a trend of improvement was observed in the same. Transformational leadership characteristics are found to have a significant relationship with job satisfaction. Among these characteristics, individualized consideration is known to contribute most to job satisfaction (Long, Yusof, Kowang and Heng, 2004). Managers practicing Karma-Yoga can adopt Transformational Leadership style easily (Satpathy, 2011). Spiritual intelligence is the backbone of corporate life (Sharma and Prasad, 2013). Previous findings suggest that transformational leadership is correlated with emotional quotient and emotional intelligence (Raina and Sharma, 2013) and *Guna* personality traits (Krishnan, 2005).

In investigations of SMET's impact on corporate life, Kumari, Nath, and Nagendra (2007) demonstrated that it improves emotional stability, while Adhia, Nagendra and Mahadevan (2010) and Ganpat and Nagendra (2011) demonstrated improvements in emotional intelligence in top line corporate managers and leaders. Emotional intelligence is a prerequisite for successful leadership, and individuals high in emotional intelligence

are more likely to use transformational behavior. Leaders who know and can manage their emotions, and who display self-control and delay gratification, can serve as role models for their employees, enhancing their trust in, and respect for, their leaders, consistent with the essence of idealized influence. Understanding others' emotions, leaders with high emotional intelligence are ideally placed to know the extent to which followers' expectations can be raised, a hallmark of inspirational motivation. A major component of individualized consideration is the ability to understand followers' needs and interact accordingly. With EI's emphasis on empathy and ability to manage relationships positively, leaders manifesting emotional intelligence are more likely to show individualized consideration (Goleman, 1998^a, 1998^b). In addition to these findings, previous psycho-physiological research has shown that SMET's key component, namely, Cyclic Meditation can positively impact on attention (Saranga and Telles, 2006), slow wave sleep (quality of sleep) in healthy volunteers (Patra and Telles, 2010) and reduce physiological stress in corporate leaders (Vempati and Telles, 2000). Yoga has already been found effective in reducing anxiety (Lakkireddy et al., 2013) and levels of stress (Yoshihara, Hiramoto, Oka, Kubo and Sudo, 2014). Since stress reduces leadership abilities by increasing levels of diurnal cortisol (Sherman et al., 2012), SMET should produce noticeable changes in leaders' MLQ scores.

Improved trends in all domains of GHQ and clinical variables were observed following the SMET intervention, clearly indicating that its practices improve health conditions. Ganpat and Nagendra (2011) reported decreases in somatic symptoms by 68.25%, ($p < 0.001$) anxiety and insomnia by 65% ($p < 0.001$), social dysfunctions by 65% ($p < 0.001$), and severe depression by 87.08% ($p < 0.001$). In all variables the percentage

change was higher than in the previous study. Anxiety, depression and dissatisfaction results in serious ill health and these are well documented. Studies of Cyclic Meditation (CM), which is the key component of SMET, found it effective in improving memory scores and lowering state anxiety (Subramanya and Telles, 2009). Its practice has also been reported to enhance slow wave sleep (Patra and Telles, 2010). Additionally, the integrated yoga therapy module has been found to improve various psychosomatic ailments (Ebnezar, Nagarathna, Yogitha, and Nagendra, 2012, Patil, Nagaratna, Garner, Raghuram, and Crisan, 2012).

Studies show that those in higher employment positions rank better in health, have higher socioeconomic status, i.e. education and income, tend to have better health (Williams et al., 2001) and lower evening cortisol levels (Dickerson and Kemeny, 2004). Possessing control over a stressor alters its physiological consequences (Taylor et al., 200), reducing amounts of cortisol released. Similarly, individuals who believe that they have control over their lives tend to have lower cortisol levels (Cohen et al., 2006). The SMET intervention resulted in a significant increase in scores on Perception of Emotions, Managing own Emotions and Managing Other's Emotions. No significant change was observed in Utilization of Others' Emotions, a deficiency needing to be addressed. Earlier studies have shown positive results in parameters in Vedic Personality Inventory and EI. The only available study on leadership development found significant change in 2 factors out of MLQ's 12 assessing transformational leadership (Krishnan, 2007). In addition to MLQ and GHQ, EI and VPI were administered as supporting variables to see whether SMET can play a role in refining a leader's personality and emotions. Significant changes in personality were observed, i.e. *Satva* component increased, whereas the *Rajas* and

Tama components decreased. Similarly EI components, perception of emotion, managing their own emotion and managing other's emotion improved, making it evident that manager's personality and emotions improved significantly.

A question might arise if a 5-day program such as described here could change *gunas* and if the changes could be permanent. In the experiments reported here it is found that *gunas* could indeed change within a span of 5 days of intense practice of IAYT. It is observed in the literature also that *gunas* could change over a short period of time (Tikhe, 2011). Once neural pathways are established for certain type of behavior and attitude, it is likely it will be a preferred pathway of activity in future also. This is observed as a result of many behavioral and learning strategies.

8.3 POSSIBLE MECHANISM

Improvements in the five layers of the *pancha kosa* level indicate improvements in the person's overall physical, mental and spiritual aspects. All these can contribute to leadership. In this study three parameters improved significantly, named idealized influence (attributed), Intellectual Stimulation and Individualized Consideration of MLQ. Positive changes in these parameters and especially in Intellectual Stimulation represents intellectual and spiritual improvement, which is related to *manomaya kosa*. After the practices of the five days it is observed that the wrong notions are corrected by attending to the discourses. It shows that *manomaya kosa* and *vijnanamaya kosa* were deeply influenced. Hence, there was a change in *guna* and especially the intellectual stimulation component of the multifactor leadership questionnaire. Leaders with *satvic* personalities may be expected to be more emotionally stable; the way they perceive and manage

emotions is better than those with *rajasic* and *tamasic* personalities. A *satvic* person is balanced, mentally and emotionally stable, and therefore a better leader. Stressors in work environments affect personality over time; those who do not cope with demanding situations become emotionally less stable, which compromises their health. Though the *guna* or personality is a trait, the yoga intervention was intense in nature. The subjects were in the ashram area. They underwent the yoga based SMET program from morning 5 am tonight 9.p.m. They were taking *satvic* vegetarian food and life was completely different for five days compared to their usual way. *Guna* change is a feature of *Jagat* (Universe), ratios may vary in all *trigunas*. Two billion cells die every moment and we change every moment. So, *gunas* also change, but the predominance is maintained through practice of *yoga*. By conscious effort one can change. So, there was a significant change in *guna*. The Post- hoc analysis of correlation effect size of the intervention was as high as 0.71. IYM Yoga adopts a total approach in treating human personality, and is theoretically understood in terms of its actions on the *Pancha koshas*, the five layers of human existence from gross to subtle to subtlest. For corrections of the *annamaya kosha*, the purely material, gross level of the human body, the functional tools that were used are *asanas* (yogic physical postures), *Kriya* (yogic cleansing techniques), *Ahara* (diet), and *Vihara* (lifestyle changes and prescriptions); for the *Pranamaya kosha*, tools are both *asanas* (since the effect of alternating stretching and releasing muscle sets is to restore muscle softness and muscle-tone, and thus to restore balance to flow of *prana* along the meridians located in the muscle sheaths); *pranayama* (practices involving voluntary regulation of breathing); for *Manomaya kosa*, *Vyavahara* (behavior) and *Vichara* (quality of thoughts) since these directly affect how one and one's neighbors feel. Moreover

SMET is practiced to reduce unsteadiness of mind; at the *Vijnanamaya kosa* level, yogic counseling is used to identify the root cause of the problem, and spiritual discourses to correct imbalances in beliefs, which can also drive *doshas* out of balance; finally, at the *anandamaya kosa* level, the tool is karma yoga, voluntary work without being attached either to the work or its results, to free the participant from the influence of the little ego. The whole program is a profound way of releasing stress (Patra and Telles 2010), which probably results from its system of extra deep relaxation. The total effect is an upward spiral of movement. Regular practice of IYM generates a sense of wellness and thus increases the Quality of Life. Employee wellness and health leads to improved productivity, which in turn leads to improved business competitiveness and economic prosperity which leads to an improved sense of well-being, and so the spiral continues. At the physical level musculoskeletal functioning, cardiopulmonary status, ANS response and endocrine functioning all improve; at the psychosocial level, self-esteem, social support and positive mood are all enhanced; and at the spiritual level mindfulness, understanding and compassion are all elevated. These research findings illustrate the mechanisms by which yoga produces its effects and its high efficacy in management of work stress. In general, health problems improved. Finally, Emotional Intelligence, which is increased remarkably through yoga practice, is the key to galvanizing leadership, optimizing interpersonal relationships, and thus for team building. Spiritual intelligence that is subsequently increased through further yoga practices produces empathy, farsightedness, compassion and universal love, and a sense of holism, impacting corporate social responsibility.

CHAPTER- 9.0

APPRAISAL

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9.0 APPRAISAL

9.1 SUMMARY & CONCLUSION

SMET, as an integrated yoga module is an important yoga tool that induces depth of perception and relaxation bringing about vital physiological changes resulting in a total change in managers' general health. We may conclude that SMET develops leadership qualities in managers. This was the aim of this study, which was successfully achieved. In particular, the significant improvements in scores on the Multi Factor Leadership Questionnaire suggest significant leadership development following participation in the IYM. Other hypotheses were that IYM would promote leaders' emotional intelligence, *guna* and psychological well-being, and general health parameters: all showed significant improvements. We, therefore, conclude that even short term IYM courses constitute everlasting universal means for workplace wellness and excellence, and should therefore be included as an indispensable part of corporate culture. They minimize medical expenditure and maximize corporate performance and productivity. It is possible the practices outlined here could also improve relationships at home and in one's social interactions. Thus, improvements in the *panchakosa* of one's multi layered personality are expected to have a global effect in all that one does and with all one interacts. Improving, health, emotional intelligence and *guna* personality traits improve leadership qualities resulting in better leaders.

9.2 STRENGTHS OF THE STUDY

This is the first systematic yoga intervention investigation in study field of leadership development. This is the first study with yoga intervention for the development of transformational leadership. The study is entirely reproducible. It is a cost effective intervention tool to any organization to implement.

9.3 LIMITATIONS OF THE STUDY

The study did not have a control group for comparison purposes. If it had been conducted in a workplace environment, the day to day problems faced by leaders and how the intervention helps them tackle such problems would have been clear. The study could not obtain the rater's data which is the follower's data to check the actual changes in the leaders. This study did not address long term sustainable benefits of the intervention as no follow up of subjects was undertaken. The sample size was too small to prove the research findings. In yoga interventions, blinding the subjects to intervention is not possible.

9.4 BENEFITS AND IMPLICATIONS OF THE STUDY

The result of the study has shown that yoga is very beneficial for the development of leadership. It is cost effective and easy to implement as intervention. Its acceptability is also higher. IYM is easily adaptable. It offers the management sector a new paradigm for developing various qualities in managers, and for building better leaders in any sector.

9.5 SUGGESTIONS FOR FUTURE RESEARCH

Further studies should include control groups, and evaluate many specific leadership qualities emerging as a result of yoga interventions. Moreover, this should be done in many different populations. Also, sustainability of observed effects should be checked through longitudinal studies.

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APPENDICES

APPENDICES	
APPENDIX 1.0	CONSENT FORM
APPENDIX 2.0	DEMOGRAPHIC FORM
APPENDIX 3.0	INSTRUMENTS USED
APPENDIX 4.0	SCORING KEY
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Appendix-1

INFORMED CONSENT FORM

Title of the Study: Effect of Integrated Yoga Module on Leadership development of managers

Investigator: Padmavati Maharana

Guide: Dr. H.R. Nagendra, ME, PhD

Co-Guide: T M Srinivasan, PhD

About the Project: This study aims at to see the inherent leadership qualities and can Integrated Yoga Module be a solution in the development of leadership qualities in one month introduction to yogic practices. The participants will have to fill up the questionnaires such as multi-factor leadership questionnaires, *vedic* personality inventory, general health questionnaires, emotional intelligence questionnaire and all the participants will undergo general health parameters Viz., blood pressure, pulse rate, respiratory rate, weight.

All the information obtained during the study will be kept confidential. You can withdraw from the study at any point of time unconditionally.

I hereby have understood the above & consent voluntarily to participate in the study

Signature of the participant

Signature of the investigator

APPENDIX 2

SOCIO-DEMOGRAPHIC DATA SHEET

Age:

Sex: (male/female)

Religion:

Educational status (in yrs):

Occupation:

Are you having any health problem?

A. Yes B. No

Are you in Medication? A. Yes B. No

Have you been practicing any activities? A. Exercise, walking B. Yoga, C. None

Diet A. Vegetarian B. Non-vegetarian

Habits? A. Yes B. No

Name:

Date:

**APPENDIX 3
INSTRUMENTS USED
MULTIFACTOR LEADERSHIP QUESTIONNAIRES (MLQ 45, SHORT
5X)**

0-Not at all, 1-Once in a while, 2- Sometimes, 3-Fairly often, 4-Frequently if not always

1	I provide others with assistance in exchange for their efforts	0	1	2	3	4
2	I re-examine critical assumptions to question whether they are appropriate	0	1	2	3	4
3	I fail to interfere until problems become serious.	0	1	2	3	4
4	I focus attention on irregularities, mistakes, exceptions and deviation for standards.	0	1	2	3	4
5	I avoid getting involved when important issues arise.	0	1	2	3	4
6	I talk about my most important values and beliefs.	0	1	2	3	4
7	I am absent when needed.	0	1	2	3	4
8	I seek differing perspectives when solving problems.	0	1	2	3	4
9	I talk optimistically about the future.	0	1	2	3	4
10	I instill pride in others for being associated with me.	0	1	2	3	4
11	I discuss in specific terms who is responsible for achieving performance targets.	0	1	2	3	4
12	I wait for things to go wrong before taking action.	0	1	2	3	4
13	I talk enthusiastically about what needs to be accomplished.	0	1	2	3	4
14	I specify the importance of having a strong sense of purpose.	0	1	2	3	4
15	I spend time teaching and coaching.	0	1	2	3	4
16	I make clear what one can expect to receive when performance goals are achieved	0	1	2	3	4
17	I show that I am a firm believer in "If it ain't broke, don't fix it"	0	1	2	3	4
18	I go beyond self-interest for the good of the group.	0	1	2	3	4
19	I treat others as individuals rather than just as a member of a group.	0	1	2	3	4
20	I demonstrate that problems must become chronic before I take action.	0	1	2	3	4
21	I act in ways that build others' respect for me	0	1	2	3	4
22	I concentrate my full attention on dealing with mistakes complaints, and failures.	0	1	2	3	4
23	I consider the moral and ethical consequences of decisions.	0	1	2	3	4

24	I keep track of all mistakes	0	1	2	3	4
25	. I display a sense of power and confidence.	0	1	2	3	4
26	I articulate a compelling vision of the future.	0	1	2	3	4
27	I direct my attention toward failures to meet standards.	0	1	2	3	4
28	I avoid making decisions.	0	1	2	3	4
29	I consider an individual as having different needs, abilities, and aspirations from others.	0	1	2	3	4
30	I get others to look at problems from many different angles.	0	1	2	3	4
31	I help others to develop their strengths.	0	1	2	3	4
32	I suggest new ways of looking at how to complete assignments.	0	1	2	3	4
33	I delay responding to urgent questions.	0	1	2	3	4
34	I emphasize the importance of having a collective sense of mission.	0	1	2	3	4
35	I express satisfaction when others meet expectations.	0	1	2	3	4
36	I express confidence that goals will be achieved.	0	1	2	3	4
37	I am effective in meeting others' job-related needs.	0	1	2	3	4
38	I use methods of leadership that are satisfying.	0	1	2	3	4
39	I get others to do more than they expected to do.	0	1	2	3	4
40	I am effective in representing others to higher authority.	0	1	2	3	4
41	I work with others in a satisfactory way.	0	1	2	3	4
42	I heighten others' desire to succeed.	0	1	2	3	4
43	I am effective in meeting organizational requirements.	0	1	2	3	4
44	I increase others' willingness to try harder.	0	1	2	3	4
45	I lead a group that is effective.	0	1	2	3	4

QUESTIONNAIRES- 2 GENERAL HEALTH QUESTIONNAIRES (GHQ-28)

David Goldberg

Name:

Date:

Please read this carefully.

We should like to know if you have had any medical complaints and how your health has been in general, *over the past few weeks*. Please answer ALL the questions on the following pages simply by underlining the answer which you think most nearly applies to you. Remember that we want to know about present and recent complaints, not those that you had in the past.

It is important that you try to answer ALL the questions.

Thank you very much for your co-operation.

Have recently

A1	Been feeling perfectly well and in good health?	Better than usual	Same as usual	Worse than usual	Much worse than usual
A2	Been feeling in need of a good tonic?	Not at all	No more than usual	Rather more than usual	Much more than usual
A3	Been feeling run down and out of sorts?	Not at all	No more than usual	Rather more than usual	Much more than usual
A4	Felt that you are ill?	Not at all	No more than usual	Rather more than usual	Much more than usual
A5	Been getting any pains in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A6	Been getting a feeling of tightness or pressure in your head?	Not at all	No more than usual	Rather more than usual	Much more than usual
A7	Been having hot or cold spells?	Not at all	No more than usual	Rather more than usual	Much more than usual

			than usual	than usual	than usual
B1	Lost much sleep over worry?	Not at all	No more than usual	Rather more than usual	Much more than usual
B2	Had difficulty in staying asleep once you are off?	Not at all	No more than usual	Rather more than usual	Much more than usual
B3	Felt constantly under strain?	Not at all	No more than usual	Rather more than usual	Much more than usual
B4	Been getting edgy and bad-tempered?	Not at all	No more than usual	Rather more than usual	Much more than usual
B5	Been getting scared or panicky for no good reason?	Not at all	No more than usual	Rather more than usual	Much more than usual
B6	Found everything getting on top of you?	Not at all	No more than usual	Rather more than usual	Much more than usual
B7	Been feeling nervous and strung-up all the time?	Not at all	No more than usual	Rather more than usual	Much more than usual
C1	Been managing to keep yourself busy and occupied?	Not at all	Same as usual	Rather less than usual	Much less than usual
C2	Been taking longer over the things you do?	Quicker than usual	Same as usual	Longer than usual	Much longer than usual
C3	Felt on the whole you were doing things well?	Better than usual	About the same	Less well than usual	Much less well
C4	Been satisfied with the way you've carried out your task?	More satisfied	About same as usual	Less satisfied than usual	Much less satisfied
C5	Felt that you are playing a useful part in things?	More so than usual	Same as usual	Less useful than usual	Much less useful
C6	Felt capable of making decisions about things?	More so than usual	Same as usual	Less so than usual	Much less capable

C7	Been able to enjoy your normal day-to-day activities?	More so than usual	Same as usual	Less so than usual	Much less than usual
D1	Been thinking of yourself as a worthless person?	Not at all	No more than usual	Rather more than usual	Much more than usual
D2	Felt that life is entirely hopeless?	Not at all	No more than usual	Rather more than usual	Much more than usual
D3	Felt that life isn't worth living?	Not at all	No more than usual	Rather more than usual	Much more than usual
D4	Thought of the possibility that you might make away with yourself?	Definitely not	I don't think so	Has crossed my mind	Definitely have
D5	Found at times you couldn't do anything because your nerves were too bad?	Not at all	No more than usual	Rather more than usual	Much more than usual
D6	Found yourself wishing you were dead and away from it all?	Not at all	No more than usual	Rather more than usual	Much more than usual
D7	Found that the idea of taking your own life kept coming into your mind?	Definitely not	I don't think so	Has crossed my mind	Definitely has

A

B

C

D

Total

QUESTIONNAIRES-3 THE VEDIC PERSONALITY INVENTORY

1=Very Strongly Disagree, 2= Strongly Disagree, 3= Somewhat Disagree, 4= Neutral
5=Somewhat Agree, 6=Strongly Agree, 7=Very Strongly Agree

SI No.	Items	Score
1	I am straightforward in my dealings with other people.	1 2 3 4 5 6 7
2	I have very little interest in spiritual understanding.	1 2 3 4 5 6 7
3	I am satisfied with my life.	1 2 3 4 5 6 7
4	Fruits and vegetables are among my favorite foods.	1 2 3 4 5 6 7
5	All living entities are essentially spiritual.	1 2 3 4 5 6 7
6	In conducting my activities, I do not consider traditional wisdom.	1 2 3 4 5 6 7
7	I often act without considering the future consequences of my actions.	1 2 3 4 5 6 7
8	I usually feel discontented with life.	1 2 3 4 5 6 7
9	I become happy when I think about the material assets that I possess.	1 2 3 4 5 6 7
10	I am good at using willpower to achieve goals.	1 2 3 4 5 6 7
11	I enjoy spending time in bars.	1 2 3 4 5 6 7
12	Cleanliness is very important to me.	1 2 3 4 5 6 7
13	Others say that my intelligence is very sharp.	1 2 3 4 5 6 7
14	I often feel depressed.	1 2 3 4 5 6 7
15	I often put off or delay my responsibilities.	1 2 3 4 5 6 7
16	I greatly admire materially successful people.	1 2 3 4 5 6 7
17	When I speak, I really try not to irritate others.	1 2 3 4 5 6 7
18	I believe life is over when the body dies.	1 2 3 4 5 6 7
19	I often feel helpless.	1 2 3 4 5 6 7
20	I enjoy foods with strong tastes.	1 2 3 4 5 6 7
21	I am constantly dissatisfied with my position in life.	1 2 3 4 5 6 7
22	Having possessions is very important to me.	1 2 3 4 5 6 7
23	When things are tough, I often bail out.	1 2 3 4 5 6 7
24	I often feel like a victim.	1 2 3 4 5 6 7

25	I feel that my knowledge is always increasing.	1 2 3 4 5 6 7
26	I prefer city night life to a walk in the forest.	1 2 3 4 5 6 7
27	For me, sex life is a major source of happiness.	1 2 3 4 5 6 7
28	I take guidance from higher ethical and moral laws before I act.	1 2 3 4 5 6 7
29	I enjoy intoxicating substances (including coffee, cigarettes & alcohol).	1 2 3 4 5 6 7
30	I often feel greedy.	1 2 3 4 5 6 7
31	I become greatly distressed when things don't work out for me.	1 2 3 4 5 6 7
32	I am often angry.	1 2 3 4 5 6 7
33	I often feel fearful.	1 2 3 4 5 6 7
34	I do not have doubts about my responsibilities in life.	1 2 3 4 5 6 7
35	I often feel emotionally unbalanced.	1 2 3 4 5 6 7
36	I enjoy eating meat.	1 2 3 4 5 6 7
37	I am self-controlled.	1 2 3 4 5 6 7
38	I am very dutiful.	1 2 3 4 5 6 7
39	When I give charity, I often do it grudgingly.	1 2 3 4 5 6 7
40	Self-realization is not important for me.	1 2 3 4 5 6 7
41	I often feel dejected.	1 2 3 4 5 6 7
42	I carry out my responsibilities regardless of whether there is success or failure.	1 2 3 4 5 6 7
43	I often neglect my responsibilities to my family.	1 2 3 4 5 6 7
44	I am easily affected by the joys and sorrows of life.	1 2 3 4 5 6 7
45	I often whine.	1 2 3 4 5 6 7
46	Regardless of what I acquire or achieve, I have an uncontrollable desire to obtain more.	1 2 3 4 5 6 7
47	I am currently struggling with an addiction, physical or psychological, to some type of intoxicant (including caffeine, cigarettes and alcohol).	1 2 3 4 5 6 7
48	I often envy others.	1 2 3 4 5 6 7
49	My job is a source of anxiety.	1 2 3 4 5 6 7
50	I never think about giving up my wealth and position for a simpler	1 2 3 4 5 6 7

	life.	
51	It often happens that those things that brought me happiness later become the source of my suffering.	1 2 3 4 5 6 7
52	I often feel mentally unbalanced.	1 2 3 4 5 6 7
53	I don't have much will power.	1 2 3 4 5 6 7
54	I often neglect my responsibilities to my friends.	1 2 3 4 5 6 7
55	I often act violently towards others.	1 2 3 4 5 6 7
56	I am good at controlling my senses and emotions.	1 2 3 4 5 6 7

QUESTIONNAIRES: 4 EMOTIONAL INTELLIGENCE

Name:

Date:

Directions: Each of the following items asks you about your emotions or reactions associated with emotions. After deciding whether a statement is generally true for you, use the 5-point scale to respond to the statement. Please circle the “1” if you strongly disagree that this is like you, the “2” if you somewhat disagree that this is like you, “3” if you neither agree nor disagree that this is like you, the “4” if you somewhat agree that this is like you, and the “5” if you strongly agree that this is like you.

There are no right or wrong answers. Please give the response that best describes you.

Instructions: Indicate the extent to which each item applies to you using the following scale:

1= strongly Agree, 2= disagree, 3= neither Disagree nor agree, 4= agree

5= strongly agree

Sl No	Items	Score
1	I know when when to speak my personal problems to others.	1 2 3 4 5

2	When I am faced with obstacles, I remember times I faced similar obstacles and overcame them.	1 2 3 4 5
3	I expect that I will do well on most things I try.	1 2 3 4 5
4	Other people find it easy to confide in me.	1 2 3 4 5
5	I find it hard to understand the nonverbal messages of other people.	1 2 3 4 5
6	Some of the major events of my life have led me to re-evaluate what is important and not important.	1 2 3 4 5
7	When my mood changes, I see new possibilities.	1 2 3 4 5
8	Emotions are some of the things that make my life worth living.	1 2 3 4 5
9	I am aware of my emotions with others.	1 2 3 4 5
10	I expect good things to happen.	1 2 3 4 5
11	I like to share my emotions with others.	1 2 3 4 5
12	When I experience a positive emotion, I know how to make it last.	1 2 3 4 5
13	I arrange events others enjoy.	1 2 3 4 5
14	I seek out activities that make me happy.	1 2 3 4 5
15	I am aware of the non-verbal messages I send to others.	1 2 3 4 5
16	I present myself in a way that makes a good impression on others.	1 2 3 4 5
17	When I am in positive mood, solving problems are easy fore me.	1 2 3 4 5
18	By looking at their facial expressions, I recognize the emotions people are experiencing.	1 2 3 4 5
19	I know why my emotions change	1 2 3 4 5
20	When I ma in a positive mood, I am able to come up with new ideas.	1 2 3 4 5
21	I have control over my emotions.	1 2 3 4 5
22	I easily recognize my emotions as I experience them.	1 2 3 4 5
23	I motivate myself by imagining a good outcome to tasks I take on.	1 2 3 4 5
24	I complement others when they have done something well.	1 2 3 4 5
25	I am aware of the nonverbal messages other people send.	1 2 3 4 5
26	When another person tells me about a important event in his or her life, I almost feel as though I have experienced his events myself.	1 2 3 4 5
27	When I feel a change in emotions, I tend tend to come up with new ideas.	1 2 3 4 5
28	When I am faced with a challenge, I give up because I believe I will fail.	1 2 3 4 5

30	I know what other people are feeling just by looking at them.	1 2 3 4 5
31	I use good moods to help myself keep trying in the face of obstacles.	1 2 3 4 5
32	I can tell how people are feeling by listening to their tone of their voice.	1 2 3 4 5
33	It is difficult for me to understand why people feel the way they do.	1 2 3 4 5

APPENDIX 4

SCORING KEYS OF INSTRUMENTS USED

MULTIFACTOR LEADERSHIP QUESTIONNAIRE

My Name..... Date Organization ID #:Leader ID #:.....

Scoring: The MLQ scale scores are average scores for the items on the scale. The score can be derived by summing the items and dividing by the number of items that make up the scale. All of the leadership style scales have four items, Extra Effort has three items, Effectiveness has four items, and Satisfaction has two items.

Not at all- 0, Once in a while -1, Sometimes-2, Fairly often -3 Frequently, if not always-4

Idealized Influence (Attributed) total/4 =, Idealized Influence (Behavior) total/4 =,

Inspirational Motivation total/4 =, Intellectual Stimulation total/4 =Individual

Consideration total/4 =, Contingent Reward total/4 =, Management-by-Exception (Active) total/4 =

Management-by-Exception (Passive) total/4=, Laissez-faire Leadership total/4=, Extra Effort total/3=, Effectiveness total/4=, Satisfaction total/2 =

1. Contingent Rewards	0 1 2 3 4
2. Intellectual Stimulation.	0 1 2 3 4
3. Management-by-Exception (Passive)	0 1 2 3 4
4. Management-by-Exception (Active)	0 1 2 3 4
5. Laissez-faire Leadership	0 1 2 3 4
6. Idealized Influence (Behavior)	0 1 2 3 4
7. Laissez-faire Leadership	0 1 2 3 4

8. Intellectual Stimulation.	0 1 2 3 4
9. Inspirational Motivation.	0 1 2 3 4
10. Idealized Influence (Attributed).	0 1 2 3 4
11. Contingent Reward.	0 1 2 3 4
12. Management-by-Exception (Passive)	0 1 2 3 4
13. Inspirational Motivation.	0 1 2 3 4
14. Idealized Influence (Behavior)	0 1 2 3 4
15. Individual Consideration.	0 1 2 3 4
16. Contingent Reward.	0 1 2 3 4
17. Management-by-Exception (Passive)	0 1 2 3 4
18. Idealized Influence (Attributed).	0 1 2 3 4
19. Individual Consideration.	0 1 2 3 4
20. Management-by-Exception (Passive)	0 1 2 3 4
21. Idealized Influence (Attributed).	0 1 2 3 4
22. Management-by-Exception (Active)	0 1 2 3 4
23. Idealized Influence (Behavior)	0 1 2 3 4
24. Management-by-Exception (Active)	0 1 2 3 4
25. Idealized Influence (Attributed).	0 1 2 3 4
26. Inspirational Motivation.	0 1 2 3 4
27. Management-by-Exception (Active)	0 1 2 3 4
28. Laissez-faire Leadership	0 1 2 3 4
29. Individual Consideration.	0 1 2 3 4
30. Intellectual Stimulation.	0 1 2 3 4

31. Individual Consideration.	0 1 2 3 4
32. Intellectual Stimulation.	0 1 2 3 4
33. Laissez-faire Leadership	0 1 2 3 4
34. Idealized Influence (Behavior)	0 1 2 3 4
35. Contingent Reward.	0 1 2 3 4
36. Inspirational Motivation.	0 1 2 3 4
37. Effectiveness.	0 1 2 3 4
38. Satisfaction.	0 1 2 3 4
39. Extra Effort.	0 1 2 3 4
40. Effectiveness.	0 1 2 3 4
41. Satisfaction.	0 1 2 3 4
42. Extra Effort.	0 1 2 3 4
43. Effectiveness.	0 1 2 3 4
44. Extra Effort.	0 1 2 3 4
45. Effectiveness.	0 1 2 3 4

VEDIC PERSONALITY INVENTORY

Satva- 1, 3, 4, 5, 10, 12, 13, 17, 25, 28, 34, 37, 38, 42, 56

Rajas- 8, 9, 16, 18, 20, 21, 22, 23, 26, 27, 30, 31, 39, 44, 46, 48, 49, 50, 51

Tamas- 2, 6, 7, 11, 14, 15, 19, 24, 29, 32, 33, 35, 36, 40, 41, 43, 45, 47, 52, 53, 54, 55

Scoring Instructions: Sum all the responses for a guna, then divide this sum by the total possible score for the guna. This will give the guna score in the form of a percentage. Then, to obtain a standardized score for a guna, sum the three guna percentage scores and divide it into the guna percentage scores.

The three standardized scores form the guna profile for a person.

Example: For the 15 sattva items a respondent scores 60, or an average of 4.0. This converts to a guna percentage score of 57.14% ($60/105$ or $4/7$).

For the 19 rajas items a respondent scores 57, or an average of 3.0. This converts to a guna percentage score of 42.86% ($57/133$ or $3/7$).

For the 22 tamas items a respondent scores 55, or an average of 2.5. This converts to a guna percentage score of 35.71% ($55/154$ or $2.5/7$).

The sum of the three *guna* percentage scores is $57.14 + 42.86 + 35.71 = 135.71$

The standardized *sattva* score is $57.14/135.71 = 42.10\%$

The standardized *rajas* score is $42.86/135.71 = 31.58\%$

The standardized *tamas* score is $35.71/135.71 = 26.31\%$

EMOTIONAL INTELLIGENCE

EI is a 33 item questionnaire that determines Perception of Emotion, Managing Own Emotions, Managing Others' Emotions, and Utilization of Emotion. It is 5 point Likert scale (1-5). Total scale scores are calculated by reverse coding items 5, 28 and 33, and then summing all items. Scores can range from 33 to 165, with higher scores indicating more characteristic emotional intelligence. The items comprising the subscales based on these factors (Ciarrochi et al., 2001) are as follows: Perception of Emotion (items 5, 9, 15, 18, 19, 22, 25, 29, 32, 33), Managing Own Emotions (items 2, 3, 10, 12, 14, 21, 23, 28, 31), Managing Others' Emotions (items 1, 4, 11, 13, 16, 24, 26, 30), and Utilization of Emotion (items 6, 7, 8, 17, 20, 27).

GENERAL HEALTH QUESTIONNAIRES

Instructions to client and scoring: Examples of some of the items in use include 'Have you found everything getting on top of you?', 'Have you been getting scared or panic for no good reason?', and 'Have you been getting edgy and bad tempered?' Each item is accompanied by four possible responses: Not at all, No more than usual, Rather more than usual, and Much more than usual. There are different methods to score the GHQ-28. It can be scored from 0 to 3 for each response with a total possible score on the ranging from 0 to 84. Using this method, a total score of 23/24 is the threshold for the presence of distress. Alternatively the GHQ-28 can be scored with a binary method where Not at all, and No more than usual score 0, and rather more than usual and Much more than usual score 1. Using this method any score above 4 indicates the presence of distress. The second scoring process is taken for scoring the data.

**APPENDIX 5
PLATES**

PLATE 1: LATERAL POSTURE



**PLATE2: INSTANT
RELAXATION TECHNIQUE (IRT)**



PLATE3: CENTERING PLATE



**4: ARDHAKATI CHAKRASANA
(HALF-WHEEL POSTURE)**



**PLATE 5: SHASHANKASANA (BABY POSTURE) PLATE 6: USTRASANA
(CAMEL POSTURE)**



PLATE 7: ENDING PRAYER



**APPENDIX-6
STITUTIONAL ETHICS COMMITTEE**



स्वामी विवेकानन्द योग अनुसंधान संस्थान

Swami Vivekananda Yoga Anusandhāna Samsthāna

(Declared as Deemed-to-be University under Section 3 of the UGC Act, 1956)

Eknath Bhavan, # 19, Gavipuram Circle, Kempegowda Nagar, Bangalore - 560 019

Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: svyasa@svyasa.org Website: www.svyasa.org

This is to confirm that neither Dr. H R Nagendra, nor any study staff participating in this study were involved in the voting procedures and decision making for these study documents.

The Institutional Review Board / Independent Ethics Committee expected to be informed about the progress of the study, any changes in the protocol and patient information / informed consent. The investigators are also expected to submit a copy of the final report to IEC for records.

This approval is valid up to the completion of the study at this site.

Please submit to the EC the status report of the study as per EC SOP's.

The EC is organized & operates according to the requirements of ICH – GCP, Indian Council of Medical Research guidelines & Schedule Y.

Best Wishes,

R.S. Venkatesh

R.S. Venkatesh,

Member Secretary,

Institutional Ethics Committee,

S-VYASA, Bangaluru



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Ph: 080 - 2661 2669, Telefax: 080 - 2660 8645

E-mail: svyasa@svyasa.org Website: www.svyasa.org

RES/IEC-SVYASA/19/2014

May 19, 2014

To,

Dr. H R Nagendra,
Chancellor,
S-VYASA University, Bangalore.

Reference:

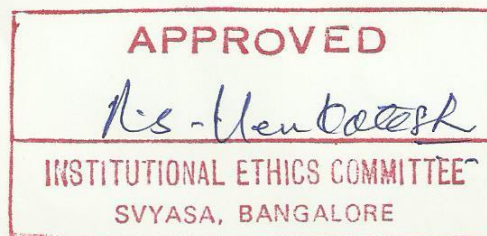
“Augmenting leadership qualities and psycho-emotional wellbeing by intensive Integrated Yoga Module.” Committee Approval of the Above Mentioned Study

Dear Dr. H R Nagendra,

We have received from you the following study related documents vide your letter dated December 19, 2013

1	Proposal project
2	Informed consent form

Ethics committee meeting was held on January 19, 2014 at 10 am to 1:00 pm at Eknath Bhavan, Bangalore. Above documents were examined and discussed. After due consideration, the committee has decided to approve the conduct of the aforementioned study at India.



APPENDIX-7

PUBLICATIONS FROM THE THESIS WORK

1. Maharana, P., Patra, S., Srinivasan, T. M., & Nagendra, H. R. (2014). Role of Yoga based stress management program towards leadership development in managers. *IOSR Journal of Business and Management*, 16(5), 01–05.
2. Maharana, P., Patra, S., Srinivasan, T. M., & Nagendra, H. R. (2014). General health of mid-career leaders: an objective and subjective observation through Yoga. *International of Journal of Education and Management Studies*, 4(3).
3. Maharana, P., Patra, S., Srinivasan, T. M., & Nagendra, H. R. (2014). Spiritual Leadership: a new insight for the Corporate World. *International Journal of Science and Research*, 3(7), 01–05.