Frontiers in Health Informatics
ISSN-Online: 2676-7104
www.healthinformaticsjournal.com
2024; Vol 13: Issue 6
Open Access

Association Between Manas Prakriti And Anxiety Level: A Cross Sectional Observational Study Among Healthy Students

Dr. Piyush Versha[1*], Dr Kavita V Indapurkar[2], Dr Manisha V Bhalsing[3]

1* Phd Schl, Dept Of Kriya Sharir, College Of Ayurveda, Bharati Vidyapeeth Deemed University, Pune, Contact no- 9657221385
Email id: dr.versha13@gmail.Com

2. Professor and Hod, Dept Of Kriya Sharir, College Of Ayurveda, Bharati Vidyapeeth Deemed University, Pune,

3. Professor And Hod, Department Of Kriya Sharir, IES Ayurvedic Medical College, Bhopal,

*Corresponding author:

Dr. Piyush Versha, Phd Schl, Dept Of Kriya Sharir, College Of Ayurveda, Bharati Vidyapeeth Deemed University, Pune, Email id: dr.versha13@gmail.Com

Cite this paper as: Dr. Piyush Versha, Dr Kavita V Indapurkar, Dr Manisha V Bhalsing(2024) Association Between Manas Prakriti And Anxiety Level: A Cross Sectional Observational Study Among Healthy Students. Frontiers in Health *Informatics*, *13(6)* 4619-4629
Acceptance Date – 05/07/24 Publication Date -06/08/24

Abstract-

Background:

Anxiety and related disorders are emerging as major health challenges in the present day lifestyle. *Ayurveda* defines health as a balanced state of *Dosha, Dhatu Mala, Agni, Indriyas* along with mental (*Manas*) and spiritual (*Atma*) well being. As *Manas* is considered a fundamental component of the body, understanding its influence on psychological health is essential.

Objective:

To evaluate the association between *Manas Prakriti* (mental constitution) and anxiety levels in healthy students using standardized *Ayurvedic* and modern psychometric tools.

Study design:

A cross-sectional observational study.

Setting and participants:

The study was conducted among 150 healthy undergraduate students aged between 18 and 25 years both male and female. Individuals with known psychiatric and physical illness were excluded.

Methods:

Data on *Manas Prakriti* were collected using the Ayusoft C-DAC proforma. Anxiety levels were measured using the SCAT(Sharma's comprehensive anxiety scale) , a validated psychometric scale. Both tools were administered through structured and objective questionnaires. Statistical analysis, including correlation and group comparisons was performed to assess associations between anxiety levels and *Manas Gunas (Satva, Rajas, Tamas).*

Result:

Participants with higher *Rajas* dominance exhibited increased susceptibility to anxiety, while those with predominant *Satva* traits were relatively less vulnerable. *Tamas* did not demonstrate any consistent or statistically significant correlation with anxiety levels.

Conclusion:

The study shows that an increase in *Satva* shows less vulnerability towards anxiety in both sexes. Increase in *Raja* is showing more vulnerability towards anxiety in both males and females while *Tama* is showing no such trend in relation to increase or decrease in anxiety. These insights highlight the potential for integrating *Ayurvedic* personality profiling into mental health assessment tools.
Keywords: *Manas Prakriti, Anxiety, Ayurveda, Sattva, Rajas, Tamas,* SCAT

INTRODUCTION:

Ayurveda, the ancient Indian system of medicine, emphasizes not only the treatment of disease but also the maintenance of health in a normal individual. Health (*Swasthya*) is defined as a balanced state of *Dosha*, *Dhatu*, *Mala*, *Agni*, and relaxed functioning of the *Indriyas*, along with a calm and balanced state of *Manas* (mind) and *Atma* (soul).[1]According to *Ayurvedic* philosophy, the human body is composed of *Mana*, *Atma*, *Indriya*, and the *Panchamahabhutas* (five great elements)[2] . Thus, the mental component (*Manas*) is considered as important as the physical body (*Sharir*) in maintaining overall well-being.

Ayurveda classifies individuals based on *Prakriti* (constitution), which is of two types: *Sharir Prakriti* (physical constitution) and *Manas Prakriti* (mental constitution). *Manas prakriti* is further determined by the predominance of three fundamental qualities (*Gunas*): *Sattva*, *Rajas*, and *Tamas*[3] .*Sattva* is characterized by purity, clarity, and knowledge; *rajas* by activity, willfulness, and restlessness; and *tamas* by inertia, dullness, and confusion[4] *Rajas* and *Tamas* are considered the *Doshas* of the mind due to their tendency to disturb its natural equilibrium.

Ayurvedic texts extensively discuss the impact of *Manas Bhavas* (mental emotions) such as *Bhaya* (fear), *Krodha* (anger), and *Shoka* (grief), which are described as *Dharaniya Vegas*—emotions that should be controlled for mental and physical balance[5]. *Acharya Charaka* also mentions *Chinta* (worry or anxiety) as a causative factor (*Hetu*) in the *Dushti* (vitiation) of *Rasa Vaha Srotas*, indicating a direct influence of mental disturbances on bodily channels and systems.[6]

Manas is the instrument of knowledge through which perception and cognition occur. *Manas* is recognized by the appearance or non-appearance of knowledge when the soul interacts with the sense organs and their objects Things requiring thought, consideration ,hypothesis, attention, determination are regarded as the *Vishayas* of *Manas*[7]. Control of sense organs,self restraint, hypothesis and consideration represent the action of the mind. Beyond that flourishes the domain of intellect[8].

Manas has been recognised as one of the three entities of life viz. *Atma* (soul), *Sattva (Manas), Sharira* (body).[9]

In *Ayurvedic* literature various views are available on the location of *Manas. Astang hridaya* accepts the *Hridaya* situated in the thorax as the seat of *Satva (Manas).*

Acharya Sushrut has also mentioned *Hridaya* as the location of *Manas* in the following references:[10]

Kritvirya states that the fetus' heart appears first because of being the seat of intellect and mind. *Sushrut* considered *Hridaya* as the seat of *Chetna* considered as *Manas. Acharya charak* gave reference about *Hridaya* as the seat of *Manas.*

In Bhel Samhita Unmaad Chikitsa it is clearly mentioned that the mind is situated between the crown of the head and the palate and is greater than all the sense organs. This indicates that the location of *Manas* is in the brain not in the heart.

Further in the *Samprapti Of Unmaad Bhel* has explained about aggravated doshas get lodged between the crown of head and palate and vitiate the mind due to which *Chitta* is affected leading to *Unmaad.*

Aacharya Charak has revealed that by the administration of emetic therapies, The *Hridaya, Indriyas, Shira And Kostha* get purified as a result of which, the *Manas* gets refreshed and the patient gains memory as well as consciousness.[11]

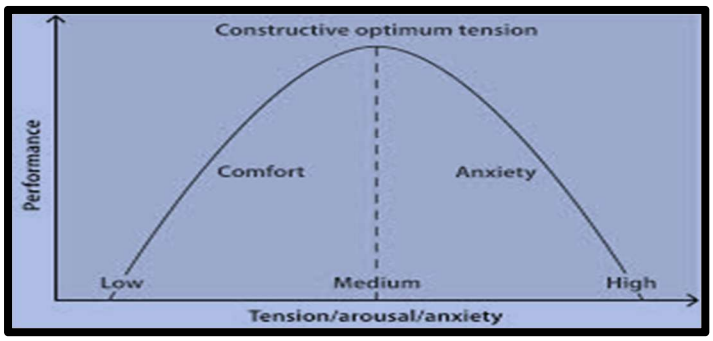
Krodha (anger), *Shoka* (grief), *Bhaya* (fear), *Harsha* (joy), *Vishada* (dejection), *Irshya* (jealousy), *Asuya* (envy), *Dainya* (misery), *Kaama* (desire), *Lobha* (greed), *Iccha* (wish).

These arise due to various desires and aversions. Charak includes *Manas* among the nine *Dravyas* (substances), which are the basis of action and qualities[12]. It is a substratum for both health and disease**.** Balanced function of *Manas* ensures positive health. *Rajas* and *Tamas* are considered the *Doshas* of the mind, responsible for mental imbalances[13]. *Pragyaparadha* is the main cause of both mental and physical diseases.[14] It leads to dysfunction of *Dhi* (intellect), *Dhriti* (restraint), and *Smriti* (memory), resulting in faulty behavior and disease.[15] In essence, *Manas* in *Ayurved*a is a vital, subtle entity that governs perception, emotion, thought, and behavior. It links the body and soul and plays a central role in both health and disease.

Anxiety is a vague but intense feeling of worry, uneasiness, or fear, often without a clear source. According to Taber's Cyclopedic Medical Dictionary, it's a normal reaction to threats to one's values, life, or loved ones. Wikipedia describes anxiety as a psychological and physiological state with emotional, cognitive, somatic, and behavioral components, rooted in the meaning "to vex or trouble."

Figure 01

https://www.researchgate.net/profile/Mitchell-Cunningham/publication/310651133/figure/fig3/AS:669710463012866@1536682825148/Performance- and-arousal.png



Anxiety can be normal or pathological. Normal anxiety serves as an alert system, warning of external or internal threats. It is adaptive, helping individuals take necessary action. It may cause worry (cognitive) or physical symptoms like a racing heart or sweating (somatic). Pathological anxiety involves an inappropriate or excessive response to a stimulus. Both a total absence and an extreme presence of anxiety are considered unhealthy, especially when it begins to impair daily functioning.

Yerkes-Dodson Law illustrates the link between anxiety and performance through an inverted U-curve. At low anxiety, performance is poor. As anxiety rises, so does performance—up to a point. Beyond this, more anxiety worsens performance and intensifies anxiety symptoms, reinforcing avoidance behaviors. In short, while moderate anxiety is beneficial and motivating, too much or too little becomes pathological and impairs functioning.[16]

Anxiety presents with physiological, psychological, somatic, and behavioral symptoms.

Physiological symptoms include increased heart rate, respiration, sweating (due to sympathetic nervous system activation). Psychological **is** Apprehension, worry, irritability, poor concentration, sleep disturbances, fear of disaster. Somatic symptoms are palpitations, tremors, fatigue, dizziness, GI issues, insomnia, sexual dysfunction. Motor tension, autonomic hyperactivity, continuous apprehension, hyper vigilance, distractibility, and sleep disturbances are signs in anxiety disorder.

Aetiology of Anxiety is based on various theories which are as follows:

1. Psychological Theories:
    - Psychoanalytic (Freud): Anxiety is a signal for the ego to defend against internal conflicts. Types include impulse, separation, castration, and super-ego anxiety.

- Behavioral: Anxiety is a learned, conditioned response to specific stimuli or modeled behaviors (e.g., from parents).
- Existential: Arises from awareness of meaninglessness or existential void.

2. Biological Theories:
   - Autonomic Nervous System (ANS): Over activation causes physical symptoms.
   - Neurotransmitters:
     - Nor epinephrine (NE): High levels increase anxiety.
     - Serotonin (5-HT): Inhibits stress response; imbalance linked to anxiety.
     - GABA**:** Main inhibitory neurotransmitter; its dysfunction leads to heightened anxiety. Anxiolytics work by enhancing GABA.
   - Brain Imaging: Shows structural abnormalities like enlarged ventricles and right temporal lobe defects.
   - Genetics: Higher prevalence of anxiety in first-degree relatives.
   - Neuroanatomy**:** Limbic system, cingulate gyrus, and septohippocampal region play key roles via neurotransmitter pathways.

It can be concluded as anxiety arises from a complex interaction of psychological factors, neurotransmitter imbalances, structural brain changes, and genetic vulnerability, manifesting through physical, emotional, and behavioral symptoms.

Anxiety originates from dysfunction in brain circuits, primarily involving the amygdala, which processes emotional significance and stores emotional memories. When triggered, the amygdala sends signals to other brain areas:

- Parabrachial nucleus → causes breathing issues like dyspnea and hyperventilation.
- Vagal nuclei (dorsomedial nucleus, nucleus ambiguus**)** → activate parasympathetic responses.
- Lateral hypothalamus → activates the sympathetic nervous system (SNS), producing physical anxiety symptoms.

The amygdala also connects with the medial prefrontal cortex**,** which influences how anxiety is cognitively perceived in different disorders:

Thus, anxiety involves both emotional memory and physiological response systems, resulting in varied symptoms across different anxiety disorders[17] which are as follows.

Table 01

Disorder	Key Features	Symptoms	Duration Criteria	Differential Points
Panic Disorder	Sudden, unexpected panic attacks with intense fear	Palpitations, chest pain, choking, dizziness, fear of dying, sweating, trembling, depersonalization	Reaches peak within 10 mins	May occur with or without agoraphobia
Agoraphobia	Fear of being in places where escape is difficult	Avoids crowds, public transport, enclosed/open spaces	Persistent	Often accompanied by panic disorder
Generalized Anxiety Disorder (GAD)	Excessive worry over multiple events or activities	Restlessness, fatigue, poor concentration, muscle tension, sleep disturbance, irritability	Most days for ≥ 6 months	Chronic worry not limited to specific situations
Social Phobia (Social Anxiety Disorder)	Intense fear of social situations, scrutiny, or embarrassment	Blushing, sweating, trembling, palpitations, lightheadedness, panic symptoms in social situation	≥ 6 months (if under 18)	Fear is specific to social/performance situations, unlike GAD or panic disorder

In modern life, especially within the highly competitive environment of today, anxiety has become a common experience. While mild anxiety may serve as a motivational tool, chronic or intense anxiety is classified as an anxiety disorder. Such disorders trigger the "fight or flight" response and can lead to widespread physiological consequences, from cellular dysfunction to systemic imbalance. Therefore, identifying individual predispositions to anxiety based on their mental constitution becomes clinically and educationally relevant.

While a considerable amount of research has been conducted on *Sharir Prakriti*, studies on *Manas Prakriti* , especially with a quantitative approach, are limited. In order to align *Ayurvedic* principles with modern scientific methodologies, there is a need to assess *Manas Prakriti* objectively and analyze its association with psychological parameters such as anxiety. This study was undertaken to explore the correlation between the three types of *Manas Prakriti* -*Sattva*, *Rajas*, and *Tamas* and anxiety levels among healthy individuals using standardized tools. This approach aims to enhance the scope of *Ayurvedic* education and research by providing empirical data to support traditional mental health frameworks.

Materials and Methods

Study design and setting

This was a cross-sectional observational study conducted to assess the association between *Manas Prakriti* and anxiety levels among healthy students. The study was carried out in an academic setting over a defined time period.

Participants

A total of 150 healthy students (both male and female), aged 17 to 24 years, were selected through purposive sampling. Participants were included if they were free from any known major physical or psychiatric illness at the time of data collection.

Exclusion criteria included:

- Individuals below 17 or above 24 years of age
- Presence of any diagnosed major physical or mental illness

All participants provided informed consent prior to inclusion in the study.

Data sources and measurement tools

1. Assessment of *Manas Prakriti*

The *Manas Prakriti* of each participant was assessed using a standardized proforma developed by Ayusoft (C-DAC Pune**)**. This tool quantitatively measures the predominance of *Sattva*, *Rajas*, and *Tamas* Guna based on *Ayurvedic* parameters.

2. Assessment of anxiety level

Anxiety levels were measured using SCAT (Sinha's Comprehensive Anxiety Test)—a validated, reliable, and widely used tool for the quantitative evaluation of anxiety in research settings. The test consists of structured items that provide a cumulative anxiety score for each subject.

Variables

- Exposure variable**:** *Manas prakriti* (proportion of *Sattva*, *Rajas*, And *Tamas* qualities)
- Outcome variable: Level of anxiety (SCAT score)

Statistical analysis

Collected data were compiled and analyzed using appropriate statistical methods. Correlation and association analyses were performed to determine the relationship between the levels of anxiety and the proportion of *Manas Gunas* (*Sattva*, *Rajas*, *Tamas*). Results were stratified by sex to observe gender-based trends. The relationship between anxiety scores and each trait was examined using Pearson's correlation coefficient (r)**,** calculated separately for males and females. 95% confidence intervals (CI) for r were obtained via Fisher's z transformation. Two-tailed p-values were reported, and statistical significance was set at $p < 0.05$

Ethical consideration

Ethical clearance for the study was obtained from the Institutional Ethics Committee prior to initiation. All data were anonymized, and confidentiality was maintained throughout the study.

Result:

A total of 150 participants (44 males, 106 females) were analyzed.

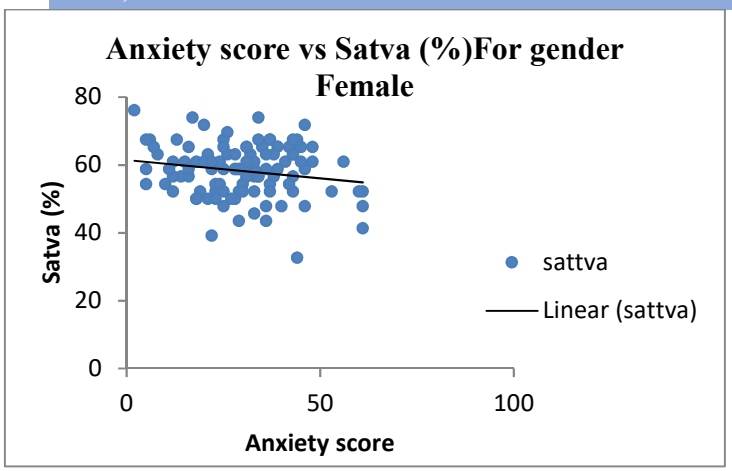
Among males, anxiety scores were weakly and negatively correlated with *Satva* (r = –0.210, 95% CI –0.477 to 0.093, p = 0.171) , *Tamas*(r = –0.057, 95% CI –0.348 to 0.244, p = 0.711), and weakly and positively correlated with *Raja* (r = 0.166, 95% CI –0.138 to 0.441, p = 0.281). None of these associations were statistically significant.

Among females, anxiety scores were weakly and negatively correlated with *Satva* (r = –0.185, 95% CI –0.363 to 0.006, p = 0.058), weakly and positively correlated with *Raja* (r = 0.220, 95% CI 0.031 to 0.394, p = 0.023), very weakly positively correlated with *Tama* (r = 0.020, 95% CI –0.171 to 0.210, p = 0.836). Only the association between anxiety scores and *Raja* reached statistical significance.

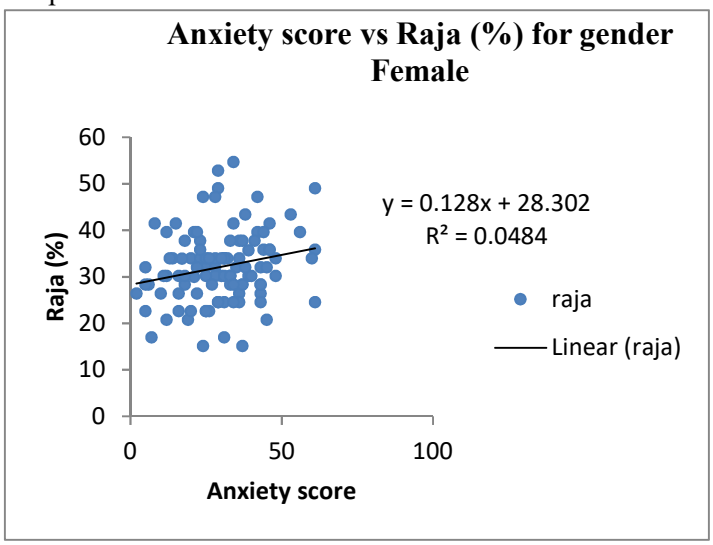
Pearson's correlation between anxiety scores and *Satva, Raja, and Tama* traits, stratified by sex

Sex	Trait	n	Pearson's r	95% CI for r	p-value
male	sattva	44	-0.201	-0.477 to 0.093	0.171
male	raja	44	0.116	-0.138 to 0.441	0.281
male	tama	44	-0.057	-0.348 to 0.244	0.711
female	sattva	106	-0.185	-0.363 to 0.006	0.058
female	raja	106	0.220	0.031 to 0.394	0.023
female	tama	106	0.020	-0.171 to 0.210	0.836

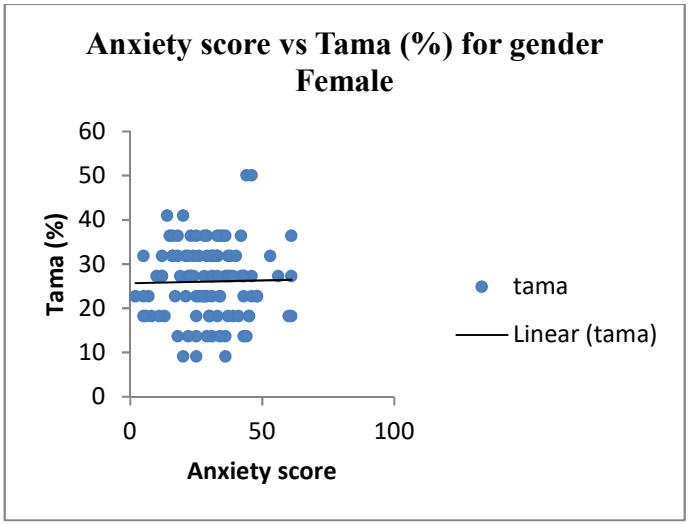
Table 02



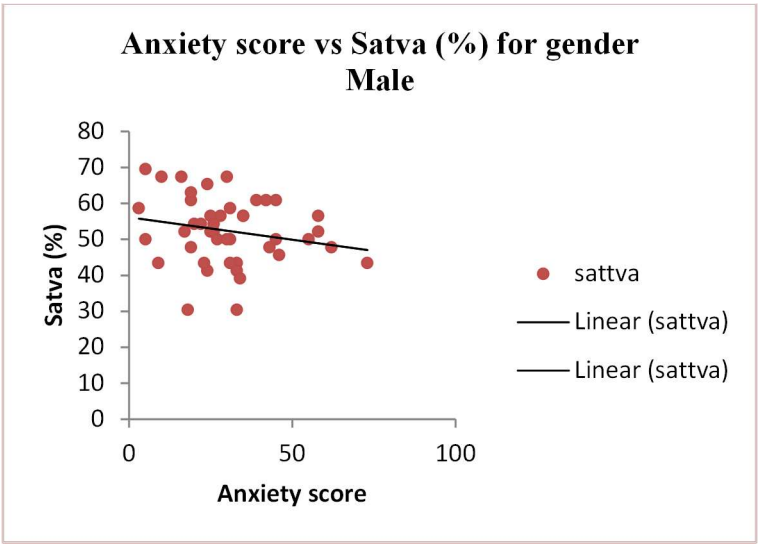
Graph 01



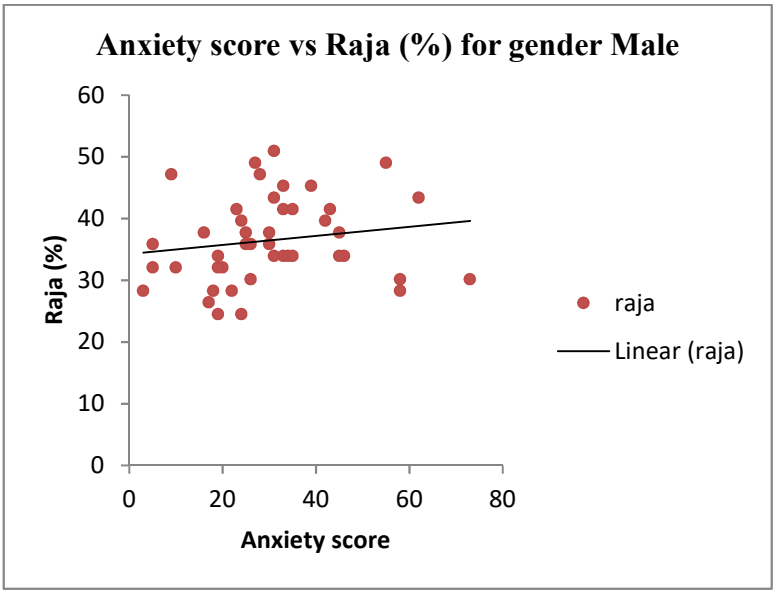
Graph 02



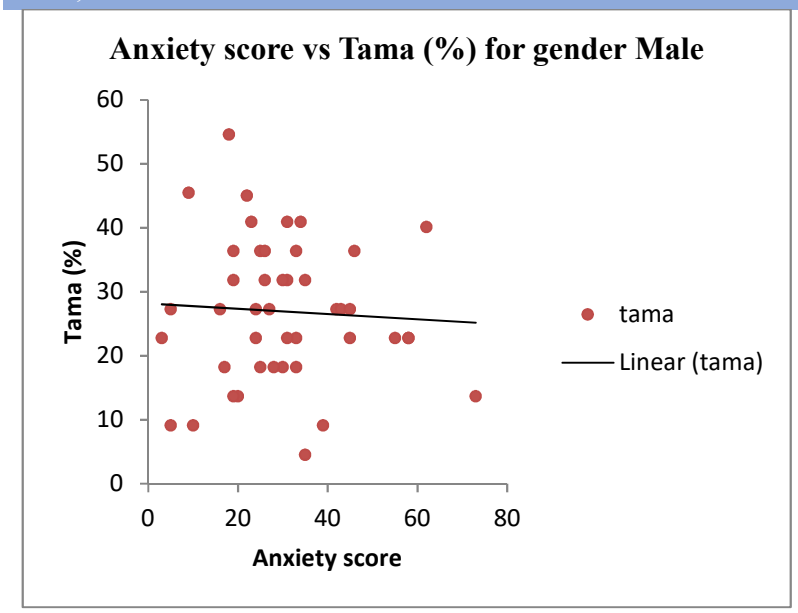
Graph 03



Graph 04



Graph 05



Graph 06

Discussion

This cross-sectional study was conducted to evaluate the association between *Manas Prakriti* and anxiety levels among healthy young individuals. The results of the study reveal a significant association between the predominance of *Manas Gunas* and vulnerability to anxiety, affirming the *Ayurvedic* perspective that mental constitution (*Manas Prakriti*) plays a crucial role in psychological health.

Our findings indicate that individuals with higher *Rajas* dominance exhibited increased susceptibility to anxiety, while those with predominant *Satva* traits were relatively less vulnerable. *Tamas* did not demonstrate any consistent or statistically significant correlation with anxiety levels. These results are consistent with both Ayurvedic theory and modern psychophysiological models.

In Ayurveda, *Rajas* is described as a dynamic, agitating quality that drives activity, ambition, and restlessness. Excessive *Rajas* are believed to disturb mental equilibrium, making individuals more reactive and prone to emotional disturbances such as anxiety. On the other hand, *Satva* is associated with clarity, calmness, and self-control, offering a protective buffer against stress-related disorders. Our findings reflect this understanding, where *Satva* appears to mitigate the effect of stress, while *Rajas* exacerbates it. The absence of significant association with *Tamas* may be attributed to its passive and suppressive nature, which can mask overt expressions of anxiety without necessarily indicating its absence.

The absence of significant findings in males may suggest gender-specific pathways linking personality traits and anxiety or may reflect the smaller sample size in the male group, which limits statistical power.

These observations also align with the Yerkes-Dodson Law**,** which proposes that a certain optimal level of anxiety enhances performance, but excessive anxiety hinders it. In today's highly competitive, ego-driven environment, individuals often experience continuous performance pressure, which may tip this balance toward chronic anxiety and associated disorders. The dominance of *Rajas* in such individuals may further amplify this vulnerability.

Ayurveda not only describes these mental traits but also proposes *Sattvavajaya Chikitsa* (mind-strengthening therapy) as a way to regulate *Manas Doshas*, aiming to restore emotional balance and mental well-being. The study underlines the potential for using Ayurvedic personality assessment as a tool for early identification and management of anxiety-prone individuals. Preventive strategies can then be designed to enhance *Satva* and reduce *Rajas*, through personalized diet, lifestyle, behavioral interventions, and counseling in line with *Ayurvedic* principles.

Strengths of the Study

- This study integrates Ayurvedic and modern psychological tools (*Ayusoft* for *manas prakriti* and *SCAT* for anxiety), allowing a comparative and quantitative approach to mind-body correlation.
- It addresses a relatively underexplored area of Manas Prakriti providing empirical support to classical *Ayurvedic* knowledge.

Limitations

- The study population was limited to healthy students of a single Ayurvedic college, which may limit the generalizability of findings to the broader population.
- Cross-sectional design limits the ability to infer causality between *Manas Prakriti* and anxiety levels.

Implications for Future Research

Further studies with a larger and more diverse sample size, including longitudinal designs, are recommended to validate these findings. Clinical trials may also explore the effectiveness of *Sattvavajaya Chikitsa* and *Guna-balancing interventions* in anxiety management.

Conclusion

This cross-sectional study highlights a significant association between *Manas Prakriti* and anxiety levels among healthy individuals, providing both experimental and literary support for the Ayurvedic perspective that mental constitution is a key determinant of psychological health. The findings suggest that individuals with *sattva*-dominant mental constitutions are less vulnerable to anxiety, while those with predominant *Rajas* exhibit higher susceptibility to anxiety. *Tamas* did not demonstrate a consistent trend in relation to anxiety levels.

These outcomes are consistent with classical Ayurvedic texts, which describe that a decrease in *Satva* and an increase in *Rajas* and *Tamas* disrupt the clarity of perception, emotional regulation, and physiological balance, ultimately contributing to the development of anxiety and other psychosomatic disorders. The interrelationship between *Manas* and *Sharir*, as emphasized in ayurvedic and psychosomatic frameworks, is further validated through this study.

Therapeutic approaches targeting *Manovaha Srotas*, such as herbal interventions, *Sattvavajaya Chikitsa*, and yoga, may play a supportive role in mitigating anxiety by balancing the *Gunas*. These findings underscore the relevance of incorporating *Ayurvedic* mental profiling into preventive and therapeutic strategies for mental health management.

Further longitudinal and interventional studies with diverse populations are recommended to confirm these associations and to explore integrative management strategies that strengthen *Satva* and regulate *Rajas* for long-term psychological well-being.

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