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Mental Toughness in Athletes – a promising area in Ayurveda Psychiatry.

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Abstract

In Sports, Mental toughness(MT) is a collection of values, attitudes, behaviors and emotions, which enable an athlete to persevere and overcome any obstacle, adversity or pressure experienced, and also helps to maintain concentration and motivation even when things are going well, to consistently produce high levels of performance and achieve the goals. (Daniel Gucciardi et al.) Today's highly competitive scenario in sports compel the sports persons, coaches, trainers and all professionals related to sports to identify and workout on both physical and key psychological attributes like Mental Toughness for an ideal state of performance.

It is a highly desirable personality trait that gives most of the world's elite athletes the ability to push past exhaustion, opposition, and injuries. MT is also a protective factor with respect to the mental health of sports persons against increasing psychiatric conditions like mood disorders, substance use disorders, stress and anxiety. (Nalini Malhotra et al.)

Though originated in the field of sports training, the concept is now widely used in the fields of performance arts, education, business, handling difficulties in their day today life. High stress jobs like that of military forces, and that in extreme work places.

On a larger outlook most of the features mentioned in mental toughness is highly comparable to the characteristics of 'Satvabala' and 'Satvasara purusha' mentioned in Ayurveda classics.

Even though available evidence identifies MT as a genetic personality trait, many researchers working on MT has found that it is also a skill that can be learned and strengthened through training and practice. This stresses the need for developing specialized training schedules and interventions based on the nature of their event which can foster mental toughness in athletes. This article is to redefine the concept of MT in the light of Ayurveda and enquire the possibility of formulating an Ayurveda athletic training module which can be applied in young emerging athletes.

Key words: Mental Toughness, *Satvabala*, Ayurveda Athletic Training Module, performance,

Introduction:

According to Graham Jones et al. (2002) ‘mental toughness is, having the natural or developed ‘psychological edge’ that enables one to cope better than their opponents with the many demands of competition, training, and lifestyle that sport places on a performer’¹. It helps the athlete to be more consistent, remaining determined, focused, confident, and in control under pressure. The references “psychological edge,” “cope better than your opponents,” involves comparison with an opponent elite athlete with almost negligible level of physical and technical skill. This implies that the difference in individual mental toughness level becomes the key of final victory².

Mental toughness is not just about dealing with aspects of competition, but also with training and general and personal lifestyle that can present with their own specific demands and priorities. The definition includes specific focus on competing and performing consistently under pressure being able to remain determined, focused, confident, and in control³.

Mental Toughness Attributes.

Though slight variation in MT can be seen in individual sports, the following 12 attributes of MT were identified in common among elite athletes in the study of Jones et al⁴ .:

- ✓ An unshakable self-belief in your ability to achieve your competition goals.
- ✓ Bouncing back from performance set-backs as a result of increased determination to succeed.
- ✓ An unshakable self-belief that possess unique qualities and abilities that makes one better than opponents.
- ✓ An insatiable desire and internalized motives to succeed.
- ✓ Fully-focused on the task at hand in the face of competition specific distractions.
- ✓ Regaining psychological control following unexpected, uncontrollable events.
- ✓ Pushing back the boundaries of physical and emotional pain, while still maintaining technique and effort under distress (both in training and competition).
- ✓ Accepting that competition anxiety is inevitable and knowing that one can cope with it.
- ✓ Thriving on the pressure of competition.
- ✓ Not being adversely affected by others’ good and bad performances.
- ✓ Remaining fully-focused in the face of personal life distractions.
- ✓ Switching a sport focus on and off as required.

These attributes are crucial and fundamental to the makeup of mental toughness and can be placed into 5 domains : 1) Self-belief 2) Motivation 3) Focus (performance-related and lifestyle-related), 4) Coping with competition pressure (external) and response anxiety (internal) 5) Dealing with physical & emotional pain associated with top level performance ⁵.

Other proposed definitions of Mental Toughness includes ability to overcome or rebound from failures⁶, Ability to persist or refusal to quit⁷, An insensitivity or resilience⁸ and Possession of superior mental skills⁹. Mentally tough remain feeling relaxed, calm, and energized by developing two major skills; first, the ability to increase their flow of positive energy in crisis and adversity, and second, they have the right attitudes regarding problems, pressure, mistakes, and competition¹⁰. It has been described as a personality trait¹¹ and a state of mind.¹² Any desirable positive psychological character associated with sporting success has been labeled as mental toughness. Most researchers agree that MT is a psychological construct, which is reflected as an athlete's ability to cope with or handle pressure or stress and resultant anxiety associated with high pressure competitive situations.¹³

Measuring Mental Toughness

The validated scales like MTQ 48' by Peter Clough et. al., Sports Mental Toughness Questionnaire¹⁴ Mental Toughness Questionnaire¹⁵ by Dr Alan Goldberg, Psychological Performance Inventory¹⁶.etc serve as good tools to assess MT.

Ayurveda Considerations

In Ayurveda, Mental Toughness can be better understood in the light of the concepts like Satva, Satvabala, Pravara satvatha etc. The description of 'Satva Sara purusha' by Acarya Caraka goes well in accordance with the features of a mentally tough person. For a further deep assessment of Mental Toughness, concepts of Sareerika dosha prakruthy, Manasa prakruthy, Dathu saratha, Ojus etc. also need to be explored in Ayurveda literature¹⁶. This will also help to formulate personalised training protocols for individual athletes, based on Ayurveda principles.

Concept of satva

As per Ayurveda, Satva is one among four dimensions manifesting life¹⁷. It is also stated as one among the tripod that balance¹⁸ Sabda kalpadruma defines satva as, 'Sato bhaava satva' (sat + tva = satvam) where the root 'sat' means- 'reality', 'truth', 'excellent', 'being present', 'exist' etc. Similarly 'tva' denotes

According to Sir Monier William's Dictionary, the meaning of satva are many fold ; being existing, true essence, disposition of mind, spiritual essence, vital breath, life, consciousness, strength, firmness, energy, wisdom etc. Acharyas has used the term satva as a synonym of 'manas' or the mental faculty.

Manas is treated as internal organ of perception¹⁹. The term 'manas' is defined as 'manyate jnyate manant manah' (through which something is known). The root 'man' denotes knowledge. Though satva is considered as the synonym of mana, it has been used in various contexts by Acharyas denoting personality type, mental strength, and psycho somatic constitution etc.

Concept of Satva bala or Manobala

In the context of assessment of satva, Charaka²⁰ defines 'sattva bala' as mental strength, mental stamina, will power and tolerability of an individual. It is also mentioned as the genetic constitution determined at the time of conception under the influence of factors called *satva vaiseshikara bhavas*. Satva is considered to be of 3 types based on the 'bala' (mental strength) viz, Pravara satva (excellent or strong), Madyama satva (of moderate strength), and Avara satva (the weakest)²¹

A Pravara sattva person could be able to easily get through a physical or mental trauma of endogenous or exogenous origin. They are also characterized by excellent mental attributes such as patience, forbearance, tolerance, honesty etc. They are also less prone to diseases and would respond readily to treatment. A Madhyama Satva person possesses moderate mental strength and responds to treatment, upon constant encouragement and counseling about positive outcomes. They can tolerate the pain themselves when they realize that others can also tolerate it. An Avara sattva person even if is of heavy physique can't be able to get through a tough physical or mental situation easily. They represent the weakest state of mind, with inferior mental strength characterized by low tolerance and minimal threshold to adverse and painful experiences and are prone to illness and unresponsive to treatments. They are susceptible to fear, grief, greed, delusion and ego²².

Heena satvata is also described as the root cause of almost all mental disorders. A person who may be suffering from a severe disease (guru vyadhi) possessing a strong mental and physical constitution may project himself or herself to be suffering from a mild disease (laghu vyadhi) because of his high mental strength. Acharya susruta has explained satva and manobala in terms 'Sattvavan, Rajasa, and Thamasa' in place of Pravara, Madyama and Avara sattva²³. Acharya Dalhana has explained three types of Manobala depending on the predominance of trigunas (satva, raja and thama) such as:

Uttama manobala, Madyama manobala and people with manodourbalya

According to Dalhana, Individual with Utthama manobala has increased satva guna and is capable of enduring painful acts including shastra karma.

Individual with madyama manobala possesses increased Rajoguna and can endure painful acts if they are convinced logically and by hearing positive experiences of other's. Individual with Manodourbalya possesses increased thamoguna and are not able to tolerate pain by themselves or even that of others.²⁴ It is the presence of three amsas of mind viz. kalyanamsa, roshamsa, and mohamsa that make it operational in this manner²⁵ Sudha or satvika manasa is free from defects and is bestowed with wellness due to 'kalyanamsa'. Rajasa manasa is defective and possesses wrathful disposition due to 'roshamsa'. Thamasa manasa is also defective and suffers from delusional errors due to 'mohamsa'. Therefore every effort and

practice to balance trigunas by blending good domains of Rajas and Thamas and developing a satva predominant life style and emotional health is essential especially in sports scenario for a better outcome.

Sareerika and manasa Dosha Prakruthi

While explaining individual dosha lakshanas qualities related to mind like 'ulsaha' for vata dosha, 'prasadha and medha' for pitha dosha, 'sthiratva,bala,kshama,driti,alobha' etc for kapha doasha have been mentioned ²⁶ Based on manasika gunas every individual possess a manasa prakruthy or mental temperament or personality or psychological traits named as Sattvika , Rajasa and Thamas prakruthi²⁷. Satvika individuals follow judicious diet regimen, absence of hostility, have patience, forgiveness etc. Rajasa individuals will have a feeling of misery,with high ego, over confidence in own abilities, excessive passion in sex etc.tamasa will have despondency, faithlessness, inactivity, sleepiness etc.²⁷ Concept of 'satva vaiseṣyakara bhavas' are the factors that have the capacity to determine satva of progeny which include :matru- pitṛu satva viseṣa, garbhini carya viseṣa, svocitam ca karma and satva viṣeshabhyasa²⁸ By the concept of satva vaisesyakara bhavas we can conclude that if a herited personality trait like mental toughness is ulterior by nature or nurture they can be improved by 'abyasa' or by training and practice²⁹.

Concept of 'Saratha'

Saara pariksha gives information about general physical and mental health, physical and mental strength,endurance, immunity etc. Charaka samhitha explains 7 datu sara and satva sara lakshana (total 8) which include several physical, physiological, and psycho-social features. Acharya Kasyapa has defined an additional Ojosara pususha. Acharya Chakrapani described Sara as the purest form of Dhatu-³⁰ Satvasaratha depends upon the perfect balance of gunas of mind.i.e. Satwa, Rajas and Tamas. Based on the level of excellence, saratha is also graded into ;Sarva Sara (superior), Madhyama Sara (moderate), and Asara/Avara (inferior). Sarva sara purusha are endowed with great biological Strength, Happiness, Endurance, Self-confidence,wisdom and success in all enterprises, and possess Firm body and gait. ³¹

In Susrutha Samhita ,Satwasara persons are explained as having qualities like Smruti, Bhakti, Prajna, sourya, suchitwa and are always engaged in subha karya. . It is also noted that in each of dhathu sara lakshanas apart from biological domains many psychological domains related to mental toughness of a person are also explained. There are many other mental and physical factors like dathu saratha, satvabala etc that decide the excellent performance of a person³²

Concept of Ojus

By definition, Ojas is the purest and finest essence formed from all seven dhatu. and is synonymous with avikrutha shleshma and 'bala'(deha bala & satva bala)³³. A person with optimum ojus has properly functioning sensory faculties including the mind. Excessive exercise/training,worrying,fear ,grief,fasting etc.depletes ojus and can become pathological.The major symptoms of depletion of Ojas belong to

psychological domain; like fear, loss of confidence, debility, constant worry, improper functioning of senses etc.³⁴ Therefore every effort to maintain level of Ojus should be an important aspect in Sports scenario. A person with perfect Anthropometry, matching with the sports event can tolerate rigorous physical stress and strain of exercise and training schedules. They also possess great strength and Ojus which are positively related to their satvabala³⁵ Validated scales like 'Questionnaire for the assessment of satvabala' by Paravatheedevy M P et al. can be used as a tool to measuring Satvabala of an individual in scientific studies³⁶

Discussion

Satvabala v/s Mental Toughness. - It is quite clear that the key psychological characteristics associated with mentally toughness are comparable with satvabala domains³⁷.

Self-Belief: Having an unshakable belief in one's own abilities to achieve competition goals and having strong belief that we are better than our opponents. This can be compared to one of the qualities of Pravarasatva called 'Samara vikraantayodhina'³⁸.

Motivation : Having an insatiable desire and internalized motivation to succeed and ability to bounce back from performance setbacks with increased determination to be successful. The satvasara qualities Mahotsaaha, Gambheera ceshta and tyaktha vishadha express the similar meaning³⁹.

Focus: Remain fully focused on the task at hand in the face of competition specific distractions and not being adversely affected by others' performance or own internal distractions. To be in full control is being able to switch focus on and off as when required. One of the qualities of Pravarasatva is bhaktimaan, to be in devotion and focused while doing each and every activity⁴⁰.

Composure/Handling Pressure: Thriving on the pressure of competition accepting that anxiety is inevitable and is to be taken positive in competition and knowing that you can cope with it. Handling both success and failure and be able to regain psychological control facing unexpected events or distractions. The terms tyaktavishaada, kalyanabhinivesinah, klesa sahatva can be inferred as the quality to work without considering the persistent stress⁴¹.

Coping with Physical and Emotional Pain. Qualities such as Utsaha (highly enthusiastic), kriyavantha (highly active), Sthira sarira (stable body), Klesasaha (endurance) mentioned are needed to deal with the physical and emotional pain⁴².

Lifestyle. Mentally tough are in total control of their life style such as diet, sleep, family, relations, habits etc. According to the researchers of MT, nurturing a good quality lifestyle is essential for developing MT. The life style of a mentally tough person desirably can be in accordance with code of right conduct or 'sadvrutta'⁴³ and mental qualities mentioned in 'achara rasayana'⁴⁴ referred in Ayurveda literature leading to a healthy as well as positive life.

Apart from these; the psycho-pathological factors that reduce satvabala such as pranjaparadha (the activities done due to the impairment of dhi, dhriti and Smṛti), asatmyendriyārtha samyoga (over indulgence with the sense organs) etc. also are to be avoided to keep the MT intact.⁴⁴ Practice of retention of dharneeya vegas (urges to be forcefully retended or controlled) mentioned in Ayurveda classics can be another important measure to enhance MT⁴⁵.

Peter Clough and Doug Strycharczyk define mental toughness as “The quality which determines in large part how people deal effectively with challenges, stressors, and pressure, irrespective of prevailing circumstances” They described it as similar to a personality trait consisting of four critical components –The 4 “C” model of MT. (basis of MTQ 48 MT inventory)⁴⁶

Challenge : Viewing challenges as opportunities rather than threats or obstacles.

Control : Believing that one is in control of their life and destiny.

Commitment : Ability to stick to tasks and see them through to completion.

Confidence : Possessing strong self-belief in one’s ability to succeed

The 4 ‘C’ theory is an extension of ‘Hardiness’ theory first introduced by Kobasa et al.(1979) trying to find a link between mental strength and stressful life events and onset of illness. The personality construct of hardiness emerged from existential psychology: and also composed of 3 C s - Commitment, Control and Challenge”⁴⁷.

Control. - Capable of exerting more influence on working environment and be confident working in complex or multi-tasks situations. It may be Control in Emotion - being able to keep anxieties and emotions in control. or may be Control in Life – believing that no adverse life situation can prevent from achieving goals and that they are fully responsible for their life. In Ayurveda, Pravara satvatha qualities such as dhaksha, dheera, pranjah are important to have control over life and qualities. Tyaktha vishada, kalyanabhinivesa are needed for emotional control.

Challenge - Describes the extent to which individuals see challenges as opportunities. They will actively seek challenges out and will utilize problems and threats as ways for self-development. While describing the qualities of satvasaratha, the terms maholsaaha, Samara vikraanta yodhinah, sourya and dheera indicative of performing a task with so much enthusiasm, courage and valor.

Commitment - This domain is sometimes described as "stickability" to a task or goal. This is ability for an individual to complete tasks despite any obstacles and not dropping efforts in middle. Commitment can be inferred as bhakti or devotion (bhakthiman)⁴⁸. Confidence: High confident individuals have strong belief in own abilities (*Confidence in Personal abilities*). ‘*Confidences in Interpersonal abilities*’ is about being more assertive and good in groups. They will be able to get along with difficult people and emerge as group leaders.

The qualities dheera and kalyaana abhinivesina described by Acharya Charaka denote the confidence of individual in personal as well as in interpersonal levels⁴⁹.

Conclusion

It is inferred that there are many instances where Mental Toughness implies Pravara satvata or Satvasaratha of an individual or an athlete. Recent studies show that though Mental Toughness is a natural personality trait, it can also be developed and nurtured through training and practice. On analyzing factors such as mental and physical personality traits, mental status, Satva saratha, dhathu saratha, Ojus etc. the Satva bala or the Mental toughness of an athlete can be accessed through Ayurveda understanding and can be approached accordingly. Based on this, a personalized Physico-Psychological training program can be planned and implemented for developing and improving Mental Toughness in the athletes. Elements from the threefold therapeutic interventions (trividha cikitsa) in Ayurveda, namely, Daiva vyapasraya, Yukthivypasraya and Satvavjaya⁵⁰ which are identified as the faith based therapy, rational therapy, and psychotherapy respectively can be effectively used for framing such training programs for better outcome in the events. Concept of developing mental toughness or satvabala can be effectively applied not only in sports but also in dealing difficult life situations, tough work and training atmosphere, improving performance in education, arts, politics, competitions etc. It also finds a definite implication in managing and preventing mental diseases. Further researches are the need of the hour and may be an advantage to the development of the quality of sports in the country.

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