

ISSN 2394 - 630X

Volume 6 | Number 1 | January 2020

INTERNATIONAL
JOURNAL OF
LIFE
SKILLS
EDUCATION



INDIAN ASSOCIATION OF LIFE SKILLS EDUCATION



INTERNATIONAL JOURNAL OF LIFE SKILLS EDUCATION

Editorial Board

Dr. A Radhakrishnan Nair (Thiruvananthapuram, Kerala)
Dr. U.N.B Rao (New Delhi)
Prof. (Dr.) M N Mohamedunni Alias Musthafa (Kasaragod, Kerala)
Dr. A. Rajmani Singh (Imphal, Manipur)

Managing Editor:

Dr. A. Radhakrishnan Nair

Associate Editor:

Sunitha Ranjan

Assistant Editor:

Dr. Gauri Hardikar

Creative Consultant:

Anilkumar P.Y.

Peer Review Board:

Prof. (Dr.) V.D. Swaminathan
Retd. Professor of Psychology
University of Madras
Chennai, Tamil Nadu, India

Prof. (Dr.) Vinod Chandra
Head & Associate Professor of Sociology, JNPG College Lucknow, India
Secretary, Research Committee of Sociology of Population (RC41), ISA
Vice-President, Research Committee of Sociology of Youth (RC34), ISA

Prof. (Dr.) Gautam Gawali
Director
Amity Institute of Behavioural and
Allied Sciences (AIBAS)
Mumbai, Maharashtra, India

Dr. V. Reghu
Former Controller & Dean
Rajiv Gandhi National Institute of Youth Development
Sriperumbudur, Tamil Nadu, India

Prof. (Dr.) Abha Singh
Dean, Faculty of Arts, Humanities,
Journalism and Communication and Social Sciences.
Director Research Amity Institute of
Psychology and Allied Sciences, AUUP, Noida,
Uttar Pradesh, India

Ms. Ceronne Prevatt
Life Skills Technical Consultant
C2#4 Flagstaff, Long Circular St. James
Trinidad and Tobago

Design & Layout : D'Bright Advertising, Statue, Thiruvananthapuram 695 001

Printed at : K M Offset, Venganoor, Thiruvananthapuram 695 523

Published by : Indian Association of Life Skills Education, Door No.17/13, 16th Avenue, Ashok Nagar, Chennai - 600083

All correspondence pertaining to membership of the Association, circulation of the International Journal of Life Skills Education, may be addressed to The Secretary and sent via email at ialse.india@gmail.com

SUBSCRIPTION RATES

Current Issues

	Per Volume	Per Number
India	Rs. 750	Rs. 400
Foreign	\$ 20.00	\$ 12.00

Cheques should be made payable to "Indian Association of Life Skills Association". Outstation cheques should carry an additional amount of Rs. 25/- (Rupees twenty five only).

International Journal of Life Skills Education is published every year in January and July. Those authors who do not receive e-copies may email to The Secretary, Indian Association of Life Skills Education at ialse.india@gmail.com

In case authors/ members want hard copies of the journal, they may communicate to The Secretary, IALSE via email in the above email ID.



ISSN 2334-630X

Volume 6 | Number 1 | January 2020



INTERNATIONAL
JOURNAL OF
LIFE
SKILLS
EDUCATION



INDIAN ASSOCIATION OF LIFE SKILLS EDUCATION

CONTENTS

Philosophical Underpinnings of Yoga

- | | | |
|---|--|---|
| 1 | Yoga- A Man Making Science-
Gleanings from Valmiki Ramayana
Dr. Srinidhi K Parthasarathi | 5 |
|---|--|---|

Application of Yoga

- | | | |
|---|--|----|
| 2 | Yoga as Man Making Science: In the
Perspective of Mental Health and Cognition
Dr. Deepeshwar Singh & Dr. Subramanya Pailoor | 20 |
| 3 | Effect of Cyclic Meditation and Nadishuddhi
Pranayama On Life Skills Of School Children:
A Stratified Randomized Controlled Study
Mr. A V Janardhan Reddy & Dr. Satya Prakash Purohit | 28 |
| 4 | Integrated Yoga and Dance Movement
Intervention to Enhance the Self-esteem of
Low Academic Achievers
Ms. Sradha P & Dr. K. Jayasankara Reddy | 41 |
| 5 | Effect of Yogic Practices on Selected
Bio-Chemical Variables among Women
Home Makers
Mr. S. Bakthavatchalam | 53 |
| 6 | Spiritual Intelligence, Grit and Perceived
Stress among Allopathic and Ayurvedic
Medical Professionals
Ms. Annmary M J & Dr. K Jayasankara Reddy | 59 |
| 7 | Enhancing Life Skills through the
Practice of Yoga
Dr. Alka Ranjan | 72 |
| 8 | Examining the Relationship between
Yoga Involvement and Mental Health
Ms. Pooja Prasad & Dr. Vijaya R | 83 |

Philosophical Underpinnings of Yoga

**Yoga - A Man Making Science
Gleanings from Valmiki Ramayana**

Srinidhi K Parthasarathi*

Abstract

Yoga is a man making science which transforms a man from a state of having animalistic instincts to becoming a divine man. It brings about a holistic transformation by providing physical fitness, intellectual awakening, emotional conditioning and spiritual upliftment. Sri Valmiki Ramayana known as an Adi Kavya shows the path for the ascent of a man. The Infinite finitized Himself to make the finite infinite. The Creator descended to this earth as a man in the form of Rama and lived by example to create an idealized influence for the rest to follow. This article enumerates the sixteen qualities or traits of possessed by Rama which when imbibed would raise a man towards divinity.

Keywords

Yoga, spiritual upliftment, Valmiki Ramayana, Bhagavad Gita

Introduction

YOGA is an On-Going Affirmation to success and delight. It is a way of life. The tenets contained in the Yogic texts can be applied to all disciplines pursued by learners to gain holistic development. The practice and application of the Yoga fundamentals at work ensures success and keeps the practitioner in a constant state of delight.

The texts of ancient Indian wisdom viz. the Vedas, Vedanta, Itihasas and Puranas form a treasure house of Yogic wisdom. These gems are relevant even today and when applied to our workspaces they improve the quality of every action performed. These catalyze the ripening of man thus making Yoga a man making science. The present article discusses the contribution of Valmiki Ramayana to man making.

* Honorary Professor, S-VYASA deemed-to-be-University, Prashanthi Kutiram, Bengaluru, Karnataka, India

Sri Valmiki Ramayana

Sri Valmiki Ramayana is a yogic text which has been penned by the great sage Valmiki in the state of Yoga. This means that the mind was fully occupied with the protagonist of the story, Rama. Ramayana spread across 24000 verses, contains the story of the Creator who incarnated as Rama to show the universe the process of ripening of a man. The first chapter of the text enumerates sixteen qualities that a man should possess to develop holistically.

The Ramayana of Valmiki starts with a meeting of two wise people. There is a beautiful saying which goes like this. *Great minds talk ideas, medium minds talk situations and small minds talk people.* This implies that, when two people meet, the ensuing discussion talks about their conditioning of minds. Here, two great minds met. Both of them were great because they had control over thought, word and deed. This quality is referred to as तपस् (Tapas). Both of them were well read in their field of study ie. the Vedas. This quality is referred to as स्वाध्याय (Swadhyaya). When these two aspects are manifested in an individual, the intellect brightens and the he tends towards greatness. The two great persons who met were Sage Valmiki and Sage Narada.

तपस्स्वाध्यायनरितंतपस्वीवाग्वदिंवरम् ।

नारदंपरपिप्रच्छवालमीकरिमुनपिङ्गवम् ॥ Valmiki Ramayana 1.1.1

When both of them came together, Valmiki submits to Narada with a few questions. Oh great one, is there a man who has developed in himself the 16 qualities required for man making?

कोन्वस्मन्साम्प्रतंलोकेगुणवान्कश्चवीर्यवान् ।

धर्मज्जश्चकृतज्जश्चसत्यवाक्योदृढव्रतः॥Valmiki Ramayana 1.1.2

चारित्रेण च कोयुक्तस्सर्वभूतेषुकोहतिः ।

वद्विान्कः कस्समर्थश्चकश्चैकप्रयिदर्शनः ॥ Valmiki Ramayana 1.1.3

आत्मवान्कोजतिक्रोधोद्युतमिान्कोऽनसूयकः ।

कस्यवभियतदिवाश्चजातरोषस्यसंयुगे ॥ Valmiki Ramayana 1.1.4

I am waiting to listen to the qualities that makes a man complete! Oh Ma-

harshi Narada, you are a man who is enlightened. You have gone deep into the Body of Knowledge again and again. Kindly educate me!

एतदच्छाम्यहंश्रोतुं परंकौतूहलं हम् ।

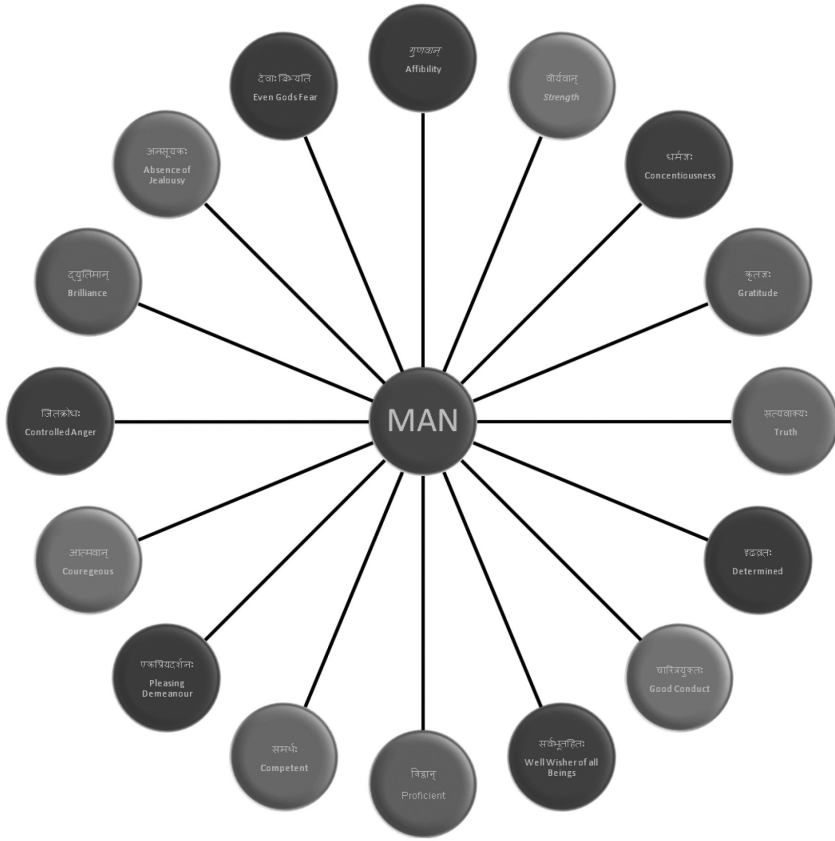
महर्षेत्वं समर्थोऽसि जिजातु मे वं वधिं नरम् ॥ Valmiki Ramayana 1.1.5

Here Valmiki refers to Narada as Maharshi. A question arises. Who is the Rishi? A Rishi is not a person who shuns the work or world, retire to the Himalayas and sits without doing anything. It is not that he doesn't have a family, doesn't have any possessions etc.

The above does not make a Rishi. A Rishi is a person who 're-sees' again and again in the Body of Knowledge and then contributes by bringing out something which is very unique through his serendipity. That is why in the वषिणुसहस्रनाम (Vishnu Sahasranama) also Bhishmatells Yudhishtira, ऋषभिःपरिगीतानि (RishibhihParigeetani). This means that the great seers entered the Body of Knowledge again and again and that Body of Knowledge revealed itself in front of them in a unique form. They in turn gave it to the society. They are rishis.

The 16 qualities required for man making are

Sl. No	Trait or Quality	Meaning
1	गुणवान्	Affability
2	वीर्यवान्	Strength
3	धर्मज्जः	Conscientious
4	कृतज्जः	Gratitude
5	सत्यवाक्यः	Truth
6	दृढव्रतः	Determined
7	चारित्र्ययुक्तः	Good Conduct
8	सर्वभूतहति	Well-wisher of all beings
9	वद्विबान्	Proficient
10	समर्थः	Competent
11	प्रयिदरक्षणः	Pleasing Demeanour
12	आत्मवान्	Courageous
13	जतिःक्रोधः	Controlled Anger
14	द्युतमिबान्	Brilliance
15	अनसूयकः	Absence of Jealousy
16	देवाःबभियति	Even Gods fear



So, while questioning, Valmiki enumerates to Naradathe 16 qualities through which we can develop ourselves, dwell into our capacities and develop our competencies to rise in life

Let us look at the 16 qualities in some detail.

1. गुणवान् (Gunavan) – Affability

This is a very important quality to be developed and exhibited by an individual. The quality to flow down to all the levels of the society, understand the challenges of the fellow creation and do his best to raise each member of the society. In Sanskrit, this is called सौशील्यं Sousehelyam. In the Ramayana, Rama exhibited this quality in abundance where He flowed down to bless Guha, Sugreeva, Shabari and the like. The same Creator, who has created us, has created the society. We have been bestowed with abundance but many times we complain. We crib of not having something and create a forced poverty on to ourselves. We crib on having a small car by comparing ourselves to the neighbour's sedan. The efficacy of the religious

practices followed by us are questioned and compared with that of those who have more materialistic comforts. We start questioning the Creator as to how somebody who is less religious could get more than us who are more religious. We do not realize that the Creator has blessed us in plenty and that we seldom count our blessings. There is a beautiful episode which happened in the recent past. I had gone to deliver a lecture at a temple around six years back. During the lecture I saw a man, who walked into the lecture just ten minutes before conclusion and instead of listening to that was being told, was constantly looking back outside the door. I began to wonder as to why he was looking back? He could either have stayed out or can see what he wants to see after the talk! After the lecture he went out. I too came out at that particular point of time and he started cursing in a very loud voice, using all sorts of abusive language. I questioned to myself. He's just coming out of a place of worship after cleansing himself. Why is he shouting in this language which is so abusive and incoherent to something which he did just before this? We have been in a sattvic place and he's behaving so rajasic. What happened? I asked him. Back came the reply. "Yesterday, I bought a pair of footwear for Rs.5, 000. I had left the slipper outside during my visit to the temple. I was constantly remembering this footwear inside the temple too and now it is gone". He abused the person who would have taken the footwear and complained of the eventuality of returning back home which was just across the road barefooted. The difficult part was that it was the month of May and the bitumen on the road was melting because of the heat. Then, when we were crossing the road, we suddenly heard a sound of metal which was rubbing against the road. We turned back and what we saw was bewildering and a lesson for us. There was a man who had both his legs amputated. He was sitting on a 6 inches tall vehicle made of iron which required using both his hands to move that vehicle. The scorching sun would have heated up the iron on which he was seated. He used both his hands to move the vehicle by pressing them on the road. The hands did not have any protection. They would be troubled because of the sweltering heat. He was all smiles and was not complaining or grumbling. Suddenly a thought flashed my mind. God has given us these two legs and we complain of losing a pair of footwear. Here is a man who is happy and smiling without both his legs. He is going about work unmindful of all the difficulties his body is facing. The first thing we need to do is to stop complaining of what we perceive as a shortfall. Our Creator has blessed us in plenty and its time we count our blessings.

Now, once our Creator has blessed us with abundance, we should give it back to His creation. That is the first quality in man making. Ramaya-

na calls it गुणवान् (Gunavan). This is interpreted as a quality of सौशील्य (Sousheelya) or **affability**.

This trait or quality needs to go up. Nowadays we see that most of the criminal acts happen in the broader states of India (Sharma M.L) because people who are in the midst of materialistic pleasures spare no time to share with people. Many of them are not even aware of whatever is happening outside their doors after dusk and are completely unmindful of it. Taittiya Upanishad states 5 sheaths in a human body. They are, Annamaya Kosha, Pranamaya Kosha, Manomaya Kosha, Vijnanamaya Kosha and Anandamaya Kosha. The Anandamaya Kosha the innermost sheath of the Panchakoshas is responsible for connectedness and oneness. If we need to nurture this sheath then we need to connect to the society and spread out our arms in reception. Connecting with that part of the society who is not as fortunate as us is the most important quality a human being needs to possess and this is called सौशील्यगुण (Sousheelyaguna) or **affability**.

वीर्यवान् (Veeryavaan) - Strength

The second trait or quality is developing strength. The strength required to defeat enemies. But who are the enemies we are talking about? Where do they exist? What is that they destroy? How often do they attack? To answer all these questions, we need to travel to a land seldom traversed by many. Yes, the land is inside us and these enemies exist inside us. They attack us repeatedly every day. They destroy our path towards greatness. These enemies are काम (Kama) Lust, क्रोध (Krodha) Anger, लोभ (Lobha) Greed, मोह (Moha) Attachment, मद (Mada) Pride and मात्सर्य (Matsarya) Jealousy. These have to be won over every day. In the Valmiki Ramayana, in the first six sections or काण्ड, we can never see Shatrughna fighting over anybody. But he is referred to as Nitya Shatrugna, meaning killing enemies every day. The six enemies which are mentioned above lie within us. Krishna in the Bhagavad Gita says that the Kama and Krodha have their origin from the RajoGuna or Ego inside us. The Gita says that quell Kama or lust and the other five viz Krodha (Anger), Lobha (Greed), Moha (Attachment), Mada (Pride) and Matsarya (Jealousy) will also be destroyed. How did the people of the past practice this? How was there harmony amongst everybody? There is a beautiful incident which my music teacher narrated during the classes. In the past, in some traditional weddings of South India, a day before the marriage there used to be a daylong one hour concerts from senior and upcoming musicians. It so happened that Vidwan Maharajapuram VishwanathaIyer, a senior musician sang a very famous song titled “BrochevaaruYevaru Ra” in the Raga Kamach which was

extremely appreciated by the discerning audience for the purity in delivery and authenticity. After this concert, there came a young and upcoming musician in Vidwan Madurai Mani Iyer and sang the same Kamach song which was sung just than by MaharajapuramVishwanathaIyer in a more elaborate manner. The singing was so scintillating that after the concert the senior and seasoned musician heartily congratulated Vidwan Madurai Mani Iyer and blessed him to rise to greatness. He said that this sets the benchmark for any singerattempting this song. There was absolutely no iota of jealousy or मात्सर्य (Matsarya) or jealousy in the attitude of the senior musician. The frame of mind which says, what does he know better than me? I know everything etc. should go away gradually and completely. So, the second trait or quality is वीर्यवान् (Veeryavaan) or Strength.

धर्मज्ञः (Dharmajnah) - Conscentious

The third quality to man making isfollowing the Dharma. What doesfollowing the Dharma mean? Each one of ushas been assigned different roles by our Creator. There is a purpose for every existence and as human beings bestowed by the discriminating faculty, this needs to be understood. Some basic questions need to be answered. Who am I? What have I come here for? What is my ultimate destination? Answering these are all very important. When we think deep or surrender to a preceptor, the answers come out. We are the imperishable Soul. We have come here to serve His Creation through the work He has bestowed on to us. We should spread delight to the world. At the end of this life, after completing the responsibilities bestowed on to us, we should return to the same place from which we have come. But to get back to the place where we have come from, how do we perform our work? We need to follow Dharma or follow the righteous path. Dharma has got four fundamentals. सत्यं (Satyam) Truth, तपस् (Tapas) Austerity, दया (Daya) Forgiveness, शौचं (Shaucham) Cleanliness of Mind. Lord Krishna in the 14th, 15th and 16th verses of the 17th chapter of the Bhagavad Gita speaks in detail about the Tapas or Austerity. The control of Body, Speech and Mind constitutes Tapas and isthe fundamental for Dharma.

देवद्वजिगुरुप्राज्ञः पूजनं शौचमार्जवम् ।

ब्रह्मचर्यमहसि च शारीरं तप उच्यते ॥ Bhagavad Gita XVII.14

The worship of the Supreme Lord, the learned, the Spiritual master, the wise and the elders, done with the observance of cleanliness, simplicity, celibacy, and non-violenceis declared as the austerity of the body.

अनुद्वेगकरं वाक्यं सत्यं प्रयिहति च यत् ।

स्वाध्यायाभ्यसनं चैव वाङ्मयं तप उच्यते ॥ Bhagavad Gita XVII.15

Words that do not cause distress, are truthful, inoffensive and beneficial and the regular recitation of the Vedic scriptures declared as the austerity of speech.

मनः प्रसादः सौम्यत्वं मौनमात्मवनिग्रहः ।

भावसंशुद्धिरित्येतत्तपो मानसमुच्यते ॥ Bhagavad Gita XVII.16

Serenity of thought, gentleness, silence, self-control and purity of purpose are declared as the austerity of the mind.

शौचं (Shaucham) is cleanliness of the mind. Then दया (Daya) is forbearance or forgiving nature. सत्यं (Sathyam) or Truthfulness by thought, word and deed. These four fundamentals constitute Dharma at work and surrendering the work and the results thereof for the betterment of the universe. This is what the great Purandaradasa said in one of his songs in Kannada. He says

*“Water taken from the lake should be poured back into the lake.
Always take this life as a blessing of the lord.
Whatever is got by us out of the immense mercy of the lord,
should be surrendered back to Him”*

कृतज्ञः (Krutajnah) - Gratitude

The fourth quality that needs to be developed as a man is gratitude or thankfulness. A lot of us go to places of worship like temples, mosques, churches etc. 99.99% of us go with a wish list to be demanded from God.

For example, a man goes to a temple for the first time and seeks a successful signing of a contract. He would commit to offer a certain percentage to God. This ends up in a transaction. Next time he seeks a good job for his son. A third time he seeks something else. The list of favours we seek is endless. Like a monkey which jumps over from one branch of a tree to the other in search of fruits, our monkey mindjumps from one want to the other. But how many people who go to a place of worship and look at the lord through the very eyes bestowed by Him would say, Oh Lord, you are standing here for the past so many decades or may be sometimes even centuries with a single-minded purpose of protecting your devotees. Are your legs not paining? Are you not feeling exhausted? What service can I do to you? How many people who go to the place of worship would ask

the above questions? We need to go to the place of worship for the sake of the Lord and not for our sake.

Whatever is destined to us has been canalized to us through Him and we have to be grateful to Him for what we have today. Unfortunately, we see, the wish list queues are full in the places of worship but thanks giving queues are empty today.

सत्यवाक्यः (Satyavakyah) - Truth

This is an important quality in man making. Under any circumstances we should not utter a Lie. Why was Gandhiji called a Mahatma? This was a question which was asked in one of the examinations. What is his definition of a Mahatma? The Sanskrit texts define mahatma as मनस्येकं वचस्येकं कर्मण्येकं महात्मनः। (Manasyekam Vachasyekam Karmanyekam mahatmana). A person who integrates his thought word or deed is called Mahatma. That thoughts should be spoken as words and that which is spoken should be performed as deed. This is the characteristic of a Mahatma. There is an episode in the life of Gandhiji which stands testimony to his being a mahatma. Gandhiji was arrested. At that point of time, there was a policy of the prison that once a week a visitor could come and meet the prisoner for half an hour. Also, for that half an hour meeting, the jailer was supposed to be there in presence of the prisoner. Now, Kasturba had come to meet Gandhiji. The Jailer who was to be present during the discussion was a Gujrathi and walked off because he did not want to stand between the husband and wife when they were speaking. He walked off and came back after half an hour. He asked Gandhiji as to whether the discussion was over? Pat came the reply from Gandhiji. He asked. What is the policy of the jail? The policy of the jail warrant that the jailer has to stand when I am speaking to the visitor. Hence, I have not yet started my conversation. Now you please stand here. We shall speak for half an hour. This is the reason Gandhiji was he called a Mahatma. Dr. Sarvepalli Radhakrishnan defines a Mahatma as a person who exhibits the same behaviour, attitude, mannerisms etc. both in private as well as in public. Such a person is a सत्यवाक्यः (Satyavakyah). यद्मनसा ध्यायति तद्वाचा वदति। यद्वाचा वदति तत्कर्मणा करोति, सः महात्मा (Yad manasadhyayati tadvachavadati yad vachavadati tad karmanakaroti-sah Mahatma).

दृढव्रतः (Drudavyatah) – Determined

We basically take up a particular job and then we make up a firm mind to accomplish that job. We start setting step by step milestones and plan to complete the job. Determination comes with clear visioning and deep

study. Once we have committed to perform this job, we should not leave any stone unturned to achieve the goal. The story of Rama is a classic example of this quality. Hanuman when starting his journey to Lanka determined Himself and said that He will travel like a arrow which comes out of the bow of Rama which will never fail and would return only after accomplishing the assigned duty. Hanuman says in the 39th verse of the 1st chapter of the Sundara Kanda in the Valmiki Ramayana

यथाराघवनरिमुक्तःशरःश्वसनवकिरमः।

गच्छेत्तद्वद्गमषियामलिङ्कांरावणापालतिं॥ Valmiki Ramayana 5.1.39

Hanuman Says “I will go to the city of Lanka, ruled by Ravana just like an arrow released by Rama will go, with wind-like speed. If I do not see the daughter of Janaka there, I will go with the same speed to the abode of gods. If I do not see Seetha there in heaven, I will get Ravana the king of raakshasaas tied up in chains without any effort. I will, in all events, return successfully along with Seetha or I will get Lanka along with Ravana after uprooting it.” This is the determination one should have while carrying out his job.

चारत्रियुक्तः (ChatitraYuktah) - Good Conduct

Character is the ornament for a man. It is said “when character is lost, everything is lost.”

In the Subhashita it is said

अक्रोधस्तपसःकृषमाबलवतांधर्मस्यनरिव्याजता ।

सर्वेषामपिसर्वकारणमदि शीलंपरं भूषणम् ॥

A person who practices austerity he would develop a virtue of freedom from anger. The virtue for a powerful person is forgiveness. If a person is religious, he should possess a virtue of honesty. But of all the attributes, an impeccable moral character is the ultimate virtue a person should possess.

While speaking about a good character, Goswami Tulasidas quotes,

सौरजधीरजतेहरिश्चाका। सत्यसीलदृढध्वजापताका॥

बलबबिकदमपरहतिघोरे। छमाकृपासमतारजुजोरे॥

Bravery and Energy are the two wheels of the chariot. Truth and good conduct are the strong flags of the chariot. The four horses of the chariot are strength, discriminating faculty, control of senses and serving others. The rope which tie the horses to the chariot are forgiveness, mercy and equality.

सर्वभूतहति: (SarvaBhuthaHitah) -Wishing well to all beings

One of the primary qualities in man making is wishing well to all beings. The concept of ingroup and outgroup will not be there for a man who is rising in wisdom. He looks at the entire humanity as one with him. The 7th verse of the 7th chapter in the Bhagavad Gita gives this concept beautifully. Krishna says that we are not living in religious silos. He has created a universal body. We need to elevate ourselves from being a part of that religious silo and become a part of the Universal body.

मत्तः परतरं नान्यत्कञ्चिदिसृष्टिर्नञ्जय।

मयसिर्वमदिंप्रोतंसूत्रेमणगिणाइव॥ Bhagavad Gita VII.7

Here Krishna says, the entire universe is like a Pearl necklace. Just as the Pearl necklace is strung by a string, I string the whole society into a societal or the universal body. This is SarvaBhootahitah meaning, a person who wants good of the entire universe will never have a partial attitude on anybody.

वद्विान् (Vidwan) - Proficient

वेत्तीतविदः (VetteetiVedah): That which needs to be known is the Vedas. So, a man to ascend in life should be well read and rise in knowledge. There is a saying that knowledge is power. Is Knowledge really power? This is one question which we need to ask. Shiv Khera in his book called “You Can Win” writes, “Knowledge is not power” and further goes on to say that applied knowledge is power. Data processed is called information. Information applied on to a situation results in knowledge and this knowledge applied across different platforms or situations becomes wisdom. Such a person is known as a Vidwan. Saint Adishankara says. वेदोर्नित्यमधीयतांतदुत्तर्कस्वनुश्टीयतां। meaning, a man who intends to rise as a man should read every day and apply the same in the journey of his life. Once it is applied, it not only brings happiness to that particular person, but also brings delight to the society. A vidwan is not a person who has just read truckloads of books and carries that knowledge. Such a person is like a donkey carrying a pile of books which it does not understand. A person rises only when he puts the knowledge into practice. Hence practice or अनुश्टान is of foremost importance. In places of worship across religions we see two things. One is the lighting of the lamp. The other one is lighting of the incense stick. In some places, camphor is used to light the lamp and perform service to the lord. When camphor is lighted, there is a black smoke which goes up. This means that we request the lord to remove the

darkness of ignorance present inside us and replace the same with pure wisdom.

Secondly, the incense stick has got two qualities. One is fragrance that emanates from it when it is lit and the other is the smoke. Our अनुष्ठान or actions should be like the fragrance where people draw us more and more nearer. It should not be like the smoke which is pushed by the people who are allergic to smoke. This is the relationship between Knowledge ज्ञान and wisdom अनुष्ठान. So, it is important that knowledge acquired culminates into wisdom.

Every work performed should be resulting in Knowledge. Bhagavad Gita states सर्वं कर्म खलिं पार्थ ज्ञाने परसिमाप्यते। This is the meaning of वद्विवा (Vidwan).

समर्थः (Samartha)- Competent

We are a bundle of possibilities. Every student must know that there is infinite potential in him. Swami Vivekananda said that the purpose of education is to manifest the perfection already existing in a man. As we go deeper and deeper, we will realize that the world inside us is divinely beautiful with infinite possibilities. Every student has the capacity to score 100% in the examination of his/her choice. The outcome or the result varies with the application of each student. It is a bundle of possibilities, which is present inside has to be leveraged. Sri Aurobindo beautifully said that the process of education was set into motion to create the necessary climate for a proper 'ripening' of man. Necessity and curiosity, demands of environment and quest for the meaning of life, all contribute to it"

प्रयिदर्शनः (Priyadarshanah) - Pleasing Demeanour

Our अनुष्ठान should be in such a way that we create delight wherever we go. We should create happiness, union or harmony at all places where we are present.

आत्मवान् (Atmavan)- Courageous

A person who goes deeper and deeper in understanding the self becomes courageous as he understands that the Soul is imperishable and he who knows this, there is no fear of death. The shastras also say, सावदियायावमुक्तये (Saa Vidya Ya Vimuktaye). That which liberates is true knowledge.

जतिक्रोधः (Jitakrodhah) – A person who has won over anger

Another quality of the 16 qualities is winning over anger. We could ask

a question whether a person does not get angry? Some people claim that they have practiced control over anger by staying aloof in the Himalayas. This cannot happen. A person can win over anger only in society when people are there to test his anger. There are different types of anger. Sattvic, Rajasic and Tamasic. Anger should be situational and should not extend beyond the situation. This quality is called स्थानक्रोधः. Anger should be a tool and not a weapon. Many times, people say, when I am angry, I am not a man. They lose their mental balance. The Bhagavad Gita beautifully gives the stages due to which a man goes down in life.

ध्यायतोवषियान्पुंसः सङ्गस्तेषूपजायते |

सङ्गात्सञ्जायतेकामः कामात्क्रोधोऽभजियते || II. 62||

क्रोधाद्भवतसिम्मोहः सम्मोहात्स्मृतविभ्रिमः |

स्मृतभ्रिंशाद्बुद्धनिशोबुद्धनिशात्प्रणश्यति || II. 63||

Swami Ranganathananda in his book titled the Universal Message of Bhagavad Gita explains these verses in the context of a man going to Jail. If a man is possessed with something, he will develop an attachment to that. Further he would develop a desire to possess that. If stopped he will get angry. Anger leads to clouding of judgement which leads to the loss of memory. When the memory is bewildered there is a destruction of the intellect and once there is a destruction of the intellect one gets destroyed. This destruction leads to rebirth in various bodies. The body is a jail for the soul. When we are angry, the seat of all passion's amygdala starts acting at that particular point of time. The circuit does not get completed in the brain. We end up reacting and not responding. Ramakrishaparamahansa beautifully says; When we write a letter or a mail in the state of anger, we should not be sending it. Wait for half an hour. Read of the mail again and then send it. After half an hour we will change that particular letter.

द्युतमिन् (Dyutiman) - Brilliance

A man who sees light everywhere or who sees positivity everywhere is a man who has ripened. Seeing positivity everywhere is an indication of rising in life. A wise man sees morning in the night of rest of the creation and night in the morning for the rest of the creation

अनसूयकः (Anasooyakah) - Absence of Jealousy

One who does not hate or finds fault with anybody. A man who wishes to

rise in wisdom would never hate anyone. He would never find faults with others and instead would look at his own faults and improving himself.

In the Valmiki Ramayana, when people were pointing fingers at different people who were responsible for Rama going to the forest, Bharatha said. “It is not Manthara, nor Kaikeyi, nor Dasharatha, neither Rama’s own decision. It is purely my ill fate that has driven Rama into the forest. I am grossly responsible for that”.

देवाःबभियति (DevahBibhyati) -Even Gods Fear

When a person is sincere in contributing to the society, even the nature conspires to help this person when he is going to work. Devas are the celestial beings in our Ancient Indian Wisdom. They are responsible for the functioning of the Nature. here we should say that the nature conspires to help us. All the celestial forces come together and then they will help us to go forward.

Conclusion

These are the 16 qualities in man making. Valmiki beautifully asks is there a man having these 16 qualities. We all know that between the new moon and full moon, there are 16 days. Each day, we could take one quality which Rama exhibited as a man and learn about the same. In 16 days time we would have gone through 16 qualities once. If we repeat the same, we would have gone through Rama’s quality twice in one month. In one year, these qualities would have been reinforced 24 times. Like this if we start growing, we will rise in wisdom and become ज्ञानवृद्ध (Jnanavruddha) and not वयोवृद्ध (Vayovruddha).

The entire creation ages over time. Yoga doesn’t talk of aging. It speaks of ripening. What is the difference between a tree aging, an animal aging at a man aging? All the other creations age physically. But a man just does not age. He ripens intellectually, emotionally, physically and Spiritually. This will give sweetness to the entire universe. Yoga is ancient, but a complete science, which talks about a human evolution. An evolution which does not start and end with bodily health, but it culminates in self-actualization. This is what the great BKS Iyengarsaid about yoga as a science.

References

KheraShiv,(2018). You Can Win, Sterling Publishers.

Ranganathananda.(2000). Universal Message of the Bhagavad Gita: Advaita Ashrama, Kolkata

Sharan Anjaninandan, (2013), Manas Piyush, Gita Press.

Sharma, M. L.(1999). Organised crime in India: problems & perspectives. Resource material series, 54, 82-129.The United Nations Asia and Far East Institute for the Prevention of Crime and the Treatment of Offenders (UNAFEI), Tokyo.

Shastri Srinivasa KattiMudholkar.(2000). Ramayana of Valmiki with the commentaries – Tilaka of Rama, Ramayana Shiromani of Shivasahaya and Bhushana of Govindaraja; Parimal Publications.

Valmiki Ramayana BalaKanda.ValmikiRamayan.

http://www.valmikiramayan.net/bala_kanda_contents.html

The holy Bhagavad Gita.<https://www.holy-bhagavad-gita.org/chapter/7/verse/11>

Application of Yoga

Yoga as Man Making Science: in the Perspective of Mental Health and Cognition

Deepeshwar Singh*, Ph.D & Subramanya Pailoor**, Ph.D

Abstract

Yoga as a traditional text has a lineage of over 5000 years. It is believed to be a tool for liberation by the wise. In the process of the journey, one has to master in many facets of Mind, Body, and Spirit. According to the modern science, Yoga has gained more prominence in the field of health. The modern medical fraternity is trying to understand the limitations of Allopathic Medicine with consideration to the side-effects of the treatment. On the other hand, Complementary and Alternative Medicine (CAM) has shown promising results with non – invasive and safe methods in which Yoga is playing a vital role in the system. Yoga can relatively be called as a 'Mind, Body Medicine' in the context of health problems. Yoga helps in understanding the process of Mind through Meditation and Mindfulness. Traditional texts like Patanjali Yoga sutras, Bhagavad-Gita, Yoga Vasista, and other ancient lore of Vedanta have revealed the secrets of understanding one's own mind. Texts like Hatha Yoga, Gheranada Samhita, Kundalini Yoga and other texts helps us to maintain the physical health and to lead a healthy lifestyle.

Integrative medicine (IM) approaches have gained significant interest in recent years to provide a solution to the healthcare challenges we face today. Researchers are trying to unravel the science behind Yoga and its applications on health and lifestyle disorders. Due to the new paradigm of modern lifestyle, stress has become a major cause for lifestyle disorders like Diabetes, Heart problems, Anxiety, Depression, Cancer etc. Research has shown evidence that Yoga is a promising tool for psychosomatic problems and lifestyle disorders. Further studies have proved that comprehensive lifestyle education based on Yoga reduces the risk factors for cardiac problems, Arthritis, and diabetes.

* Associate Professor, Swami Vivekananda Yoga AnusandhanaSamsthana (S-VYASA), Bangalore, India

** Academic Coordinator & Head, Department of Yoga Studies, Central University of Kerala, Kasaragod, Kerala, India

With the regular practice of Yoga asanas, Pranayama, and Meditation regularize the metabolic activity in the body. This helps in regulating the glucose level in the body which is the major concern for the diabetic patients. Yoga has also proven effective for improving emotional function in healthy and in clinical populations including reducing negative effect, anxiety, depression, and improving emotional well-being. These observed beneficial effects on cognitive and emotional health are thought to result in part from increased mindfulness arising from various yoga practices. Yoga Meditation practice may provide putative therapeutic benefits for individuals with deregulated affect and/or cognitive control deficits. One such example may be individuals with a substance abuse disorder.

Keywords

Yoga, spiritual upliftment, Valmiki Ramayana, Bhagavad Gita

Introduction

Yoga is an ancient Indian science and mind-body intervention described 600 BC for the effective management for health and wellbeing. Traditional texts explain various components of yoga techniques including yogic postures (*asana*), breathing practices (*pranayama*), concentrative and focused meditation (*pratyahara and dharana*), meditation (*dhyana*) and relaxation. These yogic components have beneficial effect on physical body, psychological state of mind, social wellbeing, and spiritual upliftment as described in yogic texts (*Muktibodhananda, 2009; Taimini, 1986*). Yoga is defined as ‘art of living’ for physical and mental health that involves spiritual discipline, which focuses on bringing harmony between mind and body.

The word yoga, derived from Sanskrit root ‘*yuj*’ meaning ‘to join’ or ‘to yoke’ or ‘to unite’. The union of individual consciousness with that of the higher/ supreme consciousness is Yoga. The sage *Patanjali* has given 195 verses in the form of *Patanjali Yoga Sutra* (tentative date of compilation is between 400-800 BC), mentioned several techniques as well as advice for eightfold practices of yoga i.e., *yama, niyama, asana, pranayama, pratyahara, dharana, dhyana and samadhi* in order to attain and maintain health and wellbeing. First four practices help to produce physical health whereas later four practices work on producing mental health. Overall, yoga practice can be described as a man making science that cater both material and spiritual upliftment of humanity. According to *Bhagavada Gita* (also known as song of God), considered as one of the most well-

known read and widely followed vedic literature consisting of teaching and messages of lord Krishna, explains the science of work without attachment and motivate for working skilfully (in proper consciousness) (Chinmayananda, 2003). However, yoga can be very effective in developing the lifestyle skills include problem solving, critical thinking, communication skill, decision-making, creative thinking, interpersonal relationship skills, self-awareness building skills, empathy and coping with stress skills. These skills are well defined by world health organization (WHO). Few scientific reports suggest that yoga practices helps to improve life skills by enhancing mental health and wellbeing and improve the mental process including cognition and behaviour (Dale et al., 2011; Deuskar, 2008; Gard et al., 2014; Hartfiel et al., 2011; Karawatt, 1991; Singleton, 2010). Further, this article attempts to explain the beneficial effects of yoga on mental health and cognition.

Role of Yoga in Mental Health and Wellbeing

Yoga moves on to mental and emotional level through physical level. As a result of stress and interactions of everyday living, many people suffer from stress related disorder such as phobias, depression, anxiety and neuroses. Yogic practice reduces stress, chronic pain and improve sleep pattern, and enhance overall wellbeing(Woodyard, 2011). Scientific studies reported that the regular yoga practices particularly, *asana*, *pranayama*, and meditation is helpful for balancing the autonomic nervous system (ANS) and helpful for managing stress related disorders. Yoga appears to be an effective clinical intervention for anxiety and depression. Several studies conclude with practical suggestions and implications for mental health professionals interested in using yoga (Forfylow, 2011).A study was done on the effect of Sudharshan kriya yogic breathing on stress, anxiety and depression in volunteers. Sudarshan Kriya yoga, a sequence of specific breathing techniques (*ujjayi*, *bhastrika*, and Sudarshan Kriya) that can alleviate anxiety, depression, everyday stress, post-traumatic stress, and stress-related medical illnesses. Outcome measures suggest that the Sudarshan kriya practice may contribute to a state of calm alertness include increased parasympathetic drive, calming of stress response systems, neuroendocrine release of hormones, and thalamic generators (Brown & Gerbarg, 2005). A study was conducted on Siddha Samadhi Yoga demonstrated reduction in symptom scores of anxiety, depression, and tension for yoga group, as well as an increase in well-being in comparison with the control group(KOZASA, 2008). Siddha Samadhi Yoga is a program in which meditation is associated with *pranayama* (breathing exercises).

Further, Yogic sleep showed decrease in the anxiety and stress level of both male and female (Kumar, 2008). Another study showed the effectiveness of yoga after one month practice reduction in the state-trait anxiety, depression, tension feelings and, positive outcomes in well-being (Lakkireddy et al., 2013).

Ayesha and Khurshid's study(2013) had revealed that all subscales of study skillsinventory are positively correlated with the academic achievement level. Many studies have shown that low academicperformance is also associatedwithtest anxiety(Cassady & Johnson, 2002; Chapell et al., 2005; Khalaila, 2015). Almost every student before board exams in India experiences exam or test anxiety. This mild anxiety is measured as good to keep students task oriented, but excess anxiety is associated with poor performance (Hashmat et al., 2008). One of the study on yoga mantras and Ave Maria recitation prayers have revealed beneficial formany physiological and psychological functions of the body (Bernardi et al., 2001). *Om* mantra has been found to have physiological relaxation and mental alertness (Telles et al., 1995, 1998). Recently, a study on *Om* chanting for 12 weeks have observed significant decrease in perceived stress and improvement inboth auditory and visual reaction times(Mishra et al., 2017). Additionally, another study on *Om* and *Gayatri Mantra* chanting has found significant reduction in academic stress (Sharma & Singh, 2014). A separate study on 40 elderly women (age 50-60 years) diagnosed with hypertension has shown significant decrease in BP, pulse rate, depression, anxiety and stress after 6 months of *Om* chanting(Amin et al., 2016). Further, another study (Gurjar et al., 2009) carried out analysis of acoustic of “*Om*” chanting signal that has shown in final or post part of the *Om* chanting Frequency Modulation (FM) signal carrier swing was less and uniform. This finding was concluded that chanting of *Om* mantra results in stabilization of brain, removal of worldly thoughts and increase of energy. The above mentioned studies suggest that yoga and meditation is beneficial for mental health and wellbeing.

Role of Yoga in Cognitive Functions

Cognitive functioning is the one of the most important aspect of human functioning and in that attention plays very important role in every aspect human behaviour, ranging from basic perception to complex cognition and emotions (Johnson, 2008). Attention itself divided in three separate functions, the alerting, orienting, and executive control networks(Wang et al., 2014).Alerting can be defined as activation of an appropriate aware state(Ainsworth et al., 2013a). In simple term, it is to obtain and maintain

a state of high sensitivity to incoming stimuli(Wang et al., 2014).Orienting is the selection and direction of resources towards spatial location of anticipated stimuli will be reflected(Wang et al., 2014). It is the subset of information from sensory input (Ainsworth et al., 2013b).Executive control includes high level functioning. It comprehends conflict resolution between competing stimuli and assimilation of sensory input to maintain appropriate attention allocation(Ainsworth et al., 2013a). It involves in resolving conflict among responses(Wang et al., 2014).

Yoga practices includes focusing one's attention on specific body parts, breathing process, thoughts in mind which might help to improve performance on neuro-cognitive measures of attention (Gothe et al., 2017). Alternative i.e. non-medical therapies like yoga therapy is complementary to behavioural interventions for children with attention and inhibition problem(Diamond & Lee, 2011). Practice of yoga showed significant differences not only in Physical level i.e. increase in heart rate variability, parasympathetic nervous system activity and balanced autonomic nervous system activity but also various cognitive functions like performance enhancement, neural activity, attention and executive function(Nagendra et al., 2015). By yoga practices one can improve discrimination ability by improving attention and information processing (Chou & Huang, 2017). In healthy sedentary older adults, 8 week yoga intervention showed good results on attention and processing speed capacity than stretching and strengthening exercise (Gothe et al., 2017).

The evidences of yoga practice suggest that, yoga can be acceptable and safe intervention for various mental health related issues and enhance cognitive skills in practitioners. There are few evidences indicate that yoga practice works better than other modalities of intervention for common ailments such as hypertension, diabetes, back pain, arthritis etc., and improves the quality of life.

References

- Ainsworth, B., Eddershaw, R., Meron, D., Baldwin, D. S., & Garner, M. (2013). The effect of focused attention and open monitoring meditation on attention network function in healthy volunteers. *Psychiatry research*, 210(3), 1226-1231.
- Ainsworth, B., Eddershaw, R., Meron, D., Baldwin, D. S., & Garner, M. (2013b). The effect of focused attention and open monitoring meditation on attention network function in healthy volunteers. *Psychiatry Research*, 210(3), 1226–1231. <https://doi.org/10.1016/j.psychres.2013.09.002>
- Amin, A., Kumar, S., Rajagopalan, A., Rajan, S., Mishra, F., Kumar, U., ... & Amin, A. (2016). Beneficial effects of OM chanting on depression, anxiety, stress and cognition in elderly women with hypertension. *Indian J Clin AnatPhysiol*, 3, 253-5.

- Bernardi, L., Sleight, P., Bandinelli, G., Cencetti, S., Fattorini, L., Wdowczyk-Szulc, J., & Lagi, A. (2001). Effect of rosary prayer and yoga mantras on autonomic cardiovascular rhythms: comparative study. *BMJ (Clinical Research Ed.)*, 323(7327), 1446-1449.
- Brown, R. P., & Gerbarg, P. L. (2005). Sudarshan Kriya yogic breathing in the treatment of stress, anxiety, and depression: part I—neurophysiologic model. *Journal of Alternative & Complementary Medicine*, 11(1), 189-201. <https://doi.org/10.1089/acm.2005.11.189>
- Cassady, J. C., & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary educational psychology*, 27(2), 270-295. <https://doi.org/10.1006/CEPS.2001.1094>
- Chapell, M. S., Blanding, Z. B., Silverstein, M. E., Takahashi, M., Newman, B., Gubi, A., & McCann, N. (2005). Test anxiety and academic performance in undergraduate and graduate students. *Journal of Educational Psychology*, 97(2), 268. <https://doi.org/10.1037/0022-0663.97.2.268>
- Chinmayananda, S. (2003). *Srimad Bhagavad Gita*. Central Chinmaya Mission Trust. <http://books.google.co.in/books?id=MWiw8axM6oMC>
- Chou, C. C., & Huang, C. J. (2017). Effects of an 8-week yoga program on sustained attention and discrimination function in children with attention deficit hyperactivity disorder. *PeerJ*, 5, e2883. <https://doi.org/10.7717/peerj.2883>
- Dale, L. P., Carroll, L. E., Galen, G. C., Schein, R., Bliss, A., Mattison, A. M., & Neace, W. P. (2011). Yoga practice may buffer the deleterious effects of abuse on women's self-concept and dysfunctional coping. *Journal of Aggression, Maltreatment & Trauma*, 20(1), 90-102. <https://doi.org/10.1080/10926771.2011.538005>
- Deuskar, M. (2008). The effectiveness of Yogic relaxation technique in the reduction of examination anxiety among high school students. *Journal of Psychosocial Research*.
- Diamond, A., & Lee, K. (2011). Interventions shown to aid executive function development in children 4 to 12 years old. *Science*, 333(6045), 959-964. <https://doi.org/10.1126/science.1204529>
- Forfylow, A. L. (2011). Integrating Yoga with Psychotherapy: A Complementary Treatment for Anxiety and Depression. *Canadian Journal of Counselling and Psychotherapy*, 45(2), 132-150.
- Gard, T., Noggle, J. J., Park, C. L., Vago, D. R., & Wilson, A. (2014). Potential self-regulatory mechanisms of yoga for psychological health. *Frontiers in Human Neuroscience*, 8. <https://doi.org/10.3389/fnhum.2014.00770>
- Gothe, N. P., Kramer, A. F., & McAuley, E. (2017). Hatha yoga practice improves attention and processing speed in older adults: results from an 8-week randomized control trial. *The Journal of Alternative and Complementary Medicine*, 23(1), 35-40. <https://doi.org/10.1089/acm.2016.0185>
- Gurjar, A. A., Ladhake, S. A., & Thakare, A. P. (2009). Analysis of acoustic of "OM" chant to study it's effect on nervous system. *Int J Comput Sci Netw Secur*, 9, 363-367.
- Hartfiel, N., Havenhand, J., Khalsa, S. B., Clarke, G., & Krayner, A. (2011). The effectiveness of yoga for the improvement of well-being and resilience to stress

- in the workplace. *Scandinavian Journal of Work, Environment & Health*, 70-76. <https://doi.org/10.5271/sjweh.2916>
- Hashmat, S., Hashmat, M., Amanullah, F., & Aziz, S. (2008). Factors causing exam anxiety in medical students. *Journal-Pakistan Medical Association*, 58(4), 167.
- Johnson, M. H. (2008). Cognitive neuroscience. In *Encyclopedia of Infant and Early Childhood Development* (pp. 309–318). Elsevier. <https://doi.org/10.1016/B978-012370877-9.00041-4>
- Karawatt, M. (1991). Notes for a study on the active imagination and meditation techniques. *Giornale Storico di Psicologia Dinamica*, 15, 31-53.
- Khalaila, R. (2015). The relationship between academic self-concept, intrinsic motivation, test anxiety, and academic achievement among nursing students: Mediating and moderating effects. *Nurse Education Today*, 35(3), 432-438. <https://doi.org/10.1016/j.nedt.2014.11.001>
- Kozasa, E. H., Santos, R. F., Rueda, A. D., Benedito-Silva, A. A., De Moraes Ornellas, F. L., & Leite, J. R. (2008). Evaluation of Siddha Samadhi Yoga for anxiety and depression symptoms: a preliminary study. *Psychological Reports*, 103(1), 271-274. <https://doi.org/10.2466/PRO.103.5.271-274>
- Kumar, K. (2008). A study on the impact on stress and anxiety through Yoga nidra. *Indian Journal of Traditional Knowledge*, 7, 401–404.
- Lakkireddy, D., Atkins, D., Pillarisetti, J., Ryschon, K., Bommana, S., Drisko, J., Vanga, S., & Dawn, B. (2013). Effect of yoga on arrhythmia burden, anxiety, depression, and quality of life in paroxysmal atrial fibrillation: the YOGA My Heart Study. *Journal of the American College of Cardiology*, 61(11), 1177-1182. <https://doi.org/10.1016/j.jacc.2012.11.060>
- Mishra, S., R. A., Sailesh, K. S., Bashetti, S., Ashok, S., Reddy, U. K., Antony, N. J., Joy, A., & J K, M. (2017). Beneficial Effects of Om Chanting on Perceived Stress, Auditory and Visual Reaction Time in Private School Teachers. *International Journal of Research in Ayurveda & Pharmacy*, 8(2), 79–81. <https://doi.org/10.7897/2277-4343.08269>
- Muktibodhananda, S. (2009). Hatha Yoga Pradipika. In *Yoga vidya.com*. <https://www.bihayoganet.org>
- Nagendra, H., Kumar, V., & Mukherjee, S. (2015). Cognitive behavior evaluation based on physiological parameters among young healthy subjects with yoga as intervention. *Computational and mathematical methods in medicine*, 2015 <https://doi.org/10.1155/2015/821061>
- Sharma, A., & Singh, R. (2014). Educational Stress in Adolescents: Chanting Mantras as a Powerful Coping Strategy. *Global Journal of Human Social Science-GJHSS-A*, 14(1).
- Singleton, M. (2010). *Yoga body: The origins of modern posture practice*. Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780195395358.001.0001>
- Taimini, I.K. (1986). *The science of yoga*. The Theosophical Publishing House.
- Telles, S., Nagarathna, R., & Nagendra, H. R. (1995). Autonomic changes during "OM" meditation. *Indian journal of physiology and pharmacology*, 39, 418-420. <http://www.ncbi.nlm.nih.gov/pubmed/8582759>
- Telles, S., Nagarathna, R., & Nagendra, H. R. (1998). Autonomic changes while

mentally repeating two syllables--one meaningful and the other neutral. *Indian Journal of Physiology and Pharmacology*, 42(1), 57–63. <http://www.ncbi.nlm.nih.gov/pubmed/9513794>

Wang, Y. F., Cui, Q., Liu, F., Huo, Y. J., Lu, F. M., Chen, H., & Chen, H. F. (2014). A new method for computing attention network scores and relationships between attention networks. *PLoS One*, 9(3), e89733. <https://doi.org/10.1371/journal.pone.0089733>

Woodyard, C. (2011). Exploring the therapeutic effects of yoga and its ability to increase quality of life. *International journal of yoga*, 4(2), 49-54.

Effects of Cyclic Meditation and Nadisuddhi Pranayama on Life Skills of Adolescents: A Stratified Randomized Controlled Study

A V Janardhan Reddy * & Dr. Satya Prakash Purohit**

Abstract

Adolescence is a period of rapid biological, psycho-social transitions. Life skills are the psychological abilities that enable individuals to facilitate the holistic development of an individual's psychosocial well-being. But a little evidence exists to support the effectiveness of different interventions intended to improve the life skills of adolescents. Cyclic Meditation (CM) is an advance technique of Yoga practice developed for the all-round wellbeing of a person. The aim of the study was to evaluate the effects of CM and Nadisuddhi Pranayama(NSP) on life skills of adolescent. It was a randomized controlled study with 120 participants [Yoga group(YG), n = 61(32male, 29 female with mean \pm SD of 13.47 \pm 0.89 years); and Control group (CG), n=62. (male 32, female 30 with mean \pm SD of 13.49 \pm 0.83 years)]. CM and NSP were the two Yogic practices given to the YG for around 40 minutes daily for one month, whereas, the CG had routine game period. The life skills of the both the groups were measured at pre and post through a life skill questionnaire which measures ten core life skills sub-domains and standardized for the Indian adolescents with an overall reliability of 0.96. The result showed highly significant difference ($P < 0.001$) in nine domains except empathy in YG from pre to post. Whereas, CG showed in only in four domains with the significance of $p < 0.05$ from pre to post. The between group difference was highly significant ($p < 0.001$) in eight domains except empathy ($p = 0.057$) and communication skills ($p = 0.01$). The principle adopted in CM to stimulate and relaxation; expansion of awareness from pointed to universal might have the underline cause for such result. Hence, we acknowledge the potential of the effect of CM and NSP on the life skills of adolescents.

Keywords

adolescence, cyclic meditation, lifeskills

* Scholar, Department of Yoga and Humanity, SVYASA Yoga University, Bengaluru

** Assistant Professor, Department of Yoga and Humanity, SVYASA Yoga University, Bengaluru

Introduction

Students are valuable asset of a nation. It is utmost necessary that their well-being is taken care of. However, a review study of Indian children and adolescents showed the prevalence rate of psychiatric disorders in the schools was 23.33%(Malhotra&Patra, 2014). A meta-analysis study on world-wide mental health showed the prevalence of mental disorders 13.4%, anxiety disorder 6.5%, any depressive disorder 2.6%, the attention-deficit hyperactivity disorder 3.4% and any disruptive disorder 5.7% (Polanczyk, Salum, Sugaya, Caye, & Rohde, 2015). There are various factors influence physical and mental health such as their transitional age period (Strickland, 2001), Parental influence (Papalia, Olds, & Feldman, 2002; Bornstein, 2002; Aunola, Nurmi, Lerkkanen, & Raku-Puttonen, 2003), educational environment (Gawande, 2002; Field, 2014; Sriram, 2005; Sibnath, Strodl, & Sun, 2015; Thareja&Thareja, 2014), peer and social influences (Ravishankar&Nagarajappa, 2009; Barai-Jaitly&Sen, 2003; Osman, Kowitt, Ranney, Heck, & Goldstein, 2019; Chao, Hashimoto & Kondo, 2019, Alivernini, et al., 2019), urbanization/ lifestyle change (Ramadass, Gupta, Nongkynrih, 2017; Gupta, Gupta, Jain, & Gupta, 2018) and electro-magnetic radiations (Khalil et al., 2012; Feychting, 2011; Divan, Kheifets, Obel, & Olsen, 2008; Sudan, Kheifets, Arah, Olsen, & Zeltzer, 2012).

Life skills are those abilities that enable individuals to facilitate the holistic development of an individual's psychosocial well-being. The major life skill components are decision making, problem solving, self-awareness, coping with emotions, critical thinking, coping with stress, empathy, communication skills, interpersonal skills and creative thinking (Vranda, 2009; Vranda, 2015).

Cyclic meditation is an advance yoga techniques also called "*AvartanD-hyan*" developed by Dr.Nagendra(Nagendra & Nagarathna, 2008a).The concept of CM was taken from Mandukya Upanishad(Chinmayananda,1984). The practice of CM includes prayers, different yoga postures (*asanas*) and guided relaxation techniques like IRT, QRT and DRT (Nagendra& Nagarathna, 2008b)

Need of the Study

Several studies found that adolescence is a crucial phase and undergo various physical and psychosocial issues. Strengthening life skills are very important to address these issues. Studies have shown Cyclic Meditation is important in reducing the stress and balancing emotion, but not yet explore its effect on the life skills of adolescents. Hence this study was aiming to

see the effect of cyclic meditation on life skills of the school children.

Methods:

Participants: There were 123 apparently healthy adolescents (Yoga group n= 61, Control group n = 62) were selected for the study based on the inclusion criteria aged 12 to 15 years, both the gender and given their consent to participate in the study. Participants were from a rural English medium school from rural Nellore, Andhra Pradesh, India.

Ethical Considerations:

Ethical approval was obtained from the Institutional Ethical Committee of SVYASA Yoga University, Bengaluru. A prior signed informed ascent was obtained from the participants after explaining in detail about the nature of the study. They were not provided with any incentives for their participation.

Design of the Study:

It was a randomized controlled trial. Participants were separated with the gender in the beginning; then stratified in different age range and later randomly distributed into two groups.

Assessment tools: Life Skills Questionnaire

The psychosocial skills questionnaire was developed to assess children's decision making, problem solving, empathy, communication skills, self-awareness, intrapersonal relations, coping with emotions, coping with stress, critical thinking, creative thinking etc. This is a 115 items questionnaire of which 10 sub domains such as children's decision making, problem solving, empathy, self-awareness, communication skills, interpersonal relationship, creative thinking, critical thinking, coping with emotion and coping with stress. The overall Cronbach alpha coefficient value was 0.96 and also in test retest reliability coefficient was 0.96 (Vranda, 2009)

Data extraction

The test sheet was distributed among the participants and instructed to mark their reply in the sheet. In case of any confusion the investigators were available to clarify. The response alternatives for each item for this scale are a 5-point likert scale never, rarely, sometimes, usually, and always, the scoring of the items ranged from 1-5. Thus, the possible minimum score is 115 and the maximum score is 575. Based on the scores obtained from subjects, 3 levels of life skills scores have been obtained. The levels of score

can be summarized as less than 397-Low life skills, 398 to 437-Moderate life skills and 438 and above-High life skills (Vranda,2009).

Intervention:

All the students underwent a 30-day Yoga program around 40 minutes /a day, which consists of Cyclic Meditation of around 30 minutes and Nadi-Shuddhi Pranayama of around 10 minutes (27 rounds) as follows:

A. Steps in Cyclic Meditation:

Step-1: Starting Prayer: *Laya Sambodhaye Chittam.....*(Mandukya Karika 3.44)

Step 2: Instant relaxation technique (I.R.T): Lie down on your back (in the position of Shavasana). Tighten all the muscles from toes to top, part by part, and after tightening/stretching whole body, relax the entire body in one go by loosening

Step 3: *Centering in Taadaasana*

Step 4: Standing postures: *Arthakati Chakrasana*

Step 5: Quick relaxation technique(Q.R.T.): After practicing standing postures slowly, with awareness, one has to perform Q.R.T. Lie down in Shavasana and observe the movement of the abdominal muscles. Synchronize the muscle movement with breathing. Feel energized with each inhalation and relaxed with each exhalation. Then slowly move to the sitting postures.

Step-6: Sitting postures: After gently coming up in sitting position from Q.R.T., perform Shashankasana and Ushtrasana (or *Ardha Ushtrasana*) slowly with awareness and then move for a long Shavasana.

Step 7: Deep relaxation technique : slowly move your attention from toes to head and relax each part consciously(chanting of *Aa-kara* after conscious relaxation of the lower parts, *U-kara* after middle part, *M-kara* after the upper part and *Om-kara* for the whole body(each three rounds) and finally visualize and attune to vast ocean and feel deep silence.

B. Naadishuddhi Praanaayama (NSP):

Nadi Shuddhi Pranayama (HYP 2.6 -2.10) is an alternate nostril breathing where one has to follow the following steps for 27 rounds for around 10 minutes.

One round of Nadi Soddhana Pranayama (NSP) consists of

Step-1 Inhale slowly through the left nostril with closed right nostril

Step-2 Exhale very slowly through the right nostril with closing left nostril

Step-3 Inhale slowly through the right nostril with closed left nostril

Step-4 Exhale very slowly and completely through left nostril

Note: The inhalation and exhalation process should be very slow and give a gap of around one minute after each set of nine rounds.

Closing Prayer: *Sarvebhavantusukhinah...*(*BrihadaranyakaUpanisad*)

Data Extraction and Data Analysis:

The data were collected by the research staff at the pre and post of the intervention. A semi-structured session was conducted to collect their demographic data. The investigators were available to answer any doubt and provide unbiased guidance during the data extraction. Data analysis was conducted with the following steps:

Step 1: Scoring of the items in an excel sheet

Step 2: Negatively worded items are being scored in reverse order

Step3: Pre to post paired sample 'T' Test by SPSS Version 20

Step 4: Post to post independent sample 'T' TestSPSS Version 20

Step 5: Interpreting the results

Results and Discussion

Demographic data were collected by giving a demographic sheet and with a semi structured interview by the research staff of SVYASA University Bangalore. The results of the demographic data are as follows:

Table – 1: Demographic data

Variables		Yoga group (n=61)	Control group (n =62)
Gender	Male	32 (52.45%)	32 (51.61%)
	Female	29 (47.54)	30 (48.38)
Age	12-13 years	20(32.78%)	20 (32.25%)
	13 -14 years	21(34.42%)	19 (30.64%)
	14-15 years	20(32.78%)	23 (37.09%)

Family status	Nucleus	48 (78.68%)	48 (77.41%)
	Joint family	13 (21.31%)	14 (22.58%)
Father's education	1 - 10	30(49.18%)	36(58.06%)
	11 - 12	3(4.91%)	6(9.67%)
	Above 12	28(45.90%)	20(32.25%)
Mother's education	1 - 10	37(60.65%)	44(70.96%)
	11 - 12	9(14.75%)	7(11.29%)
	Above 12	15(24.59%)	11(17.74%)
Religion	Hindu	57(93.44%)	58(93.54%)
	Muslim	4(6.55%)	2(3.22%)
	Christian	0	2(3.22%)

Table:2

Comparison of life skills from pre to post in yoga and control groups:

Variables	Yoga group				Control group			
	Pre	Post	%Ch	P-value	Pre	Post	%Ch	P-value
	Mean ±Sd	Mean ±Sd			Mean ±Sd	Mean ±Sd		
Decision making	33.57 ± 4.27	35.36 ± 4.20	5.33	0.000	32.82 ± 3.68	32.60 ± 3.52	0.67	0.030
Problem solving	41.51± 4.67	46.33 ± 4.35	11.61	0.000	42.23 ± 4.70	42.45 ± 4.61	0.51	0.075
Empathy	42.02± 5.09	43.41 ± 4.85	3.30	0.114	42.02± 5.05	41.71 ± 4.96	0.74	0.003
Self-awareness	31.93± 4.29	37.61± 3.97	17.78	0.000	34.45± 4.40	34.60± 4.33	0.43	0.151
Communication Skills	33.44± 3.65	36.03± 4.0	7.74	0.000	34.44± 4.20	34.23± 3.91	0.61	0.096
Interpersonal relation Skills	67.39± 6.11	70.02± 5.85	3.90	0.000	63.10± 6.67	62.92± 6.18	0.28	0.410
Coping with emotions	27.89± 3.30	31.43± 3.35	12.69	0.000	28.90± 3.71	29.13± 3.62	0.78	0.163
Coping with stress	29.36± 4.31	34.52± 3.98	17.57	0.000	28.16± 2.77	28.66± 2.59	1.74	0.001
Creative thinkingskills	40.44± 7.27	48.97± 6.74	21.09	0.000	43.44± 5.75	44.02± 5.48	1.31	0.000
Critical thinking skills	32.69± 4.88	36.51± 4.24	11.68	0.000	32.34± 4.18	32.60± 4.22	0.79	0.045

Table-3
Baseline and Post intervention comparison in yoga and control groups

Variables	Pre Vs Pre			Post Vs Post		
	Yoga Pre	Control Pre	P-value	Yoga Post	Control Post	P-value
	Mean ±Sd	Mean ±Sd		Mean ±Sd	Mean ±Sd	
Decision making	33.57 ± 4.27	32.82 ± 3.68	0.299	35.36 ± 4.20	32.60 ± 3.52	0.000
Problem solving	41.51± 4.67	42.23 ± 4.70	0.398	46.33 ± 4.35	42.45 ± 4.61	0.000
Empathy	42.02± 5.09	42.02± 5.05	1.000	43.41 ± 4.85	41.71 ± 4.96	0.057
Self-awareness	31.93± 4.29	34.45± 4.40	0.002	37.61± 3.97	34.60± 4.33	0.000
Communication Skills	33.44± 3.65	34.44± 4.20	0.165	36.03± 4.0	34.23± 3.91	0.013
Interpersonal relation Skills	67.39± 6.11	63.10± 6.67	0.000	70.02± 5.85	62.92± 6.18	0.000
Coping with emotions	27.89± 3.30	28.90± 3.71	0.111	31.43± 3.35	29.13± 3.62	0.000
Coping with stress	29.36± 4.31	28.16± 2.77	0.069	34.52± 3.98	28.66± 2.59	0.000
Creative thinking skills	40.44± 7.27	43.44± 5.75	0.013	48.97± 6.74	44.02± 5.48	0.000
Critical thinking skills	32.69± 4.88	32.34± 4.18	0.0671	36.51± 4.24	32.60± 4.22	0.000

Table – 6
Comparison of levels of life skills, pre vs post in yoga and control groups

Sl. No.	Levels of life skills	YOGA		CONTROL	
		Pre (n=61)	Post (n=61)	Pre (n= 62)	Post (n=62)
1.	Low (<397)	58 (95.08%)	12 (19.67%)	56 (90.32%)	50 (80.64%)
2.	Moderate (398 to 437)	3 (4.91%)	35 (57.37%)	6 (9.67%)	12 (19.65%)
3.	High (>438)	0	14 (22.95%)	0	0

The present study aimed to measure the effect of CM and NSP on life-skills of adolescents. The result showed a highly significant difference ($P < 0.001$) in nine domains of the life skills except self-awareness in Yoga group from pre to post. Whereas, the control group showed only in four domains such as decision making, empathy, coping with stress and creative thinking with the significance of $p < 0.05$, $p < 0.005$, $p = 0.001$ and $p < 0.001$ respectively from pre to post. The between group difference was significant ($p < 0.001$) in eight domains, ($p = 0.01$) in one domain except empathy ($p = 0.057$).

The number of students were 58 (95.08%) low, 3 (4.91%) moderate and 0 in high levels of life skills before intervention, which were shifted to 12 (19.67%) low, 35 (57.37%) moderate and 14 (22.95%) high level. Here there was reduction in low level from 95.08% to 19.67% improvement in moderate level from 4.91% to 57.37% and high level from 0% to 22.95%.

A study on effect of Yoga based personality development, residential program for 10 days on adolescents with a sample size of 419 adolescents showed significant difference on seven domains except decision making, empathy and communication skills (Bharat & Sarita, 2018). Another study on Yogic chanting showed chanting of *Ramarakshya Kavacha* for 30 days have a very significant impact on eight life skills domains except communication skills and self-awareness (Rajani, 2018); other study on effect of *Suryanamaskar* and NSP for one month on 134 healthy rural school children showed there were significant improvement in all the ten life skills domains from pre to post and eight domains compare to the control group (Savitri, 2019); whereas, another study found the effect of *Suryanamaskar* and *Nadishuddhi pranayama* intervention for two month on 60 orphan girls children show very significant in all the ten life skills (Herini, 2018). All the above study found aligned with the current study.

Impact of intervention on life skill development among adolescent girls, with a sample of 328 adolescent girls and with 3 months long intervention found significant change only in problem solving, coping with stress and empathy with $p < 0.05$, $P < 0.01$ & $P < 0.01$ respectively (Pujar, Hunshal, & Bailur, 2014). Another study conducted among 120 girls for three months (weekly two sessions) of educational training has a significant ($P < 0.01$) impact on critical thinking, creative thinking, problem solving, coping with stress and empathy (Pujar & Patil, 2016).

In a study conducted on life skills development among adolescent girls at risk, rescued devadasi ($n = 28$) girls in Karnataka, the effectiveness of

the programme was assessed using a standardized tool. Intervention programme (1month) was designed based on the life skills. The result analyzed indicate that programme was effective and displayed statistical significance result ($p < 0.005$) in the life skill of self-awareness (Joseph & Thomas, 2017), whereas in our studies compared with control group got no significant result ($P = 0.114$). This might be because of specified intervention design to develop specific life skills (self-awareness: which includes group discussion and role play etc.) and longer intervention period.

A study done by Bharath Srikala, Kishore Kumar K. V. Department of Psychiatry, National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, was not significant with p value of $p = 0.951$ on coping with emotion, this might be due to the long assessment programme (1 year) and with two groups sample and control group with 605 and 423 adolescents respectively from different government non-residential schools of Karnataka and students and trainers are changed and hence there was no consistency in the research procedure (Srikala & Kumar, 2010), where as in our study we found there is highly significant change ($p < 0.001$). In our study we found there is very significant change ($P = 0.001$) in the domain of life skills; decision making, whereas a survey done in Japan in late childhood had a significant change in decision making ($p = 0.08$) and problem solving ($p = 0.06$). The change may be due to survey comprising 60 life-skills items conducted with 1,888 Japanese children (924 boys and 964 girls) aged 9–12 years (Kobayashi, Gushiken, Ganaha, Sasazawa, Iwata, Takemura,.... & Takakura, 2013). A study conducted on life skills development training for adolescent girls at risk, rescued devadasi ($n = 28$) girls in Karnataka (Joseph & Thomas, 2017) the effectiveness of the programme was assessed using a standardized tool. Intervention programme (1 month) was designed based on the 10 life skills among them problem solving is one of them. The result analyzed in SPSS indicate that the programme was effective and displayed statistical significance ($p < 0.005$) whereas in our studies the intervention is for one month ($P < 0.001$).

Mechanism of the Study

The main principle of CM is to stimulate the body and followed by a relaxation techniques such IRT, QRT and DRT and which involve a series of shifting of awareness from pointed awareness to surface awareness to 3D awareness to group awareness finally to universal awareness (Nagendra & Nagarathna, 2008c) and mechanism underlying of CM further enlightened by Subramanya and Telles (2009); enhance psychomotor performance (Nagendra & Pradhan, 2010), cognitive functions (Chattha, Nagarathna,

Padmalatha, & Nagendra, 2008; Sarang & Telles, 2006), which may reduce psycho-physiological arousal (Manzoni, Pagnini, Castelnuovo, & Molinari, 2008; Nagendra & Pradhan, 2010), reduce stress and improve quality of life (Kumari & Ghosh, 2015).

The intervention of NSP for balancing two nostrils apart from the cleansing the nasal tract, increase vitality, maintain the normal pulse rate, blood pressure, improves the breath holding time and respiratory peak flow rate which may be due to clearing pranic block by balancing *Ida* and *Pingala* (Saraswati, n.d.), can improve problem solving ability and reduce basal heart rate (Subbalakshmi, Saxena, & Souza, 2005) which indicate reduction of stress and cope up with challenging situation. Stress free mind evoked relaxed responses and there is autonomic balance by dominance of parasympathetic activity (Bijlani, 2004; (Udapa, Madanmohan, Bhavanani, Vijayalakshmi, & Krishnamurthy, 2003) and reduction of perceived stress and improve of executive function (Sharma et al., 2014).

In this study the 30 days intervention of CM and NSP improved nine domains of life skills from pre to post and also nine domains compared to control group (Table-2). The strength of the study includes being the first study to see the effect of CM and NSP on the life skills of school children. There was a good sample size of 123 adolescents with 48 % females. The questionnaire was validated for Indian adolescents with high reliability (0.96) (Vranda, 2009). The study had a control group under the same residential setting. The distribution of the sample done with stratified randomized sampling. No adverse effect found in either group. Hence, this study suggests the implementation of the yogic activities in the school curriculum.

References:

- Alivernini, F., Cavicchiolo, E., Girelli, L., Lucidi, F., Biasi, V., Leone, L., Cozzolino, M. & Manganelli, S. (2019). Relationships between sociocultural factors (gender, immigrant and socioeconomic background), peer relatedness and positive affect in adolescents. *Journal of Adolescence*, 76, 99-108.
- Aunola, K., Nurmi, J. E., Lerkkanen, M. K., & Rasku-Puttonen, H. (2003). The roles of achievement-related behaviours and parental beliefs in children's mathematical performance. *Educational Psychology*, 23(4), 403-421.
- Barai-Jaitly T, Sen S. Time to stop the clock. *Editorial. Health for the Millions*. 2003; 29&30 (2&3): 2.
- Bharat, K. R. & Sharita (2018). Effects of Yoga Based Personality Development Camp (PDC). Unpublished Master's thesis, SVYASA, Bengaluru, Karnataka, India.
- Bijlani, R. L. (2004). The yogic practices: Asanas, pranayamas and kriyas. *Understanding medical physiology*, 3, 883-5.

- Bornstein, M. H. (Ed.). (2002). *Handbook of Parenting: Practical Issues in Parenting* (2ed., Vol. 5). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.
- Chao, D., Hashimoto, H., & Kondo, N. (2019). Social influence of e-cigarette smoking prevalence on smoking behaviours among high-school teenagers: Micro-simulation experiments. *PLoS one*, 14(8), e0221557.
- Chattha, R., Nagarathna, R., Padmalatha, V., & Nagendra, H. R. (2008). Effect of yoga on cognitive functions in climacteric syndrome: a randomised control study. *BJOG: An International Journal of Obstetrics and Gynaecology*, 115(8), 991–1000. <https://doi.org/10.1111/j.1471-0528.2008.01749.x>
- Chinmayananda, S. (1984). *Mandukyaupanisad*. Bombay, India: Sachin Publ.
- Divan, H., Kheifets, L., Obel, C., & Olsen, J. (2008). Prenatal and postnatal exposure to cell phone use and behavioral problems in children. *Epidemiology*, 19(4), 523–9.
- Feychting, M. (2011). Mobile phones, radiofrequency fields, and health effects in children-epidemiological studies. *Prog Biophys Mol Biol*, 107(3), 343–348.
- Gawande E.N (2002). *Value Oriented Education. Vision for better living*. Sarup & Sons.
- Gokhele, R. (2018). Effect of 'RamrakshaKavacha' Chanting on Life Skills of Adolescents. Unpublished Master's thesis, SVYASA, Bengaluru, Karnataka, India
- Gunapati, S. (2019). Effects of Surya Namaskara and Deep Relaxation Technique on The LifeSkills of Rural School Children. Unpublished Master's thesis, SVYASA, Bengaluru, Karnataka, India
- Gupta, A., Gupta, A., Jain, K. & Gupta, S. (2018). Noise Pollution and Impact on Children Health. *Indian J Pediatr*. 85(4):300-306.
- Herini, T. K. (2018) Effect of Surya Namaskar and Pranayama on Psychological Well-being of Orphan Children. Unpublished Master's thesis, SVYASA, Bengaluru, Karnataka, India
- Joseph, D., & Thomas, B. (2017). Life Skills Development Training for Adolescent Girls at Risk-Rescued Devadasi Girls in Karnataka. *Artha - Journal of Social Sciences*, 16(1), 1. <https://doi.org/10.12724/ajss.40.1>
- Khalil, A., Al-Adhammi, M., Al-shara, B., Gagaa, M., Rawshdeh, A., & Alshamli, A. (2012). Histological and ultrastructural analyses of male mice exposed to mobile phone radiation. *J Toxicology Rev*, 1(1), 1–6.
- Kumari, S., & Ghosh, S. (2015). Effect of cyclic meditation on quality of life and perceived stress in female adolescence. *International Journal of Educational and Psychological Researches*, 1(3), 238. <https://doi.org/10.4103/2395-2296.158348>
- Malhotra, S., & Patra, B. N. (2014). Prevalence of child and adolescent psychiatric disorders in India: a systematic review and meta-analysis. *Child and adolescent psychiatry and mental health*, 8(1), 22.
- Manzoni, G. M., Pagnini, F., Castelnuovo, G., & Molinari, E. (2008). Relaxation training for anxiety: a ten-years systematic review with meta-analysis. *BMC Psychiatry*, 8, 41. <https://doi.org/10.1186/1471-244X-8-41>
- Nagendra, H.R., & Pradhan, B. (2010). Immediate effect of two yoga-based relaxation techniques on attention in children. *International Journal of Yoga*, 3(2), 67. <https://doi.org/10.4103/0973-6131.72632>

- Nagendra, H. R., & Nagarathna, R. (2008). New perspectives in stress management. In Vivekananda Yoga Research Foundation, Swami Vivekananda Yoga Prakashana. <http://www.exoticindiaart.com/book/details/new-perspectives-in-stress-management-IDF675/>
- Pujar, L. L., Hunshal, S. C., & Bailur, K. B. (2014). Impact of intervention on life skill development among adolescent girls. *Karnataka J. Agric. Sci.*, 27(1), 93–94.
- Pujar, L., & Patil, S. (2016). Life Skill Development : Educational Empowerment of Adolescent Girls. *RA Journal of Applied Research*, 2(05), 468–472. <https://doi.org/10.1503/cmaj.092217>
- Papalia, D. E., Olds, S. W., & Feldman, R. D. (2002). *A Child's World: Infancy Through Adolescence* (9th ed.). McGraw Hill.
- Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual Research Review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, 56(3), 345-365.
- Ramadass S, Gupta SK, Nongkynrih B. 2017. Adolescent health in urban India. *J Family Med Prim Care*.6(3):468-476
- Ravishankar, T. L., & Nagarajappa, R. (2009). Factors attributing to initiation of tobacco use in adolescent students of Moradabad, (UP) India. *Indian journal of dental research*, 20(3), 346.
- Sibnath, D., Strodl, E., & Sun, J. (2015). Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School Students. *International Journal of Psychology and Behavioral Sciences*, 5(1), 26–34. <https://doi.org/10.5923/j.ijpbs.20150501.04>
- Sriram.A (2005). *Yoga& Education. Yoga, The Science of Holistic Living*. 5th edition, Vivekananda Kendra Prakashan Trust.
- Strickland, R. Bonnie, (2001) *Gale Encyclopedia of Psychology*, 2nd edition. ISBN9780787647865 0787647861
- Subramanya, P., & Telles, S. (2009). A review of the scientific studies on cyclic meditation. *International journal of yoga*, 2(2), 46–48. doi:10.4103/0973-6131.60043
- Sarang, S. P., & Telles, S. (2006). Changes in p300 following two yoga-based relaxation techniques. *The International Journal of Neuroscience*, 116(12), 1419–1430. <https://doi.org/10.1080/00207450500514193>
- Saraswati, S. N. (n.d.). Psychophysiological Effects of Nadi Shodhana Pranayama. <http://www.yogamag.net/archives/2011/bfeb11/ns.shtml>
- Sharma, V. K., M, R., S, V., Subramanian, S. K., Bhavanani, A. B., Madanmohan, Thangavel, D. (2014). Effect of fast and slow pranayama practice on cognitive functions in healthy volunteers. *Journal of Clinical and Diagnostic Research : JCDR*, 8(1), 10–13. <https://doi.org/10.7860/JCDR/2014/7256.3668>
- Srikala, B., & Kishore Kumar, K. V. (2010). Empowering adolescents with life skills education in schools-School mental health program: Does it work. *Indian Journal of Psychiatry*, 52(4), 344–349. <https://doi.org/10.4103/0019-5545.74310>
- Subbalakshmi, N. K., Saxena, S. K., & Souza, U. J. A. D. (2005). Immediate Effect of 'Nadi -Shodhana Pranayama ' On Some Selected Parameters of

Cardiovascular , Pulmonary , and higher functions of brain. 18(2), 10–16.

Thareja, P., & Thareja, M. (2014). Gurukula: The preface of a cool education environment. *Thareja, Priyavrat*, 1-10.

Thomas A. Field (2014) Integrating Left-Brain and Right-Brain: The Neuroscience of Effective Counseling. *The Professional Counsellor*.4(1).19-27.

Udupa, K., Madanmohan, Bhavanani, A. B., Vijayalakshmi, P., & Krishnamurthy, N. (2003). Effect of pranayam training on cardiac function in normal young volunteers. *Indian Journal of Physiology and Pharmacology*, 47(1), 27–33.

Vranda, M. N. (2015). Promotion of mental health and well-being of adolescents in schools - A NIMHANS model. *African Journal of Psychiatry (South Africa)*, 18(5), 5–9. <https://doi.org/10.4172/2378-5756.1000303>

Vranda, M. N. (2009). Development and standardization of life skills scale. *Indian Journal of Social Psychiatry*, 25(1-2), 17-28.

Sudan, M., Kheifets, L., Arah, O., Olsen, J., & Zeltzer, L. (2012). Prenatal and Postnatal Cell Phone Exposures and Headaches in Children. *Open Pediatric Medicine Journal*, 5–6, 46–52.

Integrated Yoga and Dance Movement Intervention to Enhance the Self-esteem of Low Academic Achievers

Sradha P*, K. Jayasankara Reddy**

Abstract

Adolescence is a crucial period where academic performance plays a major role in influencing mental health. Past researches have shown that there is a bidirectional relationship between self-esteem and academic performance. Self-esteem is one among the positive mental health attributes that facilitates students to perform well in academics. Since Yoga therapy and dance movement therapy has shown to improve the self-esteem of adolescent students, this study aims to find the effectiveness of integrated yoga and dance movement intervention for enhancing the self-esteem of low academic achievers during adolescence. The study uses experimental research design and data was collected from 88 students who are low academic achievers with low self-esteem. Among them 44 were selected as experimental group and 44 were selected as control group (waiting list). Integrated yoga and dance movement intervention package developed by the investigator was provided and the experimentation lasted for two months. To measure self-esteem the Rosenberg Self-esteem Scale was administered before and after the intervention. The pre and post test scores were analysed using SPSS version 23. Mann-Whitney U test results suggest that there is no significant difference between pre-test scores of experimental and control group, but there is a significant difference between the post-test score of experimental and control group. Wilcoxon Sign Rank test suggests that there are significant differences between the pre-test and post-test scores of both experimental group and control group. This concludes that Integrated Yoga and Dance Movement Intervention Package is effective in enhancing self-esteem of adolescents with low academic achievement. The result addresses the necessity for developing similar intervention to enhance other life skills that play a major role in promoting academic performance among adolescents.

* Student, MSc Psychology (Clinical), Department of Psychology

** Professor, Department of Psychology CHRIST (Deemed-to-be University), Bengaluru

Keywords

Yoga, dance movement, intervention, self-esteem, low academic achievers

Introduction

Adolescence is a crucial period of transformation from child to adult. During this period individuals faces issues based on inconsistency in identity and it can affect the person's overall performance (Santrock, 2007). Emphasising the role of self-esteem in mental health, it has shown that positive self-esteem is a protective factor that can help people gain positive social behaviour and is found to be the basic feature of mental health (Mann et.al, 2004). Mental health disorders like anxiety and depression is negatively related with self-esteem (Manna et.al, 2016). This shows that lack of self-esteem would adversely affect the mental health of adolescents. Thus, self-esteem can be identified as an important aspect especially in adolescents as they are more prone to psychological and social factors that affect self-esteem (McClure et.al, 2010).

In the modern competitive world, academic performance is an indicator for the achievement in life. The impact of positive mental health has shown an enhancement in academic performance of adolescent students (Patyal&Choudhary, 2018). Vast array of researches focuses on how self-esteem influences academic performance and has found that both are having a bidirectional relationship. A study conducted by FathiAshtiani (1998) looked at academic success in relation with the characteristics of adolescents and found that the two major characteristics are self-concept and self-esteem. Research findings suggest so many ways to improve self-esteem. There are extensive researches which looked at the role of yoga in adolescence. A research has shown that adolescent participants had a decrease in confusion, anger, tension, depression after participating in yoga (Felver et.al, 2015). Yoga has gained popularity as an effective therapy for mental health improvement because of its accessibility, acceptability, fewer side effects, self-treatment and cost effectiveness (Shroff&Asgarpour, 2017).Researches have also looked at the role of yoga in increasing self-esteem and a study has been successfully arrived at the conclusion that the pre-adolescent group who practiced yoga for one month showed significantly high self-esteem than in the control group. (Bhardwaj&Agrawal, 2013). Dance movement therapy in this context helps to bring a creative element to the research and helps to better explore the individual as a whole. Its basic principle is that movement of the body reflects inner affective

states and those changes can lead to changes in the inner self, thus enhancing mental health (Chace, 1964). More over DMT, improved overall wellbeing, improved self-concept, life satisfaction and self-consciousness (Fourie et.al,2010). There are very few studies done in adolescents of India but, a study was done on teenagers aimed to promote self-growth, self-exploration, and understanding self through the medium of music, art and dance and the integrated programme helped adolescents to achieve the same (Sajani&Manickam, 2000).

Academic low achievement is a crucial concern of our public education system. There are a majority group who struggles to attain minimum academic proficiency though they have an average IQ level even as they emerge after an eight or ten years long exposure to study. By exploring the possibility of yoga and dance movement intervention, it will serve as a means to tackle psychological distress, such students face in their learning environment. Improving self-esteem would help them to boost their self-confidence, positive self-concept, intrinsic motivations and trust in themselves and thereby improving their overall mental health.

Rational of the Study

Researches show significant relationship between self-esteem and academic performance as bidirectional and shows self-esteem as the predictor for high academic performance. Even though there are several researches done on yoga and dance movement therapy as an intervention to enhance self-esteem of adolescent's school population, there are very few researches done particularly on low academic performers. This is one of the research gaps found. The investigator felt a genuine interest and strong need to analyse the effectiveness of integrated yoga and dance movement intervention to enhance self-esteem of academic low achievers which in turn may help to enhance their achievement in learning.

Research Question

The research tries to find out whether there is any effectiveness of integrated yoga and dance movement intervention package in enhancing the self-esteem of adolescent students with low academic achievement.

Objectives

- To combine and develop yoga and dance as integrated intervention package to enhance the self- esteem of adolescent students with low academic achievement.

- To study the effectiveness of integrated yoga and dance movement intervention package on enhancing the self-esteem of adolescent students with low academic achievement.

Hypothesis of the study

H₁: There is no significant difference between the pre-test scores of self-esteem of experimental and control group.

H₂: There is a significant difference between the post test scores of self-esteem of experimental and control group.

H₃: There is a significant difference between the pre-test and post-test scores of self-esteem of experimental group.

H₄: There is no significant difference between the pre-test and post-test scores of control group.

Methods

Research Design

Pre-test Post-test two group experimental design is used for the study.

Inclusion criteria

- The sample include adolescents with low self-esteem
- Adolescent boys and girls between ages of 12-15.
- Adolescent students those who study under state syllabus are taken for the study

Exclusion criteria

- Adolescents with mental disorder or severe physical issues are not taken into consideration (GHQ score above 5 or above).
- Students of CBSE and ICC syllabus are not taken into consideration.
- Students with mild severe or profound mental retardation are not included in the study

Operational definitions

Independent variable: Integrated yoga and dance movement intervention is the independent variable. Its two components are:

Dance movement intervention: This is a therapy technique that works on the principle that both motion and emotion have connection and thus by

exploring the motions or movements' people can bring adaptability, spontaneity and balance in life (Payne, 2003).

Yoga: The term 'Yoga' is formed from the 'YUJ' a Sanskrit word, meaning 'to join' or 'to unite'. As per yogic scriptures the practice of yoga leads to the union of individual consciousness with that of the universal consciousness, indicating a perfect harmony between the mind and body, man and nature (NCERT, 2015).

Dependent variables are self-esteem and low academic achievement.

Self-esteem: Rosenberg (1965) stated that it is how the individual evaluates positively about self. He also added that it involves respecting himself and feeling himself as a trust worthy person.

Low academic achievement: Low marks of student's below normal average are considered as academic under achievement (Al-Zoubi, 2015).

Data Collection Process

The participants were in the age group between 13-14 years. They were selected from two schools named GHSS-01, Thrissur, Kerala and GHSS-02 Erumapetti, Thrissur, Kerala. There were 20 students in the experimental group and 20 students in the control group from GHSS-01 Thrissur, Kerala making a total 40 students. From GHSS-02, Thrissur, Kerala, there were 24 students in the experimental group and 24 students in the control group making a total of 48 students.

Rosenberg self-esteem scale (SES): This scale is a tool developed by Morris Rosenberg for assessing self-esteem commonly used to measure self-esteem among adolescents.

Integrated yoga and dance movement intervention package: The intervention package is based on six pillars of self-esteem which are practice of living consciously, practice of self-acceptance, practice of self-responsibility, practice of self-assertiveness and practice of personal integrity (Branden, 1995). Yoga techniques are taken from the study "Yoga practices enhances the level of self-esteem in pre-adolescent school children" done by (Bhardwaj & Agrawal, 2013). Dance movement therapy session activities were self-created by the investigator by consulting with a well-trained dance movement therapist. The researcher has modified the intervention that she felt would best fit to this sample. There were a total of 4 sessions and 1 hour for yoga therapy and 3 and half hour for dance therapy.

General health questionnaire: The General Health Questionnaire

(GHQ-28) consists of 128 items which looks at the presence of any diagnosable psychiatric disorder.

Procedure

Experimental research design was used for the study. For the study a purposive and convenience sampling method was employed to get the sample. 120 adolescent participants were screened as low academic performers from two Government schools of Thrissur District, Kerala. Rosenberg self-esteem scale is administered to select students who score low in their self-esteem, this is considered as the pre-test of this experiment. There were 94 participants who were low academic achievers with low self-esteem. Then GHQ scale was administered as a screening tool which made the total number of samples as 88. An orientation programme was conducted for both parents and students and informed consent forms and assent forms were asked to fill out if they agreed to participate in the study. In total there were 44 students in the experimental group 44 students in the control group. Integrated yoga and dance movement intervention was given to the experimental group using a time period of two months. Post-test was conducted on both the experimental group and the control group after the intervention. The data was collected for further analysis.

Data Analysis

The Rosenberg scale scores taken after pre-test and post-test are analysed using SPSS. Since the data is not normally distributed Mann -Whitney U test is done for comparison of the pre and post test scores of experimental group and control group. Wilcoxon’s sign rank test is done to compare pre-test and post-test scores of experimental group and pre-test and post-test scores of the control group.

Results

Table 1

Descriptive statistics and Mann-Whitney U test comparing self-esteem of pre-test scores of experimental group and control group

Variable	Group(pre)	N	Mean	SD	U	P
Self-esteem	E	44	11.5455	2.1616	847.5	0.306
	C	44	12.0682	1.9096		

Legend: C- control group, E- experimental group

From the table 1 the mean self-esteem score of experimental group is

11.5455 with standard deviation 2.1616 and the mean self-esteem score of control group is 12.0682 with standard deviation 1.9096. Since the p value (.306) is greater than 0.05 we can conclude that there is no significance of difference between the pre-test scores of experimental and control group at ($U=847.5$, $p>0.05$)

Table 2

Descriptive statistics and Mann-Whitney U test comparing self-esteem of post-test scores of experimental group and control group

Variable	Group(pre)	N	Mean	SD	U	P
Self-esteem	E	44	21.4545	2.4443	38.5	0.000
	C	44	13.7500	2.4220		

Legend: C- control group, E- experimental group

Table 2 shows that the mean self-esteem score of experimental group is 21.4545 with standard deviation 2.4443 and the mean self-esteem score of control group is 13.7500 with standard deviation 2.4220. Since the p value (.000) is less than 0.05 we can conclude that there is a significance of difference between the post-test scores of experimental and control group at ($U=38.5$, $p<0.05$).

Table 3

Descriptive statistics and Wilcoxon sign rank test comparing self-esteem of pre-post test scores of experimental group.

Group	Ranks	N	Mean Rank	Z	U
Experimental	Negative	0 ^a	0.00	-5.728 ^b	.000
	Positive	43 ^b	22.00		
	Ties	1 ^c			
	Total	44			

a. $EPOST < EPRE$

b. $EPOST > EPRE$

c. $EPOST = EPRE$

Table 3 depicts that the total number of students is 44 out of which 0a had negative ranks (number of students who scored lower in post-test than in pre-test), 43b had positive ranks (number of students who scores higher in post-test than in pre-test) and 1c had ties (students who scores equal

number in both pre-test and post-test. The mean rank for negative ranks is 0.00 and the mean rank for positive ranks is 22.00. Since the p value (.000) is less than 0.05 we can conclude that there is a significance of difference between the pre-test and post-test scores of experimental group at ($Z = -5.728b$, $p > 0.05$).

Table 4

Descriptive statistics and Wilcoxon sign rank test comparing self-esteem of pre-post test scores of control group

Group	Ranks	N	Mean Rank	Z	U
Control	Negative	5 ^a	15.70	-4.166 ^b	.000
	Positive	32 ^b	19.52		
	Ties	7 ^c			
	Total	44			

- a. $EPOST < EPRE$
- b. $EPOST > EPRE$
- c. $EPOST = EPRE$

Table 4 shows the total number of students is 44 out of which 5a had negative ranks (number of students who scored lower in post-test than in pre-test), 32b had positive ranks (number of students who scores higher in post-test than in pre-test) and 7c had ties (students who scores equal number in both pre-test and post-test. The mean rank for negative ranks is 15.70 and the mean rank for positive ranks is 19.52. Since the p value (.000) is less than 0.05 we can conclude that there is a significance of difference between the pre-test and post-test scores of control group at ($Z = -4.166b$, $p > 0.05$).

Discussion

This experimental study intended to find whether integrated yoga and dance movement intervention package would enhance the self-esteem of low academic performers. From table 1, the p value (.306) is greater than 0.05 which accepts the hypothesis that there is no significant difference between the pre-test scores of self-esteem of experimental and control group. From table 2, the p value (.000) is less than 0.05 which accepts the hypothesis that there is a significant difference between the post test scores of self-esteem of experimental and control group. From table 3, the p value (.000) is less than 0.05 which accepts the hypothesis that there is a signif-

ificant difference between the pre-test and post-test scores of self-esteem of experimental group. From table 4, the p value (.000) is less than 0.05 which rejects the hypothesis that there is no significant difference between the pre-test and post-test scores of control group, indicating there is a significant effect in the pre-test and post-test scores of the control group. These results suggest that integrated yoga and dance movement intervention has successfully enhances the self-esteem of low academic achievers. These results are consistent with the study aimed at increasing the self-esteem through improvisation and planned movement formation and creation of movement responses which caused an increase in self-esteem (Ingram, M., 2013). In the realm of yoga these results are similar to the results of the study in which a group who practiced yoga for one month showed significantly high self-esteem than in the control group. Thus, breathing techniques, postures and relaxation techniques helped to increase general overall and social self-esteem (Bhardwaj, &Agrawal, 2013).

Through integrated yoga and dance movement intervention the aim of enhancing self-esteem in low academic achievers becomes valid because both provide physical and mental balance. The first step of introducing yoga to every session gave them self-awareness and helped them to increase attention release stress and become more disciplined than they were before the intervention. In dance movement therapy “expressing general issues in group of three through action” gave them insight on what is going in their life and identified the issues such as parental neglect, conflict, alcoholism, love failures and inability to read and write. A study found that although several personality variables predicted participant’s emotional reactions to success and failure, these effects were eliminated once self-esteem was taken into account (Brown & Marshall, 2001). Thus, identification of different emotions at different occasion which signifies either failure or success was a major part of the intervention. In this part students also found it easier to understand not only emotions of self but also others, which helped them to have a sense of belongingness with their peers. This helped them to become self-accepting and self-assertive which is the second and third pillar of self-esteem. A study suggests that peer groups contributed 34.9% of students’ self-esteem, while the remaining 65.1% were influenced by other factors (Mujiyati, & Adiputra, 2018). Therefore, de-motivation or motivation by the peer group can influence the self-esteem. So, an interaction session was introduced to know what is good about them which strengthen their ego functioning thereby fostering personal integrity. Their purpose in life can be achieved by helping them to identify their ambitions and perform it through actions. Most of the students wanted to become football

players, driver, and bike rider. Few of them want to become engineer, doctor, chef and fashion designer. Such a difference exists, because the need for self-esteem is directly related to how well the basic need satisfaction is met. Even though such a difference exists, it is identified as the need for self-esteem should be directly related to how well the basic need satisfaction is met. Studies have also shown that low socio-economic status alone with associated number of intrapersonal, interpersonal and socio-cultural factors predict lower self-esteem among adolescents (Veselska et al., 2009). This also indicates that their goal will be slightly higher than restricted in achieving basic need satisfaction. They want to get jobs that would satisfy their self-esteem levels.

Limitation

The major limitation of the study is that it does not look into whether the increase in self-esteem was due to an increased effect of yoga therapy or dance therapy. For understanding this, factorial design would have better explained the same. The study did not control other mediating variables that would collectively influence the participant's self-esteem. Another major limitation of the study is that gender is not matched and the sample dominated male students with few female students. This would possibly make it difficult to generalize the result to both males and females.

Conclusion

Integrated yoga and dance movement intervention package enhanced the self-esteem of low academic achievers. Further studies are needed to ensure its effectiveness. Other variables such as emotional regulation, self-concept, body-image and cognitive variables like attention, memory and other executive functioning that are closely connected to academic achievement and are factors concerning positive mental health can be studied to use this package more therapeutically.

References

- Al-Zoubi, S.M., &Younes, M.A.B. (2015). Low Academic Achievement: Causes and Results. *Theory and Practice in Language Studies*, 5(11), 2262-2268. <http://www.academypublication.com/ojs/index.php/tpls/article/viewFile/tpls051122622268/477>
- Brown, J. D., & Marshall, M. A. (2001). Self-esteem and emotion: Some thoughts about feelings. *Personality and Social Psychology Bulletin*, 27(5), 575-584.
- Bhardwaj, A. K., &Agrawal, G. (2013). Yoga practice enhances the level of self-esteem in pre-adolescent school children. *International Journal of Physical*

- and Social Sciences, 3(10), 189.
- Chace, M. (1964). The power of movement with others. *Dance Magazine*, 1964 (June), 38, 42–45, 68–69.
- Dwyer, G., Baur, L., Higgs, J., & Hardy, L. (2009). Promoting children's health and well-being: Broadening the therapy perspective. *Physical & occupational therapy in pediatrics*, 29(1), 27-43.
- DeMesa-Simpson, D. (2014). The impact of dance/movement classes on adolescent behaviour in an urban high school setting.
- Doodman, P., Zadeh, M. A., & Changizi, B. (2017). Study the Relationship between Self-Esteem and Academic Achievement among High School Students in Lamerd City. *Int. J. Sci. Study*, 5, 221-226.
- FathiAshtiani, investigate the characteristics of adolescents and its relationship to academic success, Master's thesis, 1998.
- Fourie, J. E. A. N. N. E., & Lessing, A. C. (2010). The influence of dance and movement therapy (DMT) on the body image of female adolescents: dance. *African Journal for Physical Health Education, Recreation and Dance*, 16(2), 297-315.
- Ingram, M. (2013). *Unfolding Self-Esteem Adolescent Girls' Self-Esteem and the Dance/Movement Therapy Intervention of Improvisation and Planned Movement Formation: A Pilot Study*. Creative Arts Therapies Theses. 47. https://digitalcommons.colum.edu/theses_dmt/47.
- McClure, A. C., Tanski, S. E., Kingsbury, J., Gerrard, M., & Sargent, J. D. (2010). Characteristics associated with low self-esteem among US adolescents. *Academic pediatrics*, 10(4), 238-244.
- Manna, G., Falgares, G., Ingoglia, S., Como, M. R., & De Santis, S. (2016). The relationship between self-esteem, depression and anxiety: Comparing vulnerability and scar model in the Italian context. *Mediterranean Journal of Clinical Psychology*, 4(3).
- Mann, M. M., Hosman, C. M., Schaalma, H. P., & De Vries, N. K. (2004). Self-esteem in a broad-spectrum approach for mental health promotion. *Health education research*, 19(4), 357-372.
- Mujiyati, Mujiyati & Adiputra, Sofwan. (2018). Influence of Peer Group to the Self-esteem of Lampung and Javanese Students, *International Journal of Psychology and Educational Studies*, 5, 15-22. [10.17220/ijpes.2018.01.003](https://doi.org/10.17220/ijpes.2018.01.003).
- NCERT, T. (2007). *National Curriculum Framework 2005* (No. id: 1138).
- NCERT, (2015), *Yoga Education (Diploma In Elementary Education – D.EL.ED., National Council for Teacher Education, New Delhi, ISBN: 978-81-931534-0-6*
- Patiyal, S., & Choudhary, M. (2018). Impact of mental health on academic performance of students. *Indian Journal of Health and Wellbeing*, 9(5), 770-772.
- Payne, H. (2003). *Dance movement therapy: Theory and practice*. Routledge.
- Romppel, M., Braehler, E., Roth, M., & Glaesmer, H. (2013). What is the General Health Questionnaire-12 assessing?: Dimensionality and psychometric properties of the General Health Questionnaire-12 in a large scale German population sample. *Comprehensive psychiatry*, 54(4), 406-413.

- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Sajani, V. & Manickam, L.S.S (2000). Integrative art therapy in Adolescents: An experimental study. *Teens Journal of Teenage Care & Premarital Counseling*, 1, 35-40.
- Santrock, J. (2007). *Lifespan Development*. New Delhi: McGraw Hill Publishing Company.
- Shroff, F. M., & Asgarpour, M. (2017). *Yoga and Mental Health: A Review*. *Physiother Rehabil*, 2(132), 2573-0312.
- Sirin, S. R., & Rogers-Sirin, L. (2004). Exploring school engagement of middle-class African American adolescents. *Youth & Society*, 35(3), 323-340.
- Veselska, Z., Madarasova-Geckova, A., Gajdosova, B., Orosova, O., van Dijk, J. P., & Reijneveld, S. A. (2009). Socio-economic differences in self-esteem of adolescents influenced by personality, mental health and social support. *European Journal of Public Health*, 20(6), 647-652.

Effect of Yogic Practices on Selected Bio-Chemical Variables among Women Home Makers

S. Bakthavatchalam*

Abstract

The objective of the study is to reveal the effect of yogic practices on selected bio-chemical variables among middle aged home makers. To achieve the purpose of the study, 30 middle aged women, between 25-45 years old, divided into 2 equal groups of 15 subjects each as experimental and control group were selected. The study hypothesized that there would be significant differences due to yogic practices on Haemoglobin among middle aged home makers than the control group. The study will provide scientific base and guidance to the physical educationists, coaches, yogic scientist and players to *understand the effect of yogic practices on selected bio-chemical variables among home makers. The data for this study was collected from the sample population before and after the training period and were statistically analyzed by using Analysis of Co-variance (ANCOVA). Scheffes post hoc test was carried out to determine the significant differences and tested at 0.05 level of significance. The result of the study showed that the RBC, WBC and Haemoglobin among middle aged women were stabilized as result of yogic practices. Hence the hypothesis was accepted at 0.05 level of confidence.

Keywords: Yoga, RBC, WBC

Introduction

A housewife is a woman whose occupation is running or managing her family's home: caring for her children, buying, cooking, and storing food for the family, buying goods that the family needs in everyday life, house-keeping and maintaining the home, making clothes for the family and who is not employed outside the home. A housewife may also be called a stay-at-home mother.

* Asst Professor - Yoga Education, AMET University, Tamil Nadu

Objective of the study

The purpose of the study was to investigate the effect of yogic practices on selected bio chemical variables among middle aged home makers.

Hypothesis

- The hypothesis of the study was that there would be significant differences due to yogic practices on haemoglobin among middle aged home makers than the control group.

It was hypothesized that there would be significant differences due to yogic practices on selected Bio-Chemical variables among middle aged women than the control group.

Review of related literature

The study conducted by Yogaraj P, Ramaraj P and Elangovan R. (2010) was to find out the effect of selected yogic practices and physical exercises on bio-chemical variables among college women students. The study was conducted on 20 women students of Queen Mary's College, Chennai, Tamil Nadu were selected as subjects. The selected subjects were divided in two groups. Group I underwent the yogic practices training and Group II underwent the Physical exercises. The subject age ranged from 18 to 23 years. The subjects were selected at random from the college women students. The study was formulated as pre post experimental design. The yogic practice group had significant improvement in body cholesterol and improved triglyceride, HDL and LDL.

Saravanan, J. et al. (2010), has done a research on "Effect of Yogasana and Pranayama Exercises on Selected Biochemical and Physiological Variables". The study was conducted among the sixty male students studied in B.P.Ed in the Department of Physical Education and Sports Sciences, Annamalai University. The sample was selected randomly from the age between 25-28 years. They were divided in to four groups of fifteneach. Group I served as a control; Group II as Asana; Group III Pranayama and Group IV Yogasana (Asana and Pranayama). Yogasana practices were given to all the selected subjects except the control for three months (4 days/week). Biochemical and physiological variables were analyzed before and after the treatment. The result shows that the lipid levels and blood pressure moderates among the experimental group than other group. The study also reveals that combined work of Asana and Pranayama significantly improves HDL concentration and decreases blood pressure, cholesterol, triglycerides and LDL level.

Methodology

To achieve the purpose of the study, 30 women from Chennai city were selected as subjects. The age group of the women ranged from 25-45 years old. They were divided into 2 equal groups of 15 each as experimental and control group. Analysis of co-variance (ANCOVA) was used to find out the significant differences between the experimental group and the control group. The test of significance was fixed at 0.05 level of confidence.

Results and discussions

The subjects were selected at random and the groups were equated in relation to factors to be examined. The difference between the mean of the two groups in the pre-test had been taken into account during analysis of the post-test differences between the means. To achieve the purpose of study the final means were adjusted for difference with the initial means and the adjusted means were divided and tested at 0.05 level of confidence. To test the significance of changes between the means ANCOVA test was applied.

Results of haemoglobin

The pre and post test scores of the bio-chemical variables was measured and subjected to statistical treatment. The results on the effect of six weeks training of Surya Namaskar series and asana series is presented in Table 1.

Table – 1 – Computation of analysis of covariance of haemoglobin

TEST	Exp. Group	Con. Group	Sv	Sum of Squares	Df	Mean Square	F ratio
Pre test	10.4	12.53	B	190.40	1	95.2	20.8
			W	128.73	28	4.59	
Post test			B	212.65	1	106.32	22.43
			W	132.85	28	4.74	
Adjusted Mean			B	196.52	1	98.26	20.64
			W	128.52	27	4.76	
Mean gain	2.2	0.33					

*Significant at 0.05 level of confidence for the degree of freedom 1 and 28 is 4.20 and df 1 and 27 is 4.21.

The Table 1 shows the pre-test mean of haemoglobin for experimental and control groups were 10.4 and 12.53 respectively. The obtained “F” ratio of 20.8 for pre-test mean was less than the table value of 4.20 for df 1 and 28

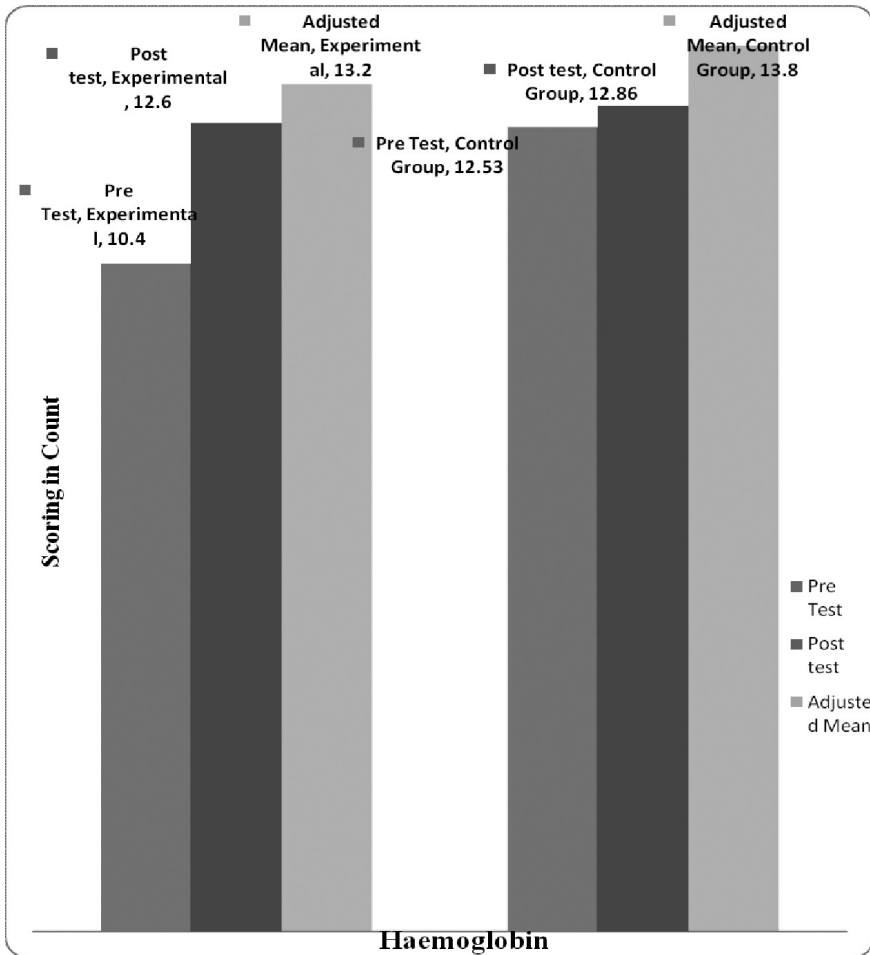
required for significance at 0.05 level.

The post-test mean of haemoglobin for experimental and control groups were 12.60 and 12.86 respectively. The obtained “F” ratio of 22.43 for post-test mean was more than the table value of 4.21 for df 1 and 28 required for significance at 0.05 level.

The adjusted post-test mean of haemoglobin for experimental and control groups were 13.2 and 13.8 respectively. The obtained “F” ratio of 20.64 for adjusted post-test mean was more than the table value of 3.23 for df 2 and 27 required for significance at 0.05 level.

Bar diagram showing the pre and post-test mean of haemoglobin

Figure-1



Conclusions

1. Bio-chemical variables were improved significantly due to the influence of the effect of Surya Namaskar series and Asana series in home makers and affect their bio- chemical variables.
2. Haemoglobin was increased significantly due to the influence of effect of Surya Namaskar series and Asana series.
3. The health condition of the home makers was increased significantly due to the influence of the effect of Surya Namaskar series and Asana series.

References

- Gharote, M. L. (1982). Importance of the hierarchy of yogic practices with Reference to Meditation & its Results. *Yoga Mimansa*, 21(1-2), 91-95.
- Gharote, M. L. (2007). *Guidelines for Yogic Practices*. Lonavla Yoga Institute(India).
- Hoare, S. (1984). *Tackle Yoga* London. (3rded).Stanley Paul and Company Ltd, 10.
- Indira Devi (1967) *Yoga: The Technique of Health and Happiness*,Bombay: Jaico Publishing House, p. 20.
- Iyengar B.K.S, (1986), *Lighton Yoga* (5thed),Gopher Allen and Unwin Publishing Ltd.,p.19.
- Iyengar, B.K.S. (1999) *The Gift of Yoga*, Harpers Collins Publications India Pvt Ltd., p.394.
- John W. Best (1977), *Research in Education* (2nded).Prentice Hall p.16
- Kothari C.R (1985), *Research Methodology* (Second Revised Edition).pp–270 -295).
- Kuvalayananda, Swami.(1977), *Asana*(1st ed).Kaivalyadhanap.32. https://d1wqtxts1xzle7.cloudfront.net/56327772/Conference_Proceedings.pdf
- Saravanan, J., Kanagasabai, P. K., &Suthakar Krishnaswamy, A. B. (2010). Effect of Yogasana and Pranayama Exercises on Selected Biochemical and Physiological Variables. *Indian Journal for Research in Physical Education and Sports sciences*, 5(1), 56-60.
- ThirumalaisamyR,(1995), *Thesis and Dissertations Writing*(1sted), Karaikudi: K.P.S.V, p.15.
- Yogi Vithaldas (1954), *The Yoga System of Health* (1sted), Faber and Faber Ltd., P1
- Yogaraj, P., Ramaraj, P., &Elangovan, R. (2010). Effect of Selected Yogic Practices Physical Exercises on Bio-Chemical Variables among College Women Students. *Asian Journal of Physical Education & Computer Science in Sports*, 3(1), 27-29.

Weblinks:

- www.healthline.com/health/wbc-count
- www.urmc.rochester.edu/encyclopedia/content.aspx
- www.msdmanuals.com
- www.ofi.com
- www.girinath.com
- www.lifeclinic.com
- www.helpguide.org
- www.en.wikipedia.org
- www.ijoy.org
- www.yoga-journal.com
- <http://www.medicinenet.com/script/main/hp.asp>
- <http://www.who.int/en>

Spiritual Intelligence, Grit and Perceived Stress among Allopathic and Ayurvedic Medical Professionals

Annmary M J* & Dr. K Jayasankara Reddy**

Abstract

Professional stress is a frequently stated phenomenon. The unique and compelling nature of medical profession puts the practitioners and students at a high risk of stress. Across the past few decades research has been reporting the prevalence of professional stress and its repercussions on medical professionals, including doctors, residents and students. Variables like grit and spiritual intelligence have been found to have potential impact in anxiety, attrition, burnout, clinical competency, job satisfaction across different population. This study aims at finding the relationship between spiritual intelligence, grit and perceived stress among allopathic and ayurvedic medical doctors and students. Data from 153 medical professionals that consisted of 32 ayurvedic and 31 allopathic doctors and 46 ayurvedic and 44 allopathic students respectively were collected for this study. The variables were measured using the 12 item Grit Scale, the Spiritual Intelligence Self-reportInventory and Perceived Stress Scale. Data analysis was done using SPSS version 23. The results suggest a significant relationship between the research variables and also regression analysis revealed grit as a predictor of perceived stress. There were no significant differences in the variables, across the two streams and between the practitioners and students. The results support a feasible intervention involving grittiness training, to inculcate life skills particularly resilience and there by improve the quality of life of medical professionals, burdened by stress.

Keywords: spiritual intelligence, grit, stress, allopathic and ayurvedic medical professional

Introduction

Doctors are one of the important pillars of the society. The art of medicine that they practice often make them referred to as the 'hands of God'. The

* Student, MSc Psychology (Clinical), Department of Psychology, CHRIST, (Deemed to be University), Bengaluru

** Professor, Department of Psychology, CHRIST, (Deemed to be University), Bengaluru

moment they step into medical field, each doctor makes an eternal commitment to save the lives of people and that becomes their purpose and priority. The lives of these life saviours are to be looked upon with great concern.

Medical professionals, in particular, forms an important category to be afflicted by work related stress because of the unique and challenging nature of their profession (Birhanu, Gebrekidan, Tesefa&Tareke, 2018; Grover, Sahoo, Bhalla &Avasti, 2018).The prevalence of stress and its detrimental effects have become an extensively reported and researched topic among medical students, residents and doctors (Adeolu, Yussuf& Popoola, 2016; Chakraborti et al., 2013; Heinen, Bullinger, &Kocalevent, 2017; Waldman et al., 2009). Numerous researches have advocated long working hours, unbearable work load, physical and psychological environment, management issues, less efficient allocation of work, family interference, medical ethical issues and missed meals as the major stressors experienced by medical personnels (Birhanu et al., 2018; Rajan&Bellare 2011). Studies have also revealed extensive course load, emotionally strained situations like handling diseases, illness and dying, sleeplessness and pressure of finishing the course successfully as problems faced by medical students (Birhanu et al., 2018; Chakraborti et al., 2013; Khoshhal, Khairy, Guraya&Guraya, 2017; Rajan&Bellare 2011).

The ramification of stress can be seen in the biological psychological and social aspects of medical professionals. Burn out in medical professionals is the most alarming and common manifestation of stress (Grover et al., 2018; Waldman et al., 2009; Lebares et al., 2018).This becomes imperative and a matter of concern as it results in drop out of medical professionals. According to the reports of American Foundation of Suicide Prevention, chances of suicidal death among physicians is 70% more likely than any other professionals and the rates shoots up to 250-400 percent when it is among female doctors (Birhanu et al., 2018). Not only that, studies have pointed out the high prevalence of substance abuse and dependence, mainly nicotine, cannabis, alcohol and benzodiazepines among medical professionals (Grover et al., 2018). Stress is accountable for all these startling issues.

Stress also adversely affects the quality of care provided by medical professionals, as well as make them indulge more in dehumanizing behaviours as a mode of coping (Birhanu et al., 2018; Głębocka, 2019). Dehumanization, comprising aggressive behaviours that hurts individual's dignity, is a maladaptive defence because even if it fosters the well-being of the care giver, it negatively affects the psychological and physical well-being of

the patients along with straining the doctor patient relationship (Głębocka, 2019). Another interesting aspect of stress among medical professionals is their reluctance to seek help from mental health professionals. A study conducted on resident doctors listed fear of being called weak, being convicted as ignoring work with the excuse of stress and negative impression in the eyes of faculty and social stigma as the barriers that comes in the way of seeking help (Grover, Dua, Shouan, Nehra & Avasthi, 2019).

Existing literatures have voiced the need for an immediate action for the welfare of medical professionals. As their wellbeing is intervened with the health of society, call for action becomes a necessity and our responsibility towards them who trains and works selflessly for others.

Reducing success to talent, hard work and skill is not a new concept. But associating success with grit: a, non-cognitive trait, is relatively new in this area of research. Researchers advocated that there was definitely something else other than intelligence or talent that predicted achievement. Grit can be defined as the individual's capability to uphold and go through their interest over a long period of time (Wong, Anderson, Knorr, Joseph & Sanchez, 2018). It has also been titled as an appropriate indicator of success in numerous stressful and high achievement fields (Dam, Perera, Jones, Haughey & Gaeta, 2019). In the context of medical professionals, measuring their grit is inevitable, as theirs is a long term commitment and grit is a measure of passion and perseverance towards long term goals (Halliday, Walker, Vig, Hines, & Brecknell, 2017). Several studies have provided evidences for grit being an effective predictor of attrition and academic performance among medical professionals (Burkhart, Tholey, Guinto, Yeo, & Chojnacki, 2014; Cross, 2014; Salles et al., 2017).

Another interesting area of research focusing grit is the attempt to find the relationship it holds with burnout. Studies on medical personnel claimed that, the more grittier you are, the less chance of professional burnout (Dam et al., 2019; Halliday et al., 2017; Kelly et al., 2018). A positive correlation between grit, well-being and job satisfaction was also found out (Reed, Schmitz, Baker, Nukui & Epperly, 2012; Salles, Cohen, Mueller, 2014). The current status of role of grit in medical professionals has broadened its scope in the efforts for the betterment of the population. Studies have even proposed the idea of mandatory measurement of grit levels in medical aspirants so as to avoid later attrition (Cortez et al., 2019; Kelly et al., 2018; Ray & Brown, 2015). Along the same line, studies have also suggested the need for studying the impact of clinical training on the grit levels of the medical personnel (Burkhart et al., 2014; Halliday, 2017; Salles 2014). A

compelling thing to note here is that even though grit has been studied in relationship with several variables in medical population, there is hardly any study that looks upon the relationship it shares with stress, one of the major issues in the field. Researchers have shared the possibility of grittiness training programs to enhance well-being and retention in medical field (Walker, Hines & Brecknell, 2016). Such a training can be extrapolated on stress management, if there is a significant relationship between stress and grit.

When an individual exercises his understanding about own inner thoughts to give meaning and values, confront their problems and widen their consciousness to higher level, he is said to have a higher spiritual intelligence (Walker et al., 2016). Spiritual intelligence is a familiar topic of research in medical field. But most of the researches pertaining to it were conducted on nurses. These researches have found a positive relationship between spiritual intelligence and job satisfaction, clinical competency and stress management (Karimi-Moonaghi et al., 2015; Sabanciogullari, Çatal, & Doğaner, 2019; Torab & Nadali, 2016). Having a similar, in fact more challenging environment of work like nurses, such studies are relevant in medical professionals as well. A study conducted on the palliative care professionals, including physicians, on the effectiveness of spiritual care training posits that it was beneficial in reducing work stress (Wasner, Longaker, Fegg & Borasio, 2005). Extending such an intervention to other medical professionals will be of great benefit and as an initial step, studies should be conducted on wider scale to figure out the relationship between spiritual intelligence and stress in medical professionals.

The Indian scenario of medical professionals is worth considering. Indian studies that assess the prevalence of stress, burnout and psychological issues among medical professionals are very less (Grover et al., 2018; Saini, Agrawal, Bhasin, Bhatia & Sharma, 2010). This does not justify that Indian medical professionals do not experience stress but instead is an indication of inattentiveness towards their need. The disproportionate ratio between available doctors and the population in India in itself reveals the gravity of any issue that is related to the well-being of medical professionals, because we already have less and losing more professionals would be tragic. Hence it is high time we do something.

While looking at the spiritual intelligence among medical professionals it becomes unavoidable to consider the differences in the stream they follow. It would not be wrong to assume that medical professionals following Ayurveda stream will have more spiritual intelligence compared to those

who follows allopathic medicine because the former has the elements of yoga and naturopathy in it, but a scientific validation is required to claim it. The differences this could make in stress levels experienced by the professionals in both the stream is also worth studying. The analysis of relationship between grit, spiritual intelligence and stress will give us the appropriateness of interventions involving spiritual training and training for grittiness in Indian medical professionals.

Materials and Method

This is a quantitative study. The study was conducted on Allopathic and Ayurveda medical doctors and medical students. Ethical clearance for the study was obtained from the institutional review board. A convenient sampling method was used.

Inclusion Criteria:

- The sample includes active medical practitioners (Allopathy and Ayurveda), with an experience of at least 1 year.
- Medical students and medical trainees (Allopathy and Ayurveda) who have been enrolled in the course for at least 1 year.

Exclusion Criteria:

- Medical practitioners and students who are clinically diagnosed with any psychological disorders.

The sample size of the study was 153: 31 Allopathic medical doctors, 32 Ayurveda doctors, 44 Allopathic students and 46 Ayurveda students. Informed consent form was obtained from each of the participant. The data from participants were collected by online (Google form) and offline (print out) methods, as per the convenience. Data was collected using the following assessment tools and in the following order.

1. Socio demographic details like gender, age, marital status was collected.
2. 12 item Grit Scale
3. The Spiritual Intelligence Self Report Inventory (SSRI-24)
4. Perceived stress scale

Data analysis was done using SPSS version 23. Descriptive statistics was used to describe the sample. Correlational analysis and liner regression were conducted to find out the relationship and predictability of variables. MANOVA was done to compare the variables across Allopathic and Ayurveda streams and across medical doctors and students.

Results

Table 1 shows the descriptive statistics of the data collected from the sample and their distribution pattern. Shapiro-Wilk test for normality shows that research variables are normally distributed. The mean scores of perceived stress suggest that most of the participants in the study perceive their lives as moderately stressful.

Table 1: Descriptive statistics and test for normality

Variables	Mean	Minimum	Maximum	Standard deviation	W	
					Statistic	P
Grit	3.34	2	5	.566	.991	.490
Spiritual intelligence	54.2	18	90	14.613	.992	.574
Perceived stress	18.99	5	36	5.531	.989	.276

Table 2 depicts the results of correlational analysis that was done across the research variables. The results suggest a small, but significant negative correlation between grit and perceived stress and also spiritual intelligence and perceived stress. The result also indicates that there exists a significant positive correlation between grit and spiritual intelligence.

Table 2 Test of Correlation

Correlation				
		Grit	SI	PS
Grit	r	1	.262**	-.385**
	Sig		.001	.000
	N	153	153	153

SI	r	.262**	1	-.175*
	Sig	.001		.031
	N	153	153	153
PS	r	-.385**	-.175*	1
	Sig.	.000	.031	
		153	153	153

** Correlation is significant at the 0.01 level (2-tailed)

* Correlation is significant at the 0.05 level (2-tailed)

Being able to establish a significant relationship between the variables, the predictability of grit and spiritual intelligence on perceived stress was analysed. Table 3 consists of the results of the regression analysis. Accordingly, it was found that grit is a significant negative predictor of perceived stress. Such a significant predictive relationship was absent between spiritual intelligence and perceived stress.

Table 3 - Regression Analysis

IV	β	t	r ²	F	DW
Grit	-.364	-4.68**	.154	13.669	2.066
SI	-0.079	-1.02			

DV- Perceived stress

Table 4- Chi square test of Independence

Occupation * Stream Cross tabulation					
Count		Stream		Total	X ²
		Allopathy	Ayurveda		
Occupation	Medical Practitioners	31	32	63	0.001
	Medical Students	44	46	90	
Total		75	78	153	

Multiple analysis of variance was carried out to figure out the differences across the three research variables between the streams, Allopathy and Ayurveda and within medical practitioners and students. Chi square test of association carried out advocated that the data collected from both the streams and both the practitioners and students are unique. Table 4 shows the results of chi square test of association.

Table 5 - Descriptive statistics MANOVA

Descriptive Statistics					
Occupation	Stream		Mean	Std. Deviation	N
Medical Practitioners	Allopathy	Grit	3.54	.567	31
		SI	57.9	16.487	31
		PS	19.06	6.016	31
	Ayurveda	Grit	3.37	.633	32
		SI	54.75	12.821	32
		PS	18.06	5.186	32
Medical Students	Allopathy	Grit	3.33	.552	44
		SI	53.34	16.232	44
		PS	18.41	5.609	44
	Ayurveda	Grit	3.21	.508	46
		SI	52.13	12.662	46
		PS	20.13	5.323	46

Table 5 indicates the descriptive statistics of MANOVA. The mean values of grit, spiritual intelligence and perceived stress, indicates higher grit levels, spiritual intelligence and perceived stress among medical practitioners, in comparison with medical students. Similarly, it is also seen that the spiritual intelligence scores of allopathic professionals are slightly higher than the Ayurveda professionals. Also, there is a clear higher perceived stress levels for Ayurveda medical students than their allopathic counterparts, indicating a high level of stress among Ayurveda students. But in contrast

the perceived stress levels are slightly higher in allopathic medical professionals than Ayurveda medical professionals. The grit scores of allopathic and ayurvedic medical professionals as well as allopathic and ayurvedic students are comparable.

The MANOVA analysis indicates that even though such differences exist within medical practitioners and students and between allopathic and Ayurveda professionals, the differences are not statistically significant. Table 6 shows the results of MANOVA and it can be clearly understood that the differences are not significant.

Table 6 - Multiple analysis of Variance

		Mean Square	Df	F	P
Occupation	Grit	1.21	1	3.853	0.052
	SI	477.7	1	2.239	0.137
	PS	18.478	1	0.605	0.438
Stream	Grit	.759	1	2.415	0.122
	SI	176.355	1	0.826	0.365
	PS	4.792	1	0.157	0.692
Occupation * Stream	Grit	0.28	1	0.088	0.767
	SI	34.955	1	0.164	0.686
	PS	68.689	1	2.251	0.136

Discussion

The study intended to find out the accuracy of grittiness level training and spiritual intelligence training as a potential solution for stress experienced by medical professionals. In contrast to the higher grit levels advocated for medical students in previous studies, this particular sample shows a comparatively less grit levels for medical students. (Burkhart, R et al. 2014). This difference can be attributed to the discrepancies in the culture from which the sample is taken, indicating a lesser grit value for Indian medical students.

The study has shown a significant negative relationship between grit and

perceived stress. This result is in contrast with the study conducted by Wong et al., where they found no relationship between grit and perceived stress (Wong et al., 2018). Such a change may be due to the limitations of the previous study like less sample size, sample collected from a single medical centre and the less response rate. The current study had a sample size of 153 and included medical personnel from different places all over India and streams and hence our results are believed to have high external validity. A significant negative relationship was also found between spiritual intelligence and perceived stress. Studies that have enquired the relationship between these two variables hardly exist and hence this very attempt can be a trigger for further researches. A significant positive correlation between grit and spiritual intelligence was also proposed by the study. Although in a different sample, such a relationship was found out by previous study (Walker et al., 2016).

To check for potential interventions just knowing the relationship between grit, spiritual intelligence and perceived stress is not enough. It must be figured out whether, the changes in these variables are able to make a change in perceived stress. Regression analysis revealed grit as a strong negative predictor of perceived stress. This can be understood as, if the grit level of the individual could be increased; their perceived stress could be reduced. This finding also proposes grittiness level training as an effective way to solve the stress related issues in medical professionals in India. The study also put forward that the predictability of spiritual intelligence in perceived stress is insignificant even though both shares a significant negative relationship. Thus, it can be clearly concluded that a spiritual intelligence training in improving the life quality of medical professionals will not be an accurate intervention as it was for medical nurses (Karimi-Moonaghi et al., 2015).

The strong predictive nature of grit and perceived stress can be understood in terms of the effectiveness of grit as a predictor of attrition, as propagated by existing literatures (Halliday et al., 2017; Salles et al., 2017). There is existing literature that has proposed stress as a cause of burn out, low quality of life and attrition among medical professionals (Birhanu et al., 2018; Grover et al., 2018; Heinen, 2017; Rajan&Bellare 2011). So, if grit can predict stress, it can also predict its repercussions. Hence, the idea of using grittiness level as a screening tool for choosing suitable medical candidates can also be considered (Burkhart et al., 2014).

Even though not statistically significant, the study was able to find that the grit levels of medical practitioners are higher than the grit levels of medical

students. This result is consistent with other literatures and also with the fact that grit increases with age (Halliday et al., 2017; Salles et al., 2017). Such an increase in perceived stress levels and spiritual intelligence is also observed. High spiritual intelligence for medical practitioners have more to do with their age and experiences, because more experiences we have, the chances of growing spiritually is high. The increase in perceived stress can be understood in a way that, medical practitioners are responsible for each and every patient coming to them, but on the other hand students are still being trained to carry out this responsibility. The differences in the responsibilities they hold justify the differences in their perceived stress levels.

In contrast to our assumption of Ayurveda professionals having higher spiritual intelligence than their allopathic counterparts, because of the elements of yoga and naturopathy in the former, was disapproved. The study showed that both allopathic practitioners and students had higher mean score for spiritual intelligence, than their Ayurveda counterparts. This clearly states that even though ayurvedic professionals are being introduced to the essence of yoga and naturopathy, it is not sufficient to make a significant change in their spiritual intelligence.

The study also showed that ayurvedic medical students are experiencing a higher rate of perceived stress than allopathic medical students. This may be stemming from their uncertainties regarding their future. In the Indian scenario, even though ayurvedic medicine is the traditional one, most of them prefers allopathic over it. This can be an additional stressor to those who do medicine in Ayurveda, because after all these struggles and hard work, if they are not being acknowledged well, then all of it becomes a futile process. The differences in syllabus can also contribute to this higher stress level.

Conclusion

The study found out a significant negative correlation between grit and perceived stress and spiritual intelligence and perceived stress. It also found a significant positive correlation between grit and spiritual intelligence. The study found no significant differences in the research variables between the streams and within medical practitioners and students. The study also put forward grit as an effective predictor of perceived stress and hence it can be concluded that grittiness level training is an accurate intervention for medical professionals troubled by stress. The training will possibly improve their life skills, particularly resilience and there by ensure a better quality of life.

References

- Adeolu, J. O., Yussuf, O. B., & Popoola, O. A. (2016). Prevalence and correlates of job stress among junior doctors in the university college hospital, Ibadan *Annals of Ibadan postgraduate medicine*, 14(2), 92-98.
- Birhanu, M., Gebrekidan, B., Tesefa, G., & Tareke, M. (2018). Workload Determines Workplace Stress among Health Professionals Working in Felege-Hiwot Referral Hospital, Bahir Dar, *Journal of environmental and public health*, 2018.
- Burkhart, R. A., Tholey, R. M., Guinto, D., Yeo, C. J., & Chojnacki, K. A. (2014). Grit: a marker of residents at risk for attrition?. *Surgery*, 155(6), 1014-1022.
- Chakraborti, A., Ray, P., Sanyal, D., Thakurta, R. G., Bhattacharayya, A. K., Mallick, A. K., Das, R., & Ali, S. N. (2013). Assessing perceived stress in medical personnel: in search of an appropriate scale for the Bengali population. *Indian journal of psychological medicine*, 35(1), 29.
- Cortez, A. R., Winer, L. K., Kim, Y., Hanseman, D. J., Athota, K. P., & Quillin III, R. C. (2019). Predictors of medical student success on the surgery clerkship. *The American Journal of Surgery*, 217(1), 169-174.
- Cross, T. M. (2014). The gritty: grit and non-traditional doctoral student success. *Journal of Educators Online*, 11(3), n3.
- Dam, A., Perera, T., Jones, M., Haughey, M., & Gaeta, T. (2019). The relationship between grit, burnout, and well-being in emergency medicine residents. *AEM education and training*, 3(1), 14-19.
- Gł-bocka, A. (2019). Stress and dehumanizing behaviors of medical staff toward patients. In *Advances in Medicine and Medical Research* (pp. 97-104). Springer, Cham.
- Grover, S., Dua, D., Shouan, A., Nehra, R., & Avasthi, A. (2019). Perceived stress and barriers to seeking help from mental health professionals among trainee doctors at a tertiary care centre in North India. *Asian Journal of Psychiatry*, 39, 143-149.
- Grover, S., Sahoo, S., Bhalla, A., & Avasthi, A. (2018). Psychological problems and burnout among medical professionals of a tertiary care hospital of North India: A cross-sectional study. *Indian journal of psychiatry*, 60(2), 175.
- Halliday, L., Walker, A., Vig, S., Hines, J., & Brecknell, J. (2017). Grit and burnout in UK doctors: a cross-sectional study across specialties and stages of training. *Post-graduate medical journal*, 93(1101), 389-394.
- Heinen, I., Bullinger, M., & Kocalevent, R. D. (2017). Perceived stress in first year medical students-associations with personal resources and emotional distress. *BMC medical education*, 17(1), 4.
- Karimi-Moonaghi, H., Gazerani, A., Vaghee, S., Gholami, H., Salehmoghaddam, A. R., & Gharibnavaz, R. (2015). Relation between spiritual intelligence and clinical competency of nurses in Iran. *Iranian journal of nursing and midwifery research*, 20(6), 665.
- Kelly, A. M., Townsend, K. W., Davis, S., Nouryan, L., Bostrom, M. P., & Felix, K. J. (2018). Comparative assessment of grit, conscientiousness, and self-control in applicants interviewing for residency positions and current orthopaedic surgery residents. *Journal of surgical education*, 75(3), 557-563.

- Khoshhal, K. I., Khairy, G. A., Guraya, S. Y., & Guraya, S. S. (2017). Exam anxiety in the undergraduate medical students of Taibah University. *Medical teacher*, 39(sup1), S22-S26.
- Lebares, C. C., Guvva, E. V., Ascher, N. L., O'Sullivan, P. S., Harris, H. W., & Epel, E. S. (2018). Burnout and stress among US surgery residents: psychological distress and resilience. *Journal of the American College of Surgeons*, 226(1), 80-90.
- Rajan, P., & Bellare, B. (2011). Work related stress and its anticipated solutions among post-graduate medical resident doctors: A cross-sectional survey conducted at tertiary municipal hospital in Mumbai, India. *Indian journal of medical sciences*, 65(3), 100.
- Ray, R., & Brown, J. (2015). Reassessing student potential for medical school success: distance traveled, grit, and hardiness. *Military Medicine*, 180(suppl_4), 138-141.
- Reed, A. J., Schmitz, D., Baker, E., Nukui, A., & Epperly, T. (2012). Association of "grit" and satisfaction in rural and nonrural doctors. *The Journal of the American Board of Family Medicine*, 25(6), 832-839.
- Sabanciogullari, S., Çatal, N., & Doğaner, F. (2019). Comparison of Newly Graduated Nurses' and Doctors' Opinions About Spiritual Care and Their Emotional Intelligence Levels. *Journal of Religion and Health*, 1-13.
- Saini, N. K., Agrawal, S., Bhasin, S. K., Bhatia, M. S., & Sharma, A. K. (2010). Prevalence of stress among resident doctors working in Medical Colleges of Delhi. *Indian journal of public health*, 54(4), 219.
- Salles, A., Cohen, G. L., & Mueller, C. M. (2014). The relationship between grit and resident well-being. *The American Journal of Surgery*, 207(2), 251-254.
- Salles, A., Lin, D., Liebert, C., Esquivel, M., Lau, J. N., Greco, R. S., & Mueller, C. (2017). Grit as a predictor of risk of attrition in surgical residency. *The American Journal of Surgery*, 213(2), 288-291.
- Torabi, M., & Nadali, I. Z. (2016). When does spiritual intelligence particularly predict job engagement? The mediating role of psychological empowerment. *Iranian journal of nursing and midwifery research*, 21(6), 589.
- Waldman, S. V., Diez, J. C. L., Arazi, H. C., Linetzky, B., Guinjoan, S., & Grancelli, H. (2009). Burnout, perceived stress, and depression among cardiology residents in Argentina. *Academic Psychiatry*, 33(4), 296-301.
- Walker, A., Hines, J., & Brecknell, J. (2016). Survival of the grittiest? Consultant surgeons are significantly grittier than their junior trainees. *Journal of surgical education*, 73(4), 730-734.
- Wasner, M., Longaker, C., Fegg, M. J., & Borasio, G. D. (2005). Effects of spiritual care training for palliative care professionals. *Palliative medicine*, 19(2), 99-104.
- Wong, M. L., Anderson, J., Knorr, T., Joseph, J. W., & Sanchez, L. D. (2018). Grit, anxiety, and stress in emergency physicians. *The American journal of emergency medicine*, 36(6), 1036-1039.

Enhancing Life Skills through the Practice of Yoga

Alka Ranjan*

Abstract

The World Health Organization (WHO, 1948) defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.” Life skills which has been divided into three categories – social, thinking and emotional skills helps in promoting ‘health for all.’ Yoga through its practice helps towards physical, mental, social and spiritual well-being. The present paper looks at the integration of life skills and yoga in promoting health. Sampling comprises websites and systematic review of literature. Quantitative and qualitative data are analyzed through content analysis. The recent integrative trends and patterns are identified towards health promotion.

Keywords: life skills, yoga, health, well-being, qualitative content analysis

Introduction

Yoga and life skills are life style approaches towards health promotion. The process of enabling people to increase control over, and to improve, their health to reach a state of complete physical, mental and social well-being, an individual or group must be able to identify and to realize aspirations, to satisfy needs, and to change or cope with the environment is health promotion (WHO, 1986). Health is, therefore, seen as resource for everyday life, not the objective of living. Health is a positive concept emphasizing social and personal resources, as well as physical capacities. Therefore, health promotion is not just the responsibility of the health sector, but goes beyond healthy life styles to well-being.

Yoga and life skills are positive health behaviour that promotes health. The World Health Organization (1997) has defined life skills as, “the abilities for adaptive and positive behaviour that enable individuals to deal effectively with the demands and challenges of everyday life.” Life skills prepare children, adolescents, adults and elderly to face the challenges of life.

* Indian Institute of Psychology & Research, Bengaluru, Karnataka

WHO, UNICEF and UNESCO have extensively worked on the concept of life skills. The ten core life skills can be grouped into three categories. The cognitive skills category consists of problem solving, critical thinking, creative thinking and decision-making. Social skills category has interpersonal relationship skills, effective communication skills, self-awareness building skills and empathy, while coping skills category comprises coping with stress and emotions.

According to B. K. S. Iyengar (2005) the word Yoga is derived from the Sanskrit root ‘yuj’ meaning to bind, join, attach and yoke, to direct and concentrate one’s attention on, to use and apply. It also means ‘union’ or ‘communion’. It is the true union of our will with the will of God... Yoga is one of the six orthodox systems of Indian philosophy. It was collated, coordinated and systematized by Patanjali in his classical work, the Yoga Sutras... In Indian thought, everything is permeated by the Supreme Universal Spirit (Paramatma, and so secure liberation (Moksha)... In the sixth chapter of the Bhagavad Gita, Sri Krishna explains to Arjuna, the meaning of Yoga as a deliverance from contact with pain and sorrow.

Thus, yoga and life skills together promote positive health and well-being. The aim of this research is to study the integration of life skills and yoga in promoting health. It looks at the conceptualization, process and application of life skills and yoga as an integrated method / technique.

Methodology

A systematic review of literature is conducted to understand the role of life skills and yoga in promoting health. Research articles, news reports and websites are searched through Google and National Digital Library.

Table 1. Sample Characteristics

Author (year)	Sample	Aim	Methodology	Results
Buterbaugh, J. (2015)	News article	Classroom program	conceptual	Evidence-based classroom program – Transformative Life Skills helps in stress-management through yoga.
De Collibus, A. (2017)	News article	Yoga and life skill	conceptual	Yoga helps in developing life skills

Donnegan, K. F., Setti, A. & Allen, A. P. (2018)	Abstract	Yoga and thinking	Pre-test – post-test design	No effect was found
Moein, L. (2013)	Research article	Efficiency of yoga training on adjustment and improvement of interpersonal relationship of criminal children and adolescents	Semi-experimental with control and experimental designs. Covariance analysis was done.	Yoga training increases adjustment and improves interpersonal relation.
Moran, S. et al. (2016)	Research article	Yoga and awareness	Tool development	Exo-Pranayama – a bio-feedback method using yoga helps in self-awareness
NCERT (2015)	Book chapter	Yoga and stress management	Conceptual paper	Yoga helps to deal with stress and promotes health.
Nelson, L. L. (2017)	Abstract	Yoga and stress management	Tool development	Yoga-based stress management
Press Trust of India (2019)	News article	UGC curriculum	conceptual	Life skills programme “JeevanKaushal”
Saxena, A. (2019)	News article	School curriculum	conceptual	Life skills to be imparted through yoga in school curriculum
Shah, R. et al. (2015)	Research article	Emotional intelligence and yoga in college students	Data was collected through survey method. Pre-test-Post-test design was used. Analysis was done through Wilcoxon’s signed-rank test and chi square.	Attitude of the students become positive and inner strength increases through Raj yoga meditation

Results

The quantitative and qualitative data was analyzed by using content analysis. Table II shows the results obtained from the analysis.

Table 2 - Results of Content Analysis

Data type	Chunks	Code for each Chunk	No. of times used
Buterbaugh, J. (2015) Qualitative	<ul style="list-style-type: none"> • “Transformative Life Skills (TLS) is an evidence-based classroom program that teaches middle and high school students stress-management skills through the practice of yoga and mindful breathing”. • “TLS is a prevention and intervention program that incorporates yoga postures, breathing techniques and meditation as a means to cope with stress”. • “The study, published in the Journal of Applied School Psychology, shows that students experienced a decrease in reported stress and an improvement in their academic skills”. • “The researchers found significant improvement in students’ school engagement as well as a reduction in unexcused absences and detentions”. • “Students’ attitudes toward resorting to violence also decreased, and they developed better coping skills”. • “More than 35 schools in the greater San Francisco Bay area have already integrated TLS into their programming. Other organizations such as juvenile detention centers also are using the program”. 	A program that reduces stress through yoga	3
	<ul style="list-style-type: none"> • “Through practicing yoga, children can develop skills that will serve them emotionally, physically and spiritually throughout their lives”. 		

<p>De Collibus, A. (2017)</p> <p>Qualitative</p>	<ul style="list-style-type: none"> • “As a teacher of children, I look at these as essential life-skills that will help children navigate through social and emotional challenges not only during their school years but later throughout their professional and personal lives”. • “I always aim to introduce my young students to a variety of simple breathing and relaxation techniques, postures that can make them feel strong, calm, or joyful, and various meditation exercises”. • “Yoga removes the competitive, performance nature of sports or dance, and places the focus not on the external but on the internal - nourishing oneself from the inside out. It is a rich environment for a child to grow confident in their body. We celebrate ourselves from the inside out”. 	<p>Yoga helps in developing life skills</p>	<p>3</p>
<p>Donnegan, K. F., Setti, A. & Allen, A. P. (2018)</p> <p>Quantitative</p>	<ul style="list-style-type: none"> • “We compared performance on a test of divergent thinking in healthy adults, the Abbreviated Torrance Test for Adults (ATTA), and one test of convergent thinking and field independence, the Group Embedded Figures Test (GEFT), before and after one session of ashtanga yoga, and one session of aerobic exercise”. • “Divergent thinking was not affected by either intervention overall; however, fluency of novel ideas generated was reduced post-intervention in both groups”. • “Practice effects were registered for the convergent thinking task, and those in the yoga group performed better at this task both at baseline and following yoga, although yoga did not lead to a greater change from baseline performance”. • “The current findings do not suggest that one bout of yoga is associated with an immediate cognitive benefit”. • “However, further research is required onto whether long-term yoga practice may enhance divergent thinking”. 	<p>Association between yoga and cognition is not clearly established.</p>	<p>4</p>

<p>Moein, L. (2013)</p> <p>Quantitative</p>	<ul style="list-style-type: none"> • “Having life skills lead to the increase in individuals’ adaptation power and psychological capacity”. • “Research results indicates that, yoga training affect life skills and leads to appropriate social behaviours and reduces negative behaviour (Elias et al., 1991) (Tagenbet al., 1997), (DorTojet al., 1988)”. • “Data of table 4 indicates that the effect of yoga training on interpersonal relationships of adolescents is meaningful”. • “Balanced means shows that yoga training causes significant improvement in Interpersonal Relationships of adolescents; therefore, this hypothesis “yoga training has a meaningful effect on interpersonal relationships of adolescents” is verified at P<0.01 level”. 	<p>Yoga training improves interpersonal relationships.</p>	<p>5</p>
<p>Moran, S. et al. (2016)</p> <p>Quantitative</p>	<ul style="list-style-type: none"> • “Biofeedback through the environment supported teaching and improved self-awareness, but it impacted group cohesion”. • “Our testing of Exo-Pranayama revealed an improvement in self-awareness and new insights for teachers about their students. This was at the cost of group cohesion, which was alleviated when biofeedback within the group was visually aggregated”. 	<p>Biofeedback method – ExoPranayama improves self-awareness</p>	<p>4</p>
<p>NCERT (2015)</p> <p>Qualitative</p>	<ul style="list-style-type: none"> • “Yogic way of life, if adopted in true sense, empowers us to deal with stress and in promoting physical and mental health”. • “The components of yogic way of life (ahara, vihara, achara, vichara, vyavahara) help in stress management”. • “For stress management, we should perform those practices which canrelax our body and mind”. • “Asanas, pranayamas, kriyaand relaxing practices which are helpful in stress management”. 	<p>Yoga helps in stress management.</p>	<p>5</p>

<p>Nelson, L. L. (2017)</p> <p>Qualitative</p>	<ul style="list-style-type: none"> • “Many contributors to this work involves several researchers and physicians including but not limited to Dr. Dean Ornish, who adapted an Integral Yoga ‘Hatha’ class (calling it stress management) as part of a lifestyle change program to reverse heart disease; Jon Kabat-Zin used ‘hatha’ yoga as a mindfulness of movement practice at the Stress Reduction Clinic of the University of Massachusetts Medical Centre; and Herbert Benson described “relaxation response” based on his study of transcendental meditation and other yoga techniques, eventually founding the Mind and Body Institute at Harvard Medical School”. • “The yogic approach to stress management is an adaptation of the yoga practices and philosophy (such as Hatha and Raja yoga); making these tools accessible and relevant to people from different backgrounds in a variety of settings”. • “Hatha yoga includes centering, stretching, breathing, and meditation, and Raja yoga includes developing self-awareness and using the power of the mind to manage change”. • “It was concluded that a combined methodology is the most effective”. 	<p>Yoga effectively helps in stress management.</p>	<p>5</p>
<p>Press Trust of India (2019)</p> <p>Qualitative</p>	<ul style="list-style-type: none"> • ‘Launched “JeevanKaushal”, a life skills programme in the curriculum for under-graduate courses across the country’. • “Aimed at inculcating emotional and intellectual competencies in students and develop verbal and non-verbal communication skills”. • “The curriculum has three electives--integral human being, yoga and pranayama and gratitude”. 	<p>Yoga is an essential life skill</p>	<p>4</p>

<p>Saxena, A. (2019)</p> <p>Qualitative</p>	<ul style="list-style-type: none"> • “They can develop life skills by integrating them with the regular curriculum”. • “A small step to start with is to have teachers embody life skills, which the students can model”. • “Life skills can be connected with every situation and subject that students encounter at school including sports and studies”. • “Languages help children develop interpersonal skills and effective communication by encouraging writing, reading, and interactive activities”. • “Science allows students to explore curiosity, problem solving, and scientific temper”. • “Self-awareness attains importance in teamwork”. • “Drama, dance, music and art not only allow students to channelize but also experience and identify emotions”. • “These days yoga, sports and meditation are increasingly being included in school curriculum”. • “These aids in managing stress and increasing concentration, sports are also helpful in learning critical thinking, self-awareness and effective communication”. 	<p>Life skills and yoga can be integrated for holistic learning.</p>	<p>2</p>
<p>Shah, R. et al. (2015)</p> <p>Quantitative</p>	<ul style="list-style-type: none"> • “The students of J. & J. College of Science, Nadiad were given the questionnaire before and after practicing Raj yoga meditation to evaluate their mental and emotional level”. • “Raj yoga meditation helps to increase the concentration power, control the negative emotions and increase the positive attitude, increase the patience, increases self-confidence, level of benevolence, compromise level, depression ability decreases”. 	<p>Raj Yoga enhances emotional intelligence</p>	<p>4</p>

	<ul style="list-style-type: none"> • “Spiritual perception and realization they are able to deepen understanding, compassion and empathy in the self towards the life. It promotes positive emotions like self- confidence, patience, and satisfaction in them”. • “It has been observed from the data obtained and from the practical experience of the students that practicing meditation and implementing spiritual knowledge in life can make a person emotionally intelligent”. • “Through practicing meditation, the students increase their ability to evaluate and to manage the emotions”. 	<p>Spiritual perception and realization promote positive emotions.</p>	<p>3</p>
--	---	--	----------

Discussion

An integration of yoga and life skills is supported by research studies. It is found to be an effective intervention technique. The integration of yoga to cognitive, emotional and social skills is evaluated.

De Collibus (2017) explains that yoga helps in developing life skills among the students in school. The University Grants Commission has launched a life skills program, ‘JeevanKaushal’ for under-graduate students in 2019. Saxena (2019) too states that life skills and yoga together promote holistic learning in schools. Hence, an integration of yoga and life skills is being implemented in educational settings in India.

Empirical evidence suggests that yoga has been applied to stress management. Buterbaugh (2015) explains an evidence-based program, Transformative Life Skills (TLS) that has been introduced in schools in the U.S.A. and juvenile centers. The NCERT (2015) book on Yoga explain that how the various exercises help in coping with stress. Several stress management programs have been successfully implemented in the University settings (Nelson, 2017).

Yoga improves emotional intelligence (Shah et al., 2015). Content analysis shows that the Raj Yoga enhances emotional intelligence. It also improves interpersonal relationships (Moein, 2013). Adjustment and interpersonal relationship improved in criminal inmates undergoing reform as shown in table 2.

Yoga helps in increasing self-awareness through biofeedback instruments

as ExoPranayama (Moran et al., 2016). The authors explain the development, testing and application of this biofeedback method. No association has been found between yoga and thinking though more in-depth research is needed (Donnegan, Setti, & Allen, 2018).

Hence, yoga has been integrated with stress management and emotional intelligence effectively. However, further research is required for the integration of yoga with social and cognitive skills.

Conclusion

A systematic review of literature is conducted and data is analyzed through content analysis. Empirical evidence supports the integration of yoga and life skills as an effective intervention method. Most yoga applications have been done in the area of emotional skills. However, further investigation and research is required in the areas of cognitive and social skills.

References

- Buterbaugh, J. (2015, November 18). The power of yoga in classroom, Penn State News. <https://news.psu.edu/story/381510/2015/11/18/>
- De Collibus, A. (2017, July 29). Yoga is an essential life-skill that will help children navigate through social and emotional challenges in school and beyond. ScooNews Magazine. <https://www.scoonews.com/news>
- Donnegan, K. F., Setti, A. & Allen, A. P. (2018). Exercise and creativity: Can one bout of yoga improve convergent and divergent thinking? [Abstract]. *Journal of Cognitive Enhancement*, 2(2), pp. 193 – 199.
- Iyengar, B.K.S. (2005). *The Illustrated Light on Yoga*. Thomson Press (India) Ltd.
- Leech, N. L. & Onwuegbuzie, A. J. (2007). An array of qualitative data analysis tools: A call for data analysis triangulation. *School Psychology Quarterly*, 22(4). Pp. 557 – 584.
- Moein, L., Khezri, Z., Bibak, A., Mohammadian, L., Mohimani, F. & Abasi, H. (2013). The efficiency of yoga exercises on the level of adjustment and interpersonal relationships of adolescents in reform schools in Bushehr. *Indian Journal of Fundamental and Applied Life Sciences*, 3(4), pp. 232 – 237.
- Moran, S., Jäger, N., Schnädelbach, H. & Glover, K. (2016). ExoPranayama: a biofeedback-driven actuated environment for supporting yoga breathing practices. *Personal and Ubiquitous Computing*, 20 (2), pp. 261 – 275. <https://doi.org/10.1007/s00779-016-0910-3>
- NCERT (2015). *Yoga: A Healthy Way of Living – Secondary Stage*. New Delhi: National Council of Educational Research and Training.
- Nelson, L. L. (2017). Yoga-based stress management: Introducing yogic principles and practices for stress relief. Paper presented at the Third International Conference on Depression, Anxiety and Stress Management, London, UK. <https://www.longdom.org/proceedings/yogabased-stress-management-introducing-yogic-principles-and-practices-for-stress-relief-37416.html>

- Santhanam, D. (2008). Workbook on Life Skills. Rajiv Gandhi Institute of Youth Development publication.
- Saxena, A. (2019, April 4). Life skills to be a part of school curriculum. India Today. <https://www.indiatoday.in/education-today/>
- Shah, R., Shah, P. P., Shah, B. B. & Makwana, V. (2015). Enhancement in the emotional intelligence level of students through practicing Raj yoga meditation. IOSR Journal of Humanities and Social Science (IOSR-JHSS) Ver.II, 20 (5), pp 44 – 53. <http://doi: 10.9790 / 0837-20524453>
- Press Trust of India (2019, October 13). Social Media ethics, Yoga part of UGC's "life skills curriculum". NDTV. <https://www.ndtv.com/india-news/social-media-ethics-yoga-part-of-ugcs-life-skills-curriculum-2116015>
- World Health Organization. (1986). Ottawa Charter for Health Promotion: First International Conference on Health Promotion Ottawa. https://www.healthpromotion.org.au/images/ottawa_charter_hp.pdf
- World Health Organization. (1997). Life skills education in schools: Programme on mental health. World Health Organization, 11-30.

Examining the Relationship between Yoga Involvement and Mental Health

Pooja Prasad* & Dr. Vijaya R**

Abstract

The role of Yoga is assuming an important place in enhancing mental health and thereby improving the quality of life. The aim of the study was to examine the relationship between yoga involvement and mental health which was measured through the subjective well-being inventory (SUBI). The inventory measures the attitude and feelings of individuals with regards to their interpersonal relations, happiness and the involvement in Yoga through the Yoga Immersion Scale. Both the scales have sound properties; Yoga immersion scale has a Cronbach's alpha of 0.93 and the SUBI has a reliability of 0.79. The study was conducted on 105 yoga practitioners above the age of 18 and included a control group of 85 non-practitioners; the data was collected through an online survey. Results reveal that there is a positive and significant relationship between yoga involvement and subjective well-being, participants with a high involvement score had the highest correlation as compared to mild and moderate yoga practitioners. The mean of subjective well-being was higher for the yoga practitioners compared to non-practitioners; however, t test revealed that there is no significant difference between the two groups.

Keywords: Yoga, subjective well-being

Introduction

Anxiety and stress are problems that individuals face on a regular basis which adversely affects an individual's health and well-being thereby giving rise to psychological problems. One way to reduce the stress and enhance positive mental health is through the practice of Yoga. Yoga helps an individual to maintain mental as well as physical fitness (Prasad, et al. 2006). Yoga practices are thought to boost personal growth rather than just improve the quality of relationships. It is believed that yoga affects the SWB (Subjective Well-being) by impacting health, perceived control

* M.Phil student, Christ (Deemed-to-be University), Bengaluru

** Assistant Prof., Department of Psychology, Christ(Deemed-to-be University), Bengaluru

and purpose in life (Mamtani&Mamtani, 2005). Many Yoga practitioners believe that the practice of yoga is primarily a mental discipline that aids towards expanding the consciousness (White, 2007).

Research on well-being has primarily focused on the concept of SWB which measures satisfaction in life along with satisfaction across several life domains. SWB is believed to be a function of three variables namely life satisfaction, lack of negative mental states and the presence of positive mood and emotions. According to Diener (2003), demographic variables such as age, gender, education and income contribute to less than 20% of the variance in subjective wellbeing. According to the theory of SWB Homeostasis given by Cummins (2014), individuals have a genetically determined set point for well-being which is maintained internally. Stress that is chronic tends to challenge the homeostasis. A person reverts to this set point after adjusting to circumstances and life events. Personality and temperament is considered to be the major determinants of SWB (Diener, 2003). Yoga can be viewed as an activity that can enhance positive mental health by combining it with other life style activities to promote overall health and well-being (Cohen, 1983). When yoga becomes a daily practice, it will begin to impact over all mental health positively. The practice of yoga is thought to have buffering effect for adverse life events.

Malathi et al. (2000) found that there was a significant improvement in nine of the eleven factors of SWB at the end of a four-month yoga practice. Further, Gopukumar and Ali (2002) observed a significant positive change in the subjective well-being of students after a 40day practice of Yoga. Sharma et al. (2008) investigated the effect of yoga based intervention on subjective well-being score of individuals and found that there was a significant improvement in the SWB scores of the participants in just 10 days into the program as compared to the control group.

Danielle (2014) found that yoga practitioners report higher levels of subjective well-being, mental wellness and physical wellness as compared to non-participants between the ages of 18-85 years. This was supported by the study conducted by Sharma (2017) who investigated the effect of yoga on the well-being of 150 adolescents. The results revealed that the well-being scores of the students increased significantly after the treatment of yoga as compared to the scores before the treatment.

Small lifestyles changes can improve the quality of life and subjective well-being. This view was supported by Yadav et al. (2012) who investigated the effects of short-term lifestyle based yoga intervention in improv-

ing subjective well-being and found that the 10 day intervention program significantly reduced the level of anxiety and as well as the subjective well-being scores. Furthermore, a large surveybased study on Yoga practitioners reported that the practice of yoga was an integral part of maintaining their health and well-being (Danielle,2014).

Objective

To examine the relationship between Yoga involvement (immersion) and subjective well-being and to determine whether there is a difference in the level of subjective well-being between yoga practitioners and non-practitioners

Hypothesis

- H₁: There is a significant relationship between yoga involvement and subjective well being
- H₂: There is a significant difference in the level of subjective well-being between yoga participants and non-participants

Sample

The study was conducted on 105 Yoga practitioners who had a minimum of 6 months of practice and included a control group of 85 non practitioners between the ages of 18-39 years. The inclusion criteria included participants residing in Bangalore and yoga practitioners with a minimum of 6 months of practice at least two times a week. The exclusion criteria are as follows: respondents who are diagnosed with chronic medical conditions and psychological disorders, respondents who have experienced a traumatic event in the past year.

Tools

Two scales were used in the study namely the Yoga Immersion Scale and the Subjective Well-being Inventory

Subjective Well-Being Inventory - The scale was developed by Nagpal and Sell (1992). It is a self-report questionnaire which consists of a total of 40 items which measures an individual's overall mental state and feeling about life. It consists of 11 dimensions namely: Positive affect, expectation achievement congruence, confidence in coping, transcendence, family group support, social support, primary group concern, inadequate mental mastery, perceived ill-health, deficiency in social contacts and general wellbeing negative affect. The over-all sum gives the score for subjective

well-being wherein a higher score indicates higher SWB. The scale has high inter-rater and test retest reliability as well as high validity established through various experiments (Grandall, 1976; Huisman, 1981)

Yoga ImmersionScale- This scale assesses the amount of yoga involvement. it consists of 10 items and uses a six-point Likert scale ranging from ‘Totally disagree’ (1) to ‘Totally agree’ (6). Sample items are as follows: “The wisdom of yoga affects my way of seeing things in everyday life” and “By practicing yoga I can concentrate better”. The scale has established Cronbach’s alpha of 0.93.

Procedure

The questionnaire was administered electronically through google forms and purposive sampling was employed followed by snowball sampling. The consent form was presented and the participants were ensured of confidentiality of the results and identity. The demographic details such as age and gender were taken. Two questionnaires were presented namely the Yoga Immersion scale which measures the degree of yoga involvement and the subjective well-being inventory which measures overall satisfaction of life.

Results and Discussion

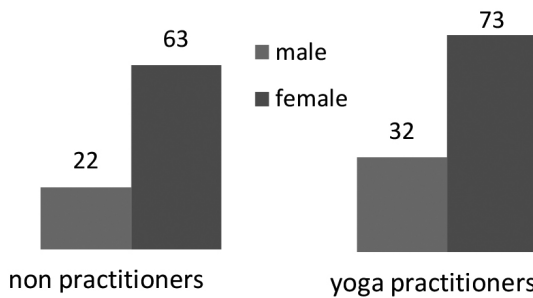


Figure 1. Gender wise distribution of yoga practitioners and non-practitioners

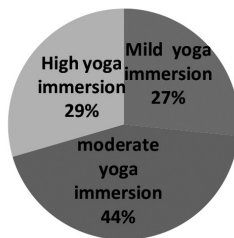


Figure 2. Percentage of participants displaying the degree of yoga involvement

In order to establish the relationship between yoga involvement and subjective well-being, a total of 105 yoga practitioners were compared to 85 non practitioners. The participants in both groups ranged from 18 years to 39 years respectively. Among the 105 yoga practitioners, 73 were females and 32 were males; 63 were females and 22 were males among the non-practitioners. The total sample of yoga practitioners were divided into three groups based on the total score wherein the minimum score is 10 and the maximum is 60. Participants who score from 10-33 belong to the marginal yoga immersion group, 34-46 belong to the moderate yoga immersion group and scores from 47-60 belong to the high yoga immersion group. A total of 28 participants fell in the range of mild yoga immersion, 46 fell in the moderate and 31 in high yoga immersion group.

Table 1: Correlation between Yoga Involvement and Subjective well-being

	R
Overall Yoga immersion score Subjective well-being	0.671**
Yoga marginal Subjective well-being	0.332
Yoga moderate Subjective well-being	0.024
Yoga high Subjective well-being	0.500**

**p<0.01

The results revealed that there is a positive and significant correlation between the Yoga immersion and subjective well-being ($r=0.671$, $p<0.01$). Additionally, no significant correlation was found between moderate level of yoga ($r=0.02$) and mild level of yoga ($r=0.332$) with subjective well-being. In accordance with literature, the results revealed that high yoga immersion scores had a positive and significant correlation with subjective well-being ($r=0.500$). Thus, the hypothesis stating that there is a significant relationship between yoga involvement and subjective well-being is accepted. This is supported by the study conducted by Gaiswinkler&Unterainer (2016) which claims that highly involved yoga practitioners exhibit an increased amount of mindfulness as well as well-being along with lower psychiatric symptoms such as depression as compared to marginally or moderately yoga involved practitioners.

Table 2: Correlation between Yoga immersion scores and the dimensions of subjective well-being

	GWB	EAC	CIC	T	FGS	SS	DSS
YI	.659**	0.571**	0.462**	0.439**	0.223*	0.467**	-0.010

*p<0.05, ** p<0.01

The results revealed that there is a significant and positive correlation between Yoga involvement with 6 of the 11 dimensions of SWB namely; general well-being positive affect (r=0.659), expectation-achievement congruence (r=0.571), confidence in coping (r=0.462), transcendence (r=0.439), family group support (r=0.223) and social support (r=0.467). A significant and negative correlation was found between yoga involvement and deficiency of social contact (r= -0.010). The deficiency of social contact dimension measures the extent to which an individual worries about being disliked and the feeling of missing close relationships. A high score in this dimension decreases the subjective well-being score and thus a negative relationship is supported by literature.

Table 3: Mean and Standard Deviation of SBW of yoga practitioners and non-practitioners

Variable	Mean	SD
Yoga Practitioners Subjective well-being	81.4762	11.59749
Non practitioner's Subjective well-being	68.4941	7.88100

Table 4: t test of SWB scores between of yoga practitioners and non-practitioners

VARIABLE	t	Df	Sig.	Mean difference	Standard error difference
Subjective well-being	8.803	188	0.047	12.98207	1.47471

From table 3 we can infer that the mean of SWB for yoga practitioners is 81.47 and SD is 11.59 which are higher than the SWB scores of non-practitioners which is 68.49 and SD 7.88. However, results from the t test reveal that there is no significant difference in the level of subjective well-being between yoga practitioners and non-practitioners. Thus the hypothesis

stating that there will be significant difference in the level of subjective well-being between yoga participants and non-participants is rejected.

Conclusion

The present study focused to investigate the relationship between the practice of yoga with subjective well-being and its parameters. The positive relationship between high involvements of yoga with subjective well-being was confirmed. Thus, the results reveal that individuals benefit from yoga when they are highly involved in the practice. However, marginal and moderate level of yoga involvement did not reveal a significant relationship with SWB thereby indicating that the duration and frequency of yoga practice is crucial for optimal benefit. The results from t test revealed that there was no significant difference in SWB non-practitioners and yoga practitioners. One possible explanation for this outcome could be that socio-demographic details such as education, designation, income were not controlled in the study. This view is supported by Diener (2003) who claimed that demographic variables such as education and income contribute to a portion of the variance in subjective wellbeing scores.

Limitations and directions for further research

With regards to limitations of the study, socio-demographic information about the comparison group was lacking. Due to the cross-sectional nature of the study, we cannot infer that the differences in the three yoga groups are solely due to the effects of yoga practice. Furthermore, additional information about the frequency, duration and type of yoga practice is needed. Lastly, potential confounding variables should be identified and considered for further research

Acknowledgement

The author would like to thank Gaiswinkler and H.F Unterrain for providing the Yoga Immersion Scale. I would like to thank Dr. Vijaya R for supervision and guidance. Further, the author likes to thank all the individuals who participated in the study and for their cooperation.

References

- Cohen, S. and Hoberman, H.M. (1983.)A global; measure of perceived stress, Journal o Health and facial behavior, 24, 385-396.
- Cummins, R. A., Li, N., Wooden, M., & Stokes, M. (2014).A demonstration of set-points for subjective well-being.Journal of Happiness Studies, 15, 183-206.
- Danielle, L. (2014). Yoga and psychological wellness, physical wellness, andsubjective well-being. <https://pqdtopen.proquest.com/doc/1525824357.html?FMT=ABS>.

- Diener, E.; Oishi, S. and Lucas, R.E. (2003). Personality, culture, and subjective well-being: Emotional and cognitive evaluation of life. *Annual review of psychology*, 54, 403-425
- Gaiswinkler, Unterrainer, Fink, Kapfhammer. (2015). The relationship between Yoga Immersion, Psychological Well-being and Psychiatric symptoms, *Journal of NeuroPsychiatr*. <https://DOI.10.1007/s40211-015-0139-9>
- Gopukumar, K. & Hussain Ali, M. (2002). Meditation – A harbinger of subjective well-being. *Journal of Personality and Clinical Studies*, 19, 93-102.
- Kumar, A., Sween, Sharma, P, Sharma, P. Effect of yoga and meditation on well-being of adolescents in modern life, *International Journal of Multidisciplinary Education and Research*, 2(2), 6-8.
- Malathi A, Damodaran A, Shah N, Patil N, Maratha S. (2002). Effect of Yogic Practices on Subjective Well Being. *Indian Journal Physiol Pharmacol*. 44(2):202-206
- Mamtani, R. and Mamtani, R. (2005). Ayurveda, yoga and cardiovascular disease, *Cardiology in review*, 13, 155-162
- Prasad, K. V. V., Sunita, M., Raju, P. S., Reddy, M. V., Sahay, B. K., & Murthy, K. J. R. (2006). Impact of pranayama and yoga on lipid profile in normal health volunteers, *Journal of exercise physiology*, 9, 1-6
- Sell, H., & Nagpal, R. (1992). *Assessment of Subjective Well-Being: The Subjective Well-Being Inventory (SUBI)*. Regional Office for South-East Asia, World Health Organization.
- Sharma, R., Gupta, N., Bijlani, RL. (2008). Effect of Yoga Based Lifestyle Intervention on subjective Well-Being. *Indian Journal Physiol Pharmacol*. 52(2):123-131
- White, G. (2007). *Yoga beyond belief: Insights to awaken and deepen your practice*. Berkley, CA: North Atlantic Books
- Yadav R.K., Magan , D., Mehta, M., Mehta, N., Mahapatra ,SC. A short-term, comprehensive, yoga-based lifestyle intervention is efficacious in reducing anxiety, improving subjective well-being and personality. *Int J Yoga* 2012; 5:134-9.



INDIAN ASSOCIATION OF LIFE SKILLS EDUCATION

Door No. 17/13, 16th Avenue, Ashok Nagar

Chennai - 600 083. Tamil Nadu, India.

E: ialse.india@gmail.com | www.ialse.net

